STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
LAND USE PLANNING COMMISSION
22 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0022

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

JUDY C. EAST
EXECUTIVE DIRECTOR

Memorandum

To: LUPC Commissioners

CC: Judy C. East, Executive Director

From: Stacie Beyer, Planning Manager

Date: September 8, 2020

Re: Wolfden Rezoning Petition, ZP 779; Wolfden Letter Dated August 26, 2020

In a letter dated August 26, 2020, Attorney Tsiolis, on behalf of Wolfden Mt. Chase, LLC. ("WMC") raised concerns about the Land Use Planning Commission's ("LUPC" or "Commission's") ongoing review of WMC's zoning petition, ZP 779 ("the Petition"). At its September meeting, the Commission's staff will present the WMC letter, review how staff have been processing the petition, and request feedback on responding to the letter. In addition, staff would like to discuss a Commission site visit to the proposed development location.

Introduction

The Petition seeks to rezone property owned by WMC in T6 R6 WELS to allow for the development of an underground metallic mineral mine ("Pickett Mountain Mine"). Because none of the other land use subdistricts established by the Commission allow for the development of a metallic mineral mine, the Petition seeks rezoning to a "custom" Planned Development subdistrict (D-PD).

WMC argues that the LUPC's review of the Petition includes substantive evaluation of land use, resource, and related considerations that have little or no actual definition in LUPC's Chapter 12 rules, applicable Chapter 10 rules, or its Comprehensive Land Use Plan ("CLUP"). WMC contends that the same considerations are addressed in the Maine Department of Environmental Protection's ("MDEP") Chapter 200 rules. In the August 26th letter, WMC suggests that:

> …it would be poor public policy for the Commission to set a precedent of deciding Chapter 12 rezoning petitions based materially on (1) standards that are not applicable to rezoning petitions for metallic mineral mining activity and (2) standards that are not defined with specificity in the Chapter 12 and Chapter 10 rules, when the same land use, resource and related considerations

> would be comprehensively addressed by MDEP under the exacting standards of the Chapter 200 rules.

WMC requests that the Commission exclude from the LUPC's evaluation of the zoning petition considerations that are covered by the Chapter 200 rules, including noise, financial practicability, waste disposal at the mine, surface water quality, groundwater quality, and avoidance or mitigation of impacts on natural resources. Alternatively, WMC offers that the LUPC could limit its evaluation on those subjects to the degree necessary to verify that relevant values established in the CLUP would be adequately protected by the MDEP's application of its Chapter 200 rules.

LUPC staff recognize that duplicating regulatory review processes is not an efficient use of resources and is not in the best interest of the regulated community. However, staff also recognize the Commission's obligation to meet its statutory mandate, ensure consistency with the CLUP, and administer its rules in a consistent, predictable, and fair manner. During the rulemaking process for adoption of Chapter 12, the Commission received comments related to requesting information that would be duplicated in the MDEP permit review process. In the Basis Statement adopted by the Commission, *Basis Statement and Summary of Comments for Proposed Amendments to Chapter 12: Land Use District Requirements for Metallic Mineral Mining and Level C Mineral Exploration Activities*, dated April 8, 2013, the Commission found that "the Commission is tasked with considering environmental and natural resource impacts on a landscape scale which is fundamentally different from DEP's permitting review and the Commission needs adequate information in order to do this." Basis Statement, p. 17. Further, the Basis Statement found "the LUPC does not want to unnecessarily duplicate requests for information with the DEP permit process. At the same time, the LUPC does not want to create gaps in regulation and must fulfill its statutory charge." Basis Statement, p. 17. The Basis Statement concludes that:

> The decisions that the Commission is making on the types of information needed during rezoning are aimed at determining what resources are going to be impacted by a mine and if those impacts pose a risk that is too great to allow rezoning to go forward. The Commission has tried to ask for the type of information and level of detail that will most adequately inform this process. The Commission has not in general asked for highly technical information that will be required by DEP as part of their more technical site review. Basis Statement p. 28 and 29.

For the Wolfden Rezoning Petition, LUPC staff requests for information have considered the role of the LUPC and the MDEP, and the Commission's statutory mandate, the CLUP, and the Commission's rules.

In addition to the rationale set forth in the 2013 Basis Statement, it is important to consider the nature of the P-DP subdistrict. The D-PD subdistrict is a custom subdistrict that is tied to a specific development and to a development plan that includes a conceptual layout diagram. Sufficient information is needed to ensure that the proposed development and conceptual layout reasonably depict the proposed uses and development intensity. A D-PD subdistrict allows for development in areas that the Commission would not typically allow new development in order to accommodate well-designed, natural feature dependent development in appropriate locations. The development plan and associated conceptual layout diagram is intended to ensure a well-planned, high quality development that is not detrimental to other values established in the CLUP.[1]

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[1] Planned Development within a D-PD subdistrict must be consistent with a Development Plan approved as part of the subdistricting process. A Development Plan identifies land uses allowed within the subdistrict, specifying which uses require a development permit, and outlines the nature, location, and design of the Planned Development for which the subdistrict was created. 01-672 C.M.R. ch. 10 § 21(H)(1).

Decision-making Criteria

Chapter 12 restates the statutory decision-making criteria that the Commission must apply to amend a subdistrict boundary:

(a) The change would be consistent with the standards for D-PD subdistrict boundaries in effect at the time; the Comprehensive Land Use Plan; and the purpose, intent and provisions of 12 M.R.S.A. Chapter 206-A; and

(b) The change in districting will have no undue adverse impact on existing uses or resources or a new district designation is more appropriate for the protection and management of existing uses and resources within the affected area. 01-672 C.M.R. ch. 12 § 4(B)(1)

Noise

The MDEP has Control of Noise standards that consider potential impacts on "Protected Locations," which include residences (permanent and seasonal), as well as certain, specifically designated recreational areas. 06-096 C.M.R. ch. 375, § 10(G)(16). Because recreational uses in general, such as hiking or fishing are not considered "Protected Locations," the MDEP noise rules would not apply to recreational uses generally. The MDEP noise rules also do not apply directly to potential impacts on wildlife habitat. LUPC staff believe that the Commission may consider noise generated by commercial and industrial uses when evaluating potential undue adverse impacts on existing uses, particularly potential adverse impacts on existing residential, recreational, and natural resource uses. Were the Commission to defer to the MDEP review of noise, staff has concerns based on:

- The Commission's statutory mandate to encourage appropriate residential, recreational, commercial and industrial land uses, while discouraging the intermixing of incompatible industrial, commercial, residential and recreational activities; and

- Consistency with several goals and policies of the CLUP, including the policy pertaining to mineral resources that aims to "[r]egulate mining operations to minimize water, air, land, noise and visual pollution, to ensure public safety and health, and to avoid undue adverse impacts on fisheries, wildlife, botanical, natural, historic, archaeological, recreational and socioeconomic values." CLUP p. 15.

For context, the Commission considered noise when deciding whether to amend subdistrict boundaries as requested by the zoning petition for the Fulghum Graanul Woodland, LLC pellet mill in Baring, ZP746. The pellet mill, if it proceeded to the permitting stage, would have been reviewed by the MDEP, as lead permitting agency, under the Site Location of Development Act. Mindful of the difference between zoning and permitting requirements, LUPC staff have accepted a simple spreadsheet acoustic model to evaluate the compatibility of a development with surrounding uses. It is the staff's understanding that a more detailed computerized acoustic model is typically submitted to address the MDEP Control of Noise rules.

Financial Practicability

LUPC staff understand that the MDEP has permitting standards for financial assurance in its Chapter 200 rules. The LUPC staff's intent in requesting information on financial practicability serves a different purpose based on the Commission's zoning authority. The Planned Development subdistrict is one of the few custom zones that the Commission has established in its Chapter 10 rules. A petition for the creation of a D-PD zone may only be filed by the owner or lessee of the land. Unlike other Commission development subdistricts that allow for general types of development (e.g. commercial, residential, mix-use), D-PD subdistricts are tied to a single, large-scale development (e.g. Saddleback Ski Area and Kibby Wind Energy Generation Facility).

To approve rezoning to a D-PD subdistrict for a metallic mineral mine, the Commission must find that there is substantial evidence that, among other criteria, the proposed change in districting is consistent with the purpose and intent of 12 M.R.S. ch. 206-A, which includes sound planning and zoning, and with the standards and purpose of the D-PD subdistrict. 01-672 C.M.R. ch. 12, § 4(B)(1)(a), 4(C)(1)(p). "The purpose of the D-PD subdistrict is to allow for large scale, well-planned development," proposals for which the Commission will consider "provided they can be shown to be of high quality and not detrimental to other values" of the Commission's jurisdictional area. 01-672 C.M.R. ch. 10, § 10(H)(1). Staff believe that whether a project is technically feasible and financially practicable is a particularly important consideration for a custom zone, such as a D-PD subdistrict, that will be specifically established for a single, large-scale development project. A project that is not technically feasible and financially practicable raises concerns regarding whether the project is a well-planned or high-quality development, and therefore satisfies the requirements of 01-672 C.M.R. ch. 12, § 4(B)(1)(a) or 4(C)(1)(p).

Interpreting 01-672 C.M.R. ch. 12, § 4(B)(1)(a) or 4(C)(1)(p) to allow or require consideration of technical feasibility and financial practicability will, in the long-run, result in more efficient use of staff resources. If, after creation of a D-PD subdistrict, the project tied to the custom zone does not move forward, additional resources will be required to subsequently amend the subdistrict to allow for other uses in the future.

There are several levels of industry reporting on the technical feasibility and financial practicability of a metallic mineral mine. The Preliminary Economic Assessment (PEA), which staff requested from WMC, is a first level report, which seems reasonable at the rezoning stage of a project. Higher levels of reporting on technical feasibility and financial practicability, such as a Prefeasibility Study and Final Feasibility Study, require more technical data than the PEA, and appear more appropriate for later stages of a mining project.

Technical and Financial Capacity

Although the current zoning petition form used by the Commission requests information on financial capacity, in reviewing the Petition, staff determined that financial capacity is a decision-making criterion more appropriate to the permitting stage of a project. Instead, staff requested information on technical feasibility and financial practicability including a financing plan that is a commercially reasonable method for financing a metallic mineral mining operation from start-up through to closure, and a preliminary economic assessment or similar documentation.

Waste Disposal, Surface and Ground Water Quality, and Avoidance or Mitigation of Impacts on Natural Resources

Several other topics that WMC requests that the Commission exclude from the LUPC's evaluation of the zoning petition include waste disposal, surface and groundwater quality, and impacts on natural resources. Although the MDEP's Chapter 200 rules address these topics in a permitting capacity, the Commission's Chapter 12 rules address these topics at the rezoning stage as follows. Chapter 12 states:

> …the Commission shall consider the following potential impacts… (d) Potential impacts to existing uses and natural resources including, but not limited to: forest resources; historic sites; wildlife and plant habitats; scenic resources; water resources; and recreation resources. 01-672 C.M.R. ch. 12 § 4(B)(3)(d)

Chapter 12 includes, among other requirements, that a petitioner submit:

> A description of general measures that may be undertaken to assure that mining in the specified location will not have undue adverse impacts on existing uses and resources and measures that a permittee may take to avoid, minimize or mitigate any adverse impacts… 01-672 C.M.R. ch. 12 § 4(C)(1)(m)

The intent of the Commission, according to the Basis Statement, was to review these topics at a landscape scale and with less highly technical information than is required by the MDEP at the permitting stage. The requests that staff have made regarding potential impacts to existing resources are intended to ensure the Commission has adequate information to determine if it is possible to operate a mine at Pickett Mountain without having an undue adverse impact on those resources.

Staff recognize that it is not appropriate for the LUPC or the MDEP to reach conclusions on whether the proposal will meet Chapter 200 standards based on the conceptual plans submitted in the Petition. However, where information in the Petition suggests that Chapter 200 rule provisions would not be met, staff have, in consultation with the MDEP, brought these issues to the petitioner's attention. Such efforts seek to provide the opportunity for an early change to the conceptual plans that could save significant time and resources over the life of the project.[2]

In summary, although the language of the LUPC's relevant statues and rules may appear to overlap with that of the MDEP's Chapter 200 rules, the LUPC's review is tailored to the nature of the proceeding pending before it—rezoning—which necessarily has a different focus than permitting. In reviewing the Petition, LUPC staff have considered and will continue to consider the difference in applicable decision-making criteria for zoning versus permitting reviews in all requests for additional information sent to WMC. LUPC staff are guided by past practice in this regard and seek to ensure fair and consistent application of applicable review criteria for current and future petitions to create D-PD subdistricts. To the fullest extent practicable, while still providing the Commission with sufficient information to meet its mandate, staff intends to avoid or minimize the potential for duplication in the review of the WMC proposal. Given the WMC August 26th letter, staff is requesting the Commission's feedback on its

[2] For example, in the LUPC letter to WMC dated March 6, 2020, staff requested that WMC submit "… a revised project description and tailings management plan showing that all tailings will be disposed of using dry stacking and update all materials in the petition affected by this change."

interpretation of the Chapter 12 rules regarding requests for additional information and whether any changes should be made to its approach to processing the Petition.

Attachments

1. WMC letter, dated August 26, 2020
2. Chapter 12 Basis Statement, dated April 8, 2013
3. LUPC letters, dated March 6, April 15, and May 27, 2020

Attachment 1

Wolfden Rezoning Petition
Proposed Pickett Mountain D-PD
T6 R6 WELS, Penobscot County

WMC Letter, dated August 26, 2020

GEORGE A. TSIOLIS
ATTORNEY AT LAW
351 Lydecker Street
Englewood, New Jersey 07631
Cell: 602-319-4021
Office: 201-408-4256
Fax: 201-408-4622
Email: gtsiolis@nj.rr.com
Web: www.gtsiolis.com

August 26, 2020

Sent via Email (.pdf) and First Class Mail

Judy East, Director
Land Use Planning Commission
Department of Agriculture, Conservation and Forestry
22 State House Station
Augusta, Maine 04333-0022
judith.c.east@maine.gov

Re: Wolfden Mt. Chase LLC, Zoning Petition ZP779
Rezone to a Planned Development Subdistrict
T6 R6 WELS, Penobscot County
Pickett Mountain Metallic Mineral Mine

Dear Director East:

On behalf of Wolfden Mt. Chase LLC ("**WMC**"), this letter follows up on a question that Commissioner Hilton asked during the portion of the August 12, 2020 meeting of the Land Use Planning Commission ("**LUPC**") that concerned the above-referenced rezoning petition. The question concerned whether LUPC staff were conducting their substantive review of the petition based materially on considerations that would be evaluated by the Maine Department of Environmental Protection ("**MDEP**").

This is a topic that WMC has previously raised with LUPC staff. WMC believes LUPC staff's response to Commissioner Hilton's question on August 12 was incomplete and necessitates a holistic answer that should be (1) shared with the Commissioners and (2) addressed in a public meeting that is conducted well in advance of a hearing on the merits of WMC's petition, as it goes to the procedural precedent that is being set by LUPC's processing of the petition—to our knowledge, the first petition ever processed under the Commission's Chapter 12 rules.

WMC also requests an opportunity to meet with you and representatives of the MDEP and Natural Resources Division of the Office of the Attorney General to discuss these issues.

LUPC staff's ongoing review of WMC's rezoning petition includes substantive evaluation of land use, resource and related considerations that have little or no actual definition in LUPC's Chapter 12 rules or applicable Chapter 10 rules or the 2010 Comprehensive Land Use Plan. The same considerations, however, are addressed in exhaustive detail in MDEP's new Chapter 200 rules. Without going into a discussion of each of these, and for purposes of illustration only, please consider staff's plan, discussed during the August 12 meeting, to engage third-party contractors to evaluate the potential noise impacts of the proposed Pickett Mountain mine and the "technical feasibility and financial practicability" of the proposed mine:

- Noise. LUPC's Chapter 12 rules do not mention noise. The Chapter 10 rules, at § 10.25(F)(1), include a standard-less provision on noise for Planned Development subdistricts; however, that provision applies to development permit applications, as opposed to Chapter 12 rezoning petitions. 01-672 C.M.R. Ch. 10, § 10.25. In contrast, MDEP's Chapter 200 rules, at Subchapter 5 § 20(M), require MDEP to ensure that noise levels satisfy Chapter 375, § 10 of MDEP's rules, which establish substantial and detailed noise standards for developments in relation to all potential receptors. These standards are copied herewith as Attachment 1 so that one can see the degree to which MDEP must ensure applicable noise standards are satisfied and all potential receptors are protected.

- Technical Feasibility and Financial Practicability. LUPC staff have suggested to WMC that their consideration of the "technical feasibility and financial practicability" of the proposed Pickett Mountain mine is justified by Chapter 10's generally stated purpose at § 10.21(H)(1):

> The purpose of the D-PD subdistrict is to allow for large scale, well-planned development (Planned Development). The Commission's intent is to consider Planned Development proposals . . . provided they can be shown to be of high quality and not detrimental to other values established in the Comprehensive Land Use Plan . . .

According to staff, "[a] project that is not technically feasible and financially practicable is not a well-planned or high-quality development." [1] This position was reiterated in staff's response to Commissioner Hilton's question on August 12. [2]

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[1] LUPC staff's June 30, 2020 e-mail to WMC.

[2] https://www.maine.gov/dacf/lupc/agenda_items/081220/Wolfden-Update.mp3 at 10:10.

Staff's equation of a well-planned and high quality development with one that is "technically feasible and financially practicable" does not have clear foundation in Maine's statutes, rules or case law. The Chapter 10 rules, where they apply to rezoning petitions, state, at § 10.21(H)(8)(a)(3), that the petition should demonstrate that the petitioner "has financial resources and support to achieve the proposed development." However, § 10.21 (H)(8)(a)(3) does not apply to rezoning petitions for metallic mineral mining activity. 01-672 C.M.R. Ch. 10, § 10.21(H)(6)(b). [3] In contrast, MDEP's Chapter 200 rules speak directly, voluminously and with exquisite particularity to the technical feasibility and financial practicability of a proposed mine. In order to receive a mining permit from MDEP, WMC must provide, to MDEP's satisfaction: (1) a detailed metallic mineral mining feasibility study, including, but not limited to, designs, plans and specifications, analyses, and schedules along with supporting data and information; and (2) evidence of financial capacity, including financial assurance and insurance, that covers all elements of the mine, from construction to operation, closure, post-closure and reclamation. The elements of the required feasibility study are exhaustive and are copied herewith as Attachment 2. The elements of the financial capacity demonstration are likewise exhaustive and are copied herewith as Attachment 3.

The Commission would be correct to conclude that a proposed mine that (1) must meet the standards of the Chapter 200 rules, to MDEP's satisfaction, before mining can occur, and (2) would meet the standards of LUPC's Chapter 12 and Chapter 10 rules that govern land use, resource and related considerations *not* addressed under the Chapter 200 rules, would be a mine that is "well-planned," "of high quality," and "not detrimental to other values established in the Comprehensive Land Use Plan."

For the above reasons, it is questionable why LUPC staff would wish, in the context of WMC's rezoning petition, to conduct a review (with the assistance of third-party contractors or otherwise) of the same subjects that MDEP would address under its Chapter 200 rules before any mining at Pickett Mountain can occur. WMC respectfully suggests that it would be poor public policy for the Commission to set a precedent of deciding Chapter 12 rezoning petitions based materially on (1) standards that are not applicable to rezoning petitions for metallic mineral mining activity and (2) standards that are not defined

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[3] None of the rezoning petition and planned development requirements of § 10.21(H)(8) applies to rezoning petitions for metallic mineral mining activity. 01-672 C.M.R. Ch. 10, § 10.21 (H)(6)(b) ("Commission review of a zoning petition to establish a D-PD subdistrict for the purpose of metallic mineral mining activity is governed by Chapter 12 of the Commission's rules, and not by Section 10.21,H,8.").

with specificity in the Chapter 12 and Chapter 10 rules, when the same land use, resource and related considerations would be comprehensively addressed by MDEP under the exacting standards of the Chapter 200 rules. Again, to our knowledge, WMC's rezoning petition is the first petition ever processed under LUPC's Chapter 12 rules. The process that the Commission applies to deciding WMC's rezoning petition will apply in the future to all Chapter 12 petitions.

Better public policy would be formed if the Commission were to defer to MDEP's greater expertise regarding land use, resource and related considerations that are covered by the Chapter 200 rules, including those rules' standards on the technical feasibility and financial practicability of the proposed metallic mineral mine, the technical capability and financial capacity of the mine operator, waste disposal at the mine, surface water quality considerations, groundwater quality considerations, and avoidance or mitigation of impacts on natural resources. [4] The Commission could accomplish such deference by either excluding from LUPC's evaluation the subjects addressed in the Chapter 200 rules or limiting LUPC's evaluation on those subjects to the degree necessary to verify that relevant values established in the Comprehensive Land Use Plan would be adequately protected by MDEP's application of the Chapter 200 rules. This approach would thereafter constitute the precedent that guides LUPC's procedural process for all rezoning petitions that are filed under the Chapter 12 rules.

Animating the above recommendation is WMC's goal that the Commission's final decision on WMC's rezoning petition be defensible on review:

1. Avoiding, in the context of a Chapter 12 petition, substantive evaluation of considerations—such as noise, technical feasibility and financial practicability—that are squarely and exhaustively addressed in the Chapter 200 rules would avoid materially inconsistent decision-making between the Commission and MDEP. It would also avoid a scenario in which the Commission's decision-making hamstrings MDEP's ability to enter determinations contrary to those made by LUPC staff concerning the same subjects.

2. Avoiding, in the context of a Chapter 12 petition, substantive evaluation of considerations that are squarely addressed in the Chapter 200 rules would also keep faith with 12 M.R.S. § 685-B(1-A)(B-2). That statute excludes from the scope of LUPC's

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[4] These subjects were addressed on page 2 of LUPC staff's August 6, 2020 memorandum to the Commissioners and slide 8 of their PowerPoint presentation during the August 12 meeting.

Chapter 13 certifications to MDEP, for metallic mineral mines, subjects that are addressed in MDEP's Chapter 200 rules. It would seem to make no sense, from the standpoint of statutory construction and honoring the Legislature's intent, to consider, in the context of a Chapter 12 rezoning petition, subjects that would be statutorily excluded from the scope of the Commission's Chapter 13 certification for the same project. Whereas, avoiding, in the context of a Chapter 12 rezoning petition, substantive evaluation of considerations addressed in the Chapter 200 rules would ensure that the exclusion in 12 M.R.S. § 685-B (1-A)(B-2) is not rendered effectively meaningless. *See Conservation Law Found. v. Dep't of Envtl. Prot.*, 2003 ME 62, ¶ 23 ("A particular statute is not reviewed in isolation but in the context of the statutory and regulatory scheme"); *Irving Pulp & Paper, Ltd. v. State Tax Assessor*, 2005 ME 96, ¶ 8 ("In interpreting the statute, we . . . must consider the language in the context of the whole statutory scheme and construe the statute to avoid absurd, illogical, or inconsistent results.") (quotations omitted); *cf. Sears, Roebuck & Co. v. State Tax Assessor*, 2012 ME 110, ¶ 8 ("A statute should be interpreted to avoid surplusage, which occurs when a construction of one provision of a statute renders another provision . . . without meaning or force.") (quotations omitted).

3. The Chapter 12 rules were adopted in 2013, at a time when the Chapter 200 rules were still four years away from being finalized. The fact that the Legislature rejected the initial drafts of the Chapter 200 rules and, in 2017, explicitly mandated many of the key provisions of the Chapter 200 rules before they were finalized, 2017 Me. SP 265 (Attachment 4), militates in favor of an approach to Chapter 12 petitions that defers to MDEP's implementation of the Chapter 200 rules for land use, resource and related considerations that are covered by those rules.

WMC believes the above information and recommendation should be shared with the Commissioners and addressed in a public meeting that is conducted well in advance of a hearing on the merits of WMC's petition. Addressing the issues raised in this letter in a deliberate manner, in a public meeting devoted to them, would result in better procedural policy-making than the current course of conduct on the petition. WMC also believes that it would be helpful to meet with you and representatives of the MDEP and Natural Resources Division of the Office of the Attorney General sometime during September to discuss these issues.

In the meantime, WMC continues to respond to LUPC staff's questions and requests, as they arise, to assist your substantive review of the petition.

Sincerely,

George A. Tsiolis
Attorney at Law
for Wolfden Mt. Chase LLC

Attachments
1 – MDEP Chapter 375 Rules Governing Noise
2 – MDEP Chapter 200 Rules Feasibility Study Requirements
3 – MDEP Chapter 200 Rules Financial Capacity Requirements
4 – 2017 Me. Laws 142 (June 7, 2017)

Copied via Email
Scott Boak, Chief, Natural Resources Division, Office of the Attorney General
scott.boak@maine.gov
Mark Stebbins, Land Division Director, Department of Environmental Protection
mark.n.stebbins@maine.gov
Stacie Beyer, Planning Manager, Land Use Planning Commission
stacie.r.beyer@maine.gov
Ron Little, President, Wolfden Mt. Chase LLC
rlittle@wolfdenresources.com
Jeremy Ouellette, Vice President Project Development, Wolfden Mt. Chase LLC
jouellette@wolfdenresources.com

August 26, 2020 Letter to Land Use Planning Commission

ATTACHMENT 1

MDEP Chapter 375 Rules Governing Noise

CODE OF MAINE RULES
Current through August 21, 2020
06. DEPARTMENT OF ENVIRONMENTAL PROTECTION
096. GENERAL

Chapter 200. METALLIC MINERAL EXPLORATION, ADVANCED EXPLORATION AND MINING
SUBCHAPTER 5: STANDARDS FOR ADVANCED EXPLORATION AND MINING
Section 20. Performance Standards

* * * *

M. Noise. The Applicant and Permittee shall design, construct, operate and maintain the mining operation so as to prevent an unreasonable noise impact, and must meet the standards established by 06-096 C.M.R. ch. 375, §10.

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CHAPTER 375. NO ADVERSE ENVIRONMENTAL EFFECT STANDARDS

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Section 10. Control of Noise.

A. Preamble. The Department recognizes that the construction, operation and maintenance of developments may cause excessive noise that could degrade the health and welfare of nearby neighbors. It is the intent of the Department to require adequate provision for the control of excessive environmental noise from developments proposed after the effective date of this regulation.

B. Applicability

(1) This regulation applies to proposed developments within municipalities without a local quantifiable noise standard and in unorganized areas of the State. When a proposed development is located in a municipality which has duly enacted by ordinance an applicable quantifiable noise standard, which (1) contains limits that are not higher than the sound level limits contained in this regulation by more than 5 dBA, and (2) limits or addresses the various types of noises contained in this regulation or all the types of noises generated by the development, that local standard, rather than this regulation, shall be applied by the Department within that municipality for each of the types of sounds the ordinance regulates. This regulation applies to developments located within one municipality when the noise produced by the development is received in another municipality and, in these cases, the Department will also take into consideration the municipalities' quantifiable noise standards, if any.

(2) This regulation applies to expansions and modifications of developments when such expansions and modifications are proposed after the effective date of this regulation and subject to site location approval, but only to the noise produced by the proposed expansion or modification of the development, unless (1) the existing development was constructed since 1-1-70 and (2) at the time of construction, the existing development was too small to require site location approval. In situations where conditions (1) and (2) above apply, then this regulation applies to the whole development (both existing facility and proposed expansion or modification). This regulation also

applies to expansions and modifications of existing developments when such expansions and modifications require an amendment to the development's Site Law permit, but only to the noise produced by the expansion or modification.

(3) This regulation does not apply to existing developments or portions of existing developments constructed prior to 1-1-70 or approved under the Site Law prior to the effective date of this regulation. This regulation does not apply to relicensing of existing solid waste facilities previously approved under the Site Law.

(4) The sound level limits contained in this regulation apply only to areas that are defined as protected locations, and to property lines of the proposed development or contiguous property owned by the developer, whichever are farther from the proposed development's regulated sound sources.

(5) The sound level limits contained in this regulation do not apply to noise received within the development boundary.

NOTE : The Department will reconsider the effect and operation of the regulation one year from its effective date.

C. Sound Level Limits

(1) Sound From Routine Operation of Developments

(a) Except as noted in subsections (b) and (c) below, the hourly sound levels resulting from routine operation of the development and measured in accordance with the measurement procedures described in subsection H shall not exceed the following limits:

(i) At any property line of the development or contiguous property owned by the developer, whichever is farther from the proposed development's regulated sound sources: 75 dBA at any time of day.

(ii) At any protected location in an area for which the zoning, or, if unzoned, the existing use or use contemplated under a comprehensive plan, is not predominantly commercial, transportation, or industrial:

60 dBA between 7:00 a.m. and 7:00 p.m. (the "daytime hourly limit"), and

50 dBA between 7:00 p.m. and 7:00 a.m. (the "nighttime hourly limit").

(iii) At any protected location in an area for which the zoning, or, if unzoned, the existing use or use contemplated under a comprehensive plan, is predominantly commercial, transportation, or industrial:

70 dBA between 7:00 a.m. and 7:00 p.m. (the "daytime hourly limit"), and

60 dBA between 7:00 p.m. and 7:00 a.m. (the 'nighttime hourly limit').

(iv) For the purpose of determining whether the use of an unzoned area is predominantly commercial, transportation, or industrial (e.g. non-residential in nature), the Department shall consider the municipality's comprehensive plan, if any. Furthermore, the usage of properties abutting each protected location shall be determined, and the limits applied for that protected location shall be based upon the usage occurring along the greater portion of the perimeter of that parcel; in the event the portions of the perimeter are equal in usage, the limits applied for that protected location shall be those for a protected location in an area for which the use is not predominantly commercial, transportation, or industrial.

(v) When a proposed development is to be located in an area where the daytime pre-development ambient hourly sound level at a protected location is equal to or less than 45 dBA and/or the nighttime pre-development ambient hourly sound level at a protected location is equal to or less than 35 dBA, the hourly sound levels resulting from routine operation of the development and measured in accordance with the measurement procedures described in subsection H shall not exceed the following limits at that protected location:

55 dBA between 7:00 a.m. and 7:00 p.m. (the "daytime hourly limit"), and

45 dBA between 7:00 p.m. and 7:00 a.m. (the "nighttime hourly limit").

For the purpose of determining whether a protected location has a daytime or nighttime pre-development ambient hourly sound level equal to or less than 45 dBA or 35 dBA, respectively, the developer may make sound level measurements in accordance with the procedures in subsection H or may estimate the sound-level based upon the population density and proximity to local highways. If the resident population within a circle of 3,000 feet radius around a protected location is greater than 300 persons, or the hourly sound level from highway traffic at a protected location is predicted to be greater than 45 dBA in the daytime or 35 dBA at night (as appropriate for the anticipated operating schedule of the development), then the developer may ,estimate the daytime or nighttime pre-development ambient hourly sound level to be greater than 45 dBA or 35 dBA, respectively.

NOTE : Highway traffic noise can be predicted using the nomograph method of FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108, December, 1978.

(vi) Notwithstanding the above, the developer need not measure or estimate the pre-development ambient hourly sound levels at a protected location if he demonstrates, by estimate or example, that the hourly sound levels resulting from routine operation of the development will not exceed 50 dBA in the daytime or 40 dBA at night.

(b) If the developer chooses to demonstrate by measurement that the daytime and/or nighttime pre-development ambient sound environment at any protected location near the development site exceeds the daytime and/or nighttime limits in subsection 1(a)(ii) or 1(a)(iii) by at least 5 dBA, then the daytime and/or nighttime limits shall be 5 dBA less than the measured daytime and/or nighttime pre-development ambient hourly sound level at the location of the measurement for the corresponding time period.

(c) For any protected location near an existing development, the hourly sound level limit for routine operation of the existing development and all future expansions of that development shall be the applicable hourly sound level limit of 1(a) or l(b) above, or, at the developer's election, the existing hourly sound level from routine operation of the existing development plus 3 dBA.

(d) For the purposes of determining compliance with the above sound level limits, 5 dBA shall be added to the observed levels of any tonal sounds that result from routine operation of the development.

(e) When routine operation of a development produces short duration repetitive sound, the following limits shall apply:

(i) For short duration repetitive sounds, 5 dBA shall be added to the observed levels of the short duration repetitive sounds that result from routine operation of the development for the purposes of determining compliance with the above sound level limits.

(ii) For short duration repetitive sounds resulting from scrap metal, drop forge and metal fabrication operations or developments which the Department determines, due to their character and/or duration, are particularly annoying or pose a threat to the health and welfare of nearby neighbors, 5 dBA shall be added to the observed levels of the short duration repetitive sounds that result from routine operation of the development for the purposes of determining compliance with the above sound level limits, and the maximum sound level of the short duration repetitive sounds shall not exceed the following limits:

(a) At any protected location in an area for which the zoning, or, if unzoned, the existing use or use contemplated under a comprehensive plan, is not predominantly commercial, transportation, or industrial:

65 dBA between 7:00 a.m. and 7:00 p.m., and

55 dBA between 7:00 p.m. and 7:00 a.m.

(b) At any protected location in an area for which the zoning, or, if unzoned, the existing use or use contemplated under a comprehensive plan, is predominantly commercial, transportation, or industrial:

75 dBA between 7:00 a.m. and 7:00 p.m., and

65 dBA between 7:00 p.m. and 7:00 a.m.

(c) The methodology described in subsection 1(a)(iv) shall be used to determine whether the use of an unzoned area is predominantly commercial, transportation, or industrial.

(d) If the developer chooses to demonstrate by measurement that the pre-development ambient hourly sound level at any protected location near the development site exceeds 60 dBA between 7:00 a.m. and 7:00 p.m., and/or 50 dBA between 7:00 p.m. and 7:00 a.m., then the maximum sound level limit for short duration repetitive sound shall be 5 dBA greater than the measured pre-development ambient hourly sound level at the location of the measurement for the corresponding time period.

(e) For any protected location near an existing development, the maximum sound level limit for short duration repetitive sound resulting from routine operation of the existing development and all future expansions and modifications of that development shall be the applicable maximum sound level limit of (e)(ii)(a) or (e)(ii)(b) above, or, at the developer's election, the existing maximum sound level of the short duration repetitive sound resulting from routine operation of the existing development plus 3 dBA.

NOTE : The maximum sound level of the short duration repetitive sound shall be measured using the fast response [LAFmax]. See the definition of maximum sound level.

(2) Sound From Construction of Developments

(a) The sound from construction activities between 7:00 p.m. and 7:00 a.m. is subject to the following limits:

(i) Sound from nighttime construction activities shall be subject to the nighttime routine operation sound level limits contained in subsections l(a) and 1(b).

(ii) If construction activities are conducted concurrently with routine operation, then the combined total of construction and routine operation sound shall be subject to the nighttime routine operation sound level limits contained in subsections 1(a) and 1(b).

(iii) Higher levels of nighttime construction sound are permitted when a duly issued permit authorizing nighttime construction sound in excess of these limits has been granted by:

1. the local municipality when the duration of the nighttime construction activity is less than or equal to 90 days,

2. the local municipality and the Department when the duration of the nighttime construction activity is greater than 90 days.

(b) Sound from construction activities between 7:00 a.m. and 7:00 p.m. shall not exceed the following limits at any protected location: Display Table

(c) All equipment used in construction on development sites shall comply with applicable federal noise regulations and shall include environmental noise control devices in proper working condition, as originally provided with the equipment by its manufacturer.

(3) Sound From Maintenance Activities

(a) Sound from routine, ongoing maintenance activities shall be considered part of the routine operation of the development and the combined total of the routine maintenance and operation sound shall be subject to the routine operation sound level limits contained in subsection 1.

(b) Sound from occasional, major, scheduled overhaul activities shall be subject to the construction sound level limits contained in subsection 2. If overhaul activities are conducted concurrently with routine operation and/or construction activities, the combined total of the overhaul, routine operation and construction sound shall be subject to the construction sound level limits contained in subsection 2.

(4) Sound From Production Blasting

Sound exceeding the limits of subsection 1 and resulting from production blasting at a mine or quarry shall be limited as follows:

(a) Blasting shall not occur in the period between sundown and sunrise the following day or in the period between the hours of 7:00 p.m. and 7:00 a.m., whichever is greater. In addition, no routine production blasting shall be allowed in the daytime on Sundays.

(b) Blasting shall not occur more frequently than four times per day.

(c) Sound from blasting shall not exceed the following limits at any protected location: Display Table

Blast sound shall be measured in peak linear sound level (dBL) with a linear response down to 5 Hz.

NOTE : See Bureau of Mines Report of Investigations 8485 for information on airblast sound levels and pertinent scaled distances.

(5) Exemptions

Sound associated with the following shall be exempt from regulation by the Department:

(a) Railroad equipment which is subject to federal noise regulations.

(b) Aircraft operations which are subject to federal noise regulations.

(c) Registered and inspected vehicles:

(i) while operating on public ways, or

(ii) which enter the development to make a delivery or pickup and which are moving, starting or stopping, but not when they are parked for over 60 minutes in the development.

(d) Watercraft while underway.

(e) Residential developments, except during construction of such developments.

(f) Bells, chimes and carillons.

(g) occasional sporting, cultural, religious or public events allowed by the local municipality where the only affected protected locations are contained within that municipality.

(h) The unamplified human voice and other sounds of natural origin.

(i) Firming, fishing and aquacultural activity.

(j) Forest management, harvesting and transportation activities.

(k) Making, maintaining and grooming snow where the only affected protected locations are contained within the general boundaries of a ski area development.

(l) Snow removal, landscaping and street sweeping activities.

(m) Emergency maintenance and repairs.

(n) Warning signals and alarms.

(o) Safety and protective devices installed in accordance with code requirements.

(p) Test operations of emergency equipment occurring in the daytime and no more frequently than once per week.

(q) Boiler start-up, testing and maintenance operations occurring no more frequently than once per month.

(r) Major concrete pours that must extend after 7:00 p.m., when started before 3:00 p.m.

(s) Sounds from a regulated development received at a protected location when the generator of the sound has been conveyed a noise easement for that location. This exemption shall only be for the specific noise, land and term covered by the easement.

(t) A force majeure event and other causes not reasonably within the control of the owners or operators of the development.

(6) Noise Abatement Structures

Noise abatement structures of a non-permanent nature in any one location for a duration of less than one year and erected for the sole purpose of noise control shall not be considered structures as defined in 38 M.R.S.A. subsection 482(6).

D. Submissions

(1) Developments with Minor Sound Impact

An applicant for a proposed development with minor sound impact may choose to file as part of the site location application a statement attesting to the minor nature of the anticipated sound impact of their development. An applicant proposing an expansion or modification of an existing development with minor sound impact may follow the same procedure as described above. For the purpose of this regulation, a development or an expansion or modification of an existing development with minor sound impact means a development where the developer demonstrates, by estimate or example, that the regulated sound from routine operation of the development will not exceed 5 dBA less than the applicable limits established under subsection C. It is the intent of this subsection that an applicant need not conduct sound level measurements to demonstrate that the development or an expansion or modification of an existing development will have a minor sound impact.

NOTE : Examples include subdivisions without structures, office buildings, storage buildings which will not normally be accessed at night, and golf courses.

(2) Other Developments

Technical information shall be submitted describing the applicant's plan and intent to make adequate provision for the control of sound. The applicant's plan shall contain information such as the following, when appropriate:

(a) Maps and descriptions of the land uses, local zoning and comprehensive plans for the area potentially affected by sounds from the development.

(b) A description of major sound sources, including tonal sound sources and sources of short duration repetitive sounds, associated with the construction, operation and maintenance of the proposed development, including their locations within the proposed development.

(c) A description of the daytime and nighttime hourly sound levels and, for short duration repetitive sounds, the maximum sound levels expected to be produced by these sound sources at protected locations near the proposed development.

(d) A description of the protected locations near the proposed development.

(e) A description of proposed major sound control measures, including their locations and expected performance.

(f) A comparison of the expected sound levels from the proposed development with the sound level limits of this regulation.

(g) A comparison of the expected sound levels from the proposed development with any quantifiable noise standards of the municipality in which the proposed development will be located and of any municipality which may be affected by the noise.

E. Terms and Conditions

The Department may, as a term or condition of approval, establish any reasonable requirement to ensure that the developer has made adequate provision for the control of noise from the development and to reduce the impact of noise on protected locations. Such conditions may include, but are not limited to, enclosing equipment or operations, imposing limits on hours of operation, or requiring the employment of specific design technologies, site design, modes of operation, or traffic patterns.

The sound level limits prescribed in this regulation shall not preclude the Department under Chapter 375.15 from requiring a developer to demonstrate that sound levels from a development will not unreasonably disturb wildlife or adversely affect wildlife populations. In addition, the sound level limits shall not preclude the Department, as a term or condition of approval, from requiring that lower sound level limits be met to ensure that the developer has made adequate provision for the protection of wildlife.

F. Variance From Sound Level Limits

The Department recognizes that there are certain developments or activities associated with development for which noise control measures are not reasonably available. Therefore, the Department may grant a variance from any of the sound level limits contained in this rule upon (1) a showing by the applicant that he or she has made a comprehensive assessment of the available technologies for the development and that the sound level limits cannot practicably be met with any of these available technologies, and (2) a finding by the Department that the proposed development will not have an unreasonable impact on protected locations. In addition, a variance may be granted by the Department if (1) a development is deemed necessary in the interest of national defense or public safety and the applicant has shown that the sound level limits cannot practicably be met without unduly limiting the development's intended function, and (2) a finding is made by the Department that the proposed development will not have an unreasonable impact on protected locations. The Department shall consider the request for a variance as part of the review of a completed Site Location of Development Law application. In granting a variance, the Department may, as a condition of approval, impose terms and conditions to ensure that no unreasonable sound impacts will occur.

G. Definitions

Terms used herein are defined below for the purpose of this noise regulation.

(1) AMBIENT SOUND : At a specified time, the all-encompassing sound associated with a given environment, being usually a composite of sounds from many sources at many directions, near and far, including the specific development of interest.

(2) CONSTRUCTION : Activity and operations associated with the development or expansion of a project or its site.

(3) EMERGENCY : An unforeseen combination of circumstances which calls for immediate action.

(4) EMERGENCY MAINTENANCE AND REPAIRS : Work done in response to an emergency.

(5) ENERGY SUM OF A SERIES OF LEVELS : Ten times the logarithm of the arithmetic sum of the antilogarithms of one-tenth of the levels. [Note: See Section H(4.2).]

(6) EXISTING DEVELOPMENT : A development constructed before 1-1-70 or a development approved under the Site Law prior to the effective date of this regulation or a proposed development for which the site location application is complete for processing on or before the effective date of this regulation. Any development with a site location approval which has been remanded to the Department by a court of competent jurisdiction for further proceedings relating to noise limits or noise levels prior to the effective date of these regulations shall not be

deemed an existing development and these regulations shall apply to the existing noise sources at that development.

(7) EXISTING HOURLY SOUND LEVEL : The hourly sound level resulting from routine operation of an existing development prior to the first expansion that is subject to this regulation.

(8) EQUIVALENT SOUND LEVEL: The level of the mean-square A-weighted sound pressure during a stated time period, or equivalently the level of the sound exposure during a stated time period divided by the duration of the period.

NOTE : For convenience, a one hour equivalent sound level should begin approximately on the hour.

(9) HISTORIC AREAS: Historic sites administered by the Bureau of Parks and Recreation of the Maine Department of Conservation, with the exception of the Arnold Trail.

(10) HOURLY SOUND LEVEL: The equivalent sound level for one hour measured or computed in accordance with this regulation.

(11) LOCALLY-DESIGNATED PASSIVE RECREATION AREA: Any site or area designated by a municipality for passive recreation that is open and maintained for public use and which:

(a) has fixed boundaries,

(b) is owned in fee simple by a municipality or is accessible by virtue of public easement,

(c) is identified and described in a local comprehensive plan, and

(d) has been identified and designated at least nine months prior to the filing of the applicant's Site Location of Development application.

(12) MAXIMUM SOUND LEVEL: Ten times the common logarithm of the square of the ratio of the maximum sound to the reference sound of 20 micropascals. Symbol: LAFmax.

(13) MAXIMUM SOUND: Largest A-weighted and fast exponential-time-weighted sound during a specified time interval. Unit: pascal (Pa).

(14) RESIDENCE: A building or structure, including manufactured housing, maintained for permanent or seasonal residential occupancy providing living, cooking and sleeping facilities and having permanent indoor or outdoor sanitary facilities, excluding recreational vehicles, tents and watercraft.

(15) PRE-DEVELOPMENT AMBIENT: The ambient sound at a specified location in the vicinity of a development site prior to the construction and operation of the proposed development or expansion.

(16) PROTECTED LOCATION: Any location, accessible by foot, on a parcel of land containing a residence or planned residence or approved residential subdivision, house of worship, academic school, college, library, duly licensed hospital or nursing home near the development site at the time a Site Location of Development application is submitted; or any location within a State Park, Baxter State Park, National Park, Historic Area, a nature preserve owned by the Maine or National Audubon Society or the Maine Chapter of the Nature Conservancy, The Appalachian Trail, the Moosehorn National Wildlife Refuge, federally-designated wilderness area, state wilderness area designated by statute (such as the Allagash Wilderness Waterway), or locally-

designated passive recreation area; or any location within consolidated public reserve lands designated by rule by the Bureau of Public Lands as a protected location.

At protected locations more than 500 feet from living and sleeping quarters within the above noted buildings or areas, the daytime hourly sound level limits shall apply regardless of the time of day.

Houses of worship, academic schools, libraries, State and National Parks without camping areas, Historic Areas, nature preserves, the Moosehorn National Wildlife Refuge, federally-designated wilderness areas without camping areas, state wilderness areas designated by statute without camping areas, and locally-designated passive recreation areas without camping areas are considered protected locations only during their regular hours of operation and the daytime hourly sound level limits shall apply regardless of the time of day.

Transient living accommodations are generally not considered protected locations; however, in certain special situations where it is determined by the Department that the health and welfare of the guests and/or the economic viability of the establishment will be unreasonably impacted, the Department may designate certain hotels, motels, campsites and duly licensed campgrounds as protected locations.

This term does not include buildings and structures located on leased camp lots, owned by the applicant, used for seasonal purposes.

For purposes of this definition, (1) a residence is considered planned when the owner of the parcel of land on which the residence is to be located has received all applicable building and land use permits and the time for beginning construction under such permits has not expired, and (2) a residential subdivision is considered approved when the developer has received all applicable land use permits for the subdivision and the time for beginning construction under such permits has not expired.

(17) QUANTIFIABLE NOISE STANDARD: A numerical limit governing noise from developments that has been duly enacted by ordinance by a local municipality.

(18) ROUTINE OPERATION: Regular and recurrent operation of regulated sound sources associated with the purpose of the development and operating on the development site.

(19) SHORT DURATION REPETITIVE SOUNDS: A sequence of repetitive sounds which occur more than once within an hour, each clearly discernible as an event and causing an increase in the sound level of at least 6 dBA on the fast meter response above the sound level observed immediately before and after the event, each typically less than ten seconds in duration, and which are inherent to the process or operation of the development and are foreseeable.

(20) SOUND COMPONENT: The measurable sound from an audibly identifiable source or group of sources.

(21) SOUND LEVEL: Ten times the common logarithm of the square of the ratio of the frequency-weighted and time-exponentially averaged sound pressure to the reference sound of 20 micropascals. For the purpose of this regulation, sound level measurements are obtained using the A-weighted frequency response and fast dynamic response of the measuring system, unless otherwise noted.

(22) SOUND PRESSURE: Root-mean-square of the instantaneous sound pressures in a stated frequency band and during a specified time interval. Unit: pascal (Pa).

(23) SOUND PRESSURE LEVEL: Ten times the common logarithm of the square of the ratio of the sound pressure to the reference sound pressure of 20 micropascals.

(24) TONAL SOUND: for the purpose of this regulation, a tonal sound exists if, at a protected location, the one-third octave band sound pressure level in the band containing the tonal sound exceeds the arithmetic average of the sound pressure levels of the two contiguous one-third octave bands by 5 dB for center frequencies at or between 500 Hz and 10,000 Hz, by 8 dB for center frequencies at or between 160 and 400 Hz, and by 15 dB for center frequencies at or between 25 Hz and 125 Hz.

Additional acoustical terms used in work associated with this regulation shall be used in accordance with the following American National Standards Institute (ANSI) standards:

ANSI S12.9-1988 - American National Standard Quantities and Procedures for Description and Measurements of Environmental Sound, Part 1;

ANSI S3.20-1973 - American National Standard Psychoacoustical Terminology;

ANSI S1.1-1960 - American National Standard Acoustical Terminology.

H. Measurement Procedures

(1) Scope. These procedures specify measurement criteria and methodology for use, with applications, compliance testing and enforcement. They provide methods for measuring the ambient sound and the sound from routine operation of the development, and define the information to be reported. The same methods shall be used for measuring the sound of construction, maintenance and production blasting activities. For measurement of the sound of production blasting activities for comparison with the limits of subsection C(4)(c), these same methods shall be used with the substitution of the linear sound level for the A-weighted sound level.

(2) Measurement Criteria

2.1 Measurement Personnel

Measurements shall be supervised by personnel who are well qualified by training and experience in measurement and evaluation of environmental sound, or by personnel trained to operate under a specific measurement plan approved by the Department.

2.2 Measurement Instrumentation

(a) A sound level meter or alternative sound level measurement system used shall meet all of the Type 1 or 2 performance requirements of American National Standard Specifications for Sound Level Meters, ANSI S1.4-1983.

(b) An integrating sound level meter (or measurement system) shall also meet the Type 1 or 2 performance requirements for integrating/averaging in the International Electrotechnical Commission Standard on Integrating-Averaging Sound Level Meters, IEC Publication 804 (1985).

(c) A filter for determining the existence of tonal sounds shall meet all the requirements of-American National Standard Specification for Octave-Band and Fractional Octave-Band Analog and Digital Filters, ANSI S1.11-1986 for Order 3, Type 3-D performance.

(d) An acoustical calibrator shall be used of a type recommended by the manufacturer of the sound level meter and that meets the requirements of American National Standard Specification for Acoustical Calibrators, ANSI S1.40-1984.

(e) A microphone windscreen shall be used of a type recommended by the manufacturer of the sound level meter.

2.3 Calibration

(a) The sound level meter shall have been calibrated by a laboratory within 12 months of the measurement, and the microphone's response shall be traceable to the National Bureau of Standards.

(b) Field calibrations shall be recorded before and after each measurement period and at shorter intervals if recommended by the manufacturer.

2.4 Measurement Location, Configuration and Environment

(a) Except as noted in subsection (b) below, measurement locations shall be at nearby protected locations that are most likely affected by the sound from routine operation of the development.

(b) For determining compliance with the 75 dBA property line hourly sound level limit described in subsection C(l)(a)(i), measurement locations shall be selected at the property lines of the proposed development or contiguous property owned by the developer, as appropriate.

(c) The microphone shall be positioned at a height of approximately 4 to 5 feet above the ground, and oriented in accordance with the manufacturer's recommendations.

(d) Measurement locations should be selected so that no vertical reflective surface exceeding the microphone height is located within 30 feet. When this is not possible, the measurement location may be closer than 30 feet to the reflective surface, but under no circumstances shall it be closer than 6 feet.

(e) When possible, measurement locations should be at least 50 feet from any regulated sound source on the development.

(f) Measurement periods shall be avoided when the local wind speed exceeds 12 mph and/or precipitation would affect the measurement results.

2.5 Measurement Plans. Plans for measurement of pre-development ambient sound or post-development sound may be discussed with the Department staff.

(3) Measurement of Ambient Sound

3.1 Pre-Development Ambient Sound

Measurements of the pre-development ambient sound are required only when the developer elects to establish the sound level limit in accordance with subsections C(1)(b) and C(1)(e)(ii)(d) for a development in an area with high ambient sound levels, such as near highways, airports, or pre-existing developments; or when the developer elects to establish that the daytime and nighttime ambient hourly sound levels at representative protected locations exceed 45 dBA and 35 dBA, respectively.

(a) Measurements shall be made at representative protected locations for periods of time sufficient to adequately characterize the ambient sound. At a minimum, measurements shall be made on three different weekdays (Monday through Friday) during all hours that the development will operate. If the proposed development will operate on Saturdays and/or Sundays, measurements shall also be made during all hours that the development will operate.

(b) Measurement periods with particularly high ambient sounds, such as during holiday traffic activity, significant insect activity or high coastline waves, should generally be avoided.

(c) At any measurement location the daytime and nighttime ambient hourly sound level shall be computed by arithmetically averaging the daytime and nighttime values of the measured one hour equivalent sound levels. Multiple values, if they exist, for any specific hour on any specific day shall first be averaged before the computation described above.

3.2 Post-Development Ambient Sound

(a) Measurements of the post-development ambient one hour equivalent sound levels and, if short duration repetitive sounds are produced by the development, the maximum sound levels made at nearby protected locations and during representative routine operation of the development that are not greater than the applicable limits of subsection C clearly indicate compliance with those limits.

(b) Compliance with the limits of subsection C(l)(b) may also be demonstrated by showing that the post-development ambient hourly sound level, measured in accordance with the procedures of subsection 3.1 above during routine operation of the development, does not exceed the pre-development ambient hourly sound level by more than one decibel, and that the sound from routine operation of the development is not characterized by either tonal sounds or short duration repetitive sounds.

(c) Compliance with the limits of subsection C(1)(e)(ii)(d) may also be demonstrated by showing that the post development maximum sound level of any short duration repetitive sound, measured in accordance with the procedures of subsection 3.1 above, during routine operation of the development, does not exceed the pre-development ambient hourly sound level by more than five decibels.

(d) If any of the conditions in (a), (b) or (c) above are not met, compliance with respect to the applicable limits must be determined by measuring the sound from routine operation of the development in accordance with the procedures described in subsection 4.

(4) Measurement of the Sound from Routine Operation of Developments.

4.1 General

(a) Measurements of the sound from routine operation of developments are generally necessary only for specific compliance testing purposes in the event that community complaints result from operation of the development, for validation of an applicant's calculated sound levels when requested by the Department, for determination of existing hourly sound levels for an existing development or for enforcement by the Department.

(b) Measurements shall be obtained during representative weather conditions when the development sound is most clearly noticeable. Preferable weather conditions for sound

measurements at distances greater than about 500 feet from the sound source include overcast days when the measurement location is downwind of the development and inversion periods (which most commonly occur at night).

(c) Measurements of the development sound shall be made so as to exclude the contribution of sound from development equipment that is exempt from this regulation.

4.2 Measurement of the Sound Levels Resulting from Routine Operation of the Development

(a) When the ambient sound levels are greater than the sound level limits, additional measurements can be used to determine the hourly sound level that results from routine operation of the development. These additional measurements may include diagnostic measurements such as measurements made close to the development and extrapolated to the protected location, special checkmark measurement techniques that include the separate identification of audible sound sources, or the use of sound level meters with pause capabilities that allow the operator to exclude non-development sounds.

(b) For the purposes of computing the hourly sound level resulting from routine operation of the development, sample diagnostic measurements may be made to obtain the one hour equivalent sound levels for each sound component.

(c) Identification of tonal sounds produced by the routine operation of a development for the purpose of adding the 5 dBA penalty in accordance with subsection C(l)(d) requires aural perception by the measurer, followed by use of one-third octave band spectrum analysis instrumentation. If one or more of the sounds of routine operation of the development are found to be tonal sounds, the hourly sound level component for tonal sounds shall be computed by adding 5 dBA to the one hour equivalent sound level for those sounds.

(d) Identification of short duration repetitive sounds produced by routine operation of a development requires careful observations. For the sound to be classified as short duration repetitive sound, the source(s) must be inherent to the process or operation of the development and not the result of an unforeseeable occurrence. If one or more of the sounds of routine operation of the development are found to be short duration repetitive sounds, the hourly sound level component for short duration repetitive sounds shall be computed by adding 5 dBA to the one hour equivalent sound level for those sounds. If required, the maximum sound levels of short duration repetitive sounds shall be measured using the fast response [LAFmax]. The duration and the frequency of occurrence of the events shall also be measured. In some cases, the sound exposure levels of the events may be measured. The one hour equivalent sound level of a short duration repetitive sound may be determined from measurements of the maximum sound level during the events, the duration and frequency of occurrence of the events, and their sound exposure levels.

(e) The daytime or nighttime hourly sound level resulting from routine operation of a development is the energy sum of the hourly sound level components from the development, including appropriate penalties, (see (c) and (d) above). If the energy sum does not exceed the appropriate daytime or nighttime sound level limit, then the development is in compliance with that sound level limit at that protected location.

(5) Reporting Sound Measurement Data. The sound measurement data report should include the following:

(a) The dates, days of the week and hours of the day when measurements were made.

(b) The wind direction and speed, temperature, humidity and sky condition.

(c) Identification of all measurement equipment by make, model and serial number.

(d) The most recent dates of laboratory calibration of sound level measuring equipment.

(e) The dates, times and results of all field calibrations during the measurements.

(f) The applicable sound level limits, together with the appropriate hourly sound levels and the measurement data from which they were computed, including data relevant to either tonal or short duration repetitive sounds.

(g) A sketch of the site, not necessarily to scale, orienting the development, the measurement locations, topographic features and relevant distances, and containing sufficient information for another investigator to repeat the measurements under similar conditions.

(h) A description of the sound from the development and the existing environment by character and location.

I. Sound Level Standards for Wind Energy Developments

(1) Applicability

This subsection applies to grid-scale wind energy developments as defined by *35-A M.R.S.A. §3451(6)* and small-scale wind energy developments governed by *35-A M.R.S.A. §3456*, hereinafter referred to as "wind energy developments." The provisions in Section 10(C)(1), 10(D)(2), 10(F), and 10(H) of this rule do not apply to wind energy developments.

(2) Sound Level Limits for Routine Operation of Wind Energy Developments

The sound levels resulting from routine operation of a wind energy development measured in accordance with the measurement procedures described in subsection I(8) shall not exceed the following limits:

(a) 75 dBA at any time of day at any property line of the wind energy development or contiguous property owned or controlled by the wind energy developer, whichever is farther from the proposed wind energy development's regulated sound sources; and

(b) 55 dBA between 7:00 a.m. and 7:00 p.m. (the "daytime limit"), and 42 dBA between 7:00 p.m. and 7:00 a.m. (the "nighttime limit") at any protected location.

(3) Tonal Sounds

For the purposes of this subsection, a tonal sound exists if, at a protected location, the 10 minute equivalent average one-third octave band sound pressure level in the band containing the tonal sound exceeds the arithmetic average of the sound pressure levels of the two contiguous one-third octave bands by 5 dB for center frequencies at or between 500 Hz and 10,000 Hz, by 8 dB for center frequencies at or between 160 and 400 Hz, and by 15 dB for center frequencies at or between

25 Hz and 125 Hz. 5 dBA shall be added to any average 10 minute sound level (Leq A 10-min) for which a tonal sound occurs that results from routine operation of the wind energy development.

(4) Short Duration Repetitive Sounds ("SDRS")

For the purposes of this subsection SDRS is defined as a sequence of repetitive sounds that occur within a 10-minute measurement interval, each clearly discernible as an event resulting from the development and causing an increase in the sound level of 5 dBA or greater on the fast meter response above the sound level observed immediately before and after the event, each typically 11 second in duration, and which are inherent to the process or operation of the development.

(a) When routine operation of a wind energy development produces short duration repetitive sound, a 5 dBA penalty shall be arithmetically added to each average 10-minute sound level (Leq A 10-min) measurement interval in which greater than 5 SDRS events are present.

(5) Compliance with the Sound Level Limits

A wind energy development shall determine compliance with the sound level limits as set forth in subsection I(2) of this rule in accordance with the following:

(a) Sound level data shall be aggregated in 10-minute measurement intervals within a given compliance measurement period (daytime: 7:00 am to 7:00 pm or nighttime: 7:00 pm to 7:00 am) under the conditions set forth in subsection I(8) of this rule.

(b) Compliance will be demonstrated when the arithmetic average of the sound level of, at a minimum, twelve, 10-minute measurement intervals in a given compliance measurement period is less than or equal to the sound level limit set forth in subsection I(2).

(c) Alternatively, if a given compliance measurement period does not produce a minimum of twelve, 10-minute measurement intervals under the atmospheric and site conditions set forth in subsection I(8) of this rule, the wind energy development may combine six or more contiguous 10-minute measurement intervals from one 12 hour (7:00 am to 7:00 pm daytime or 7:00 pm to 7:00 am nighttime) compliance measurement period with six or more contiguous 10-minute intervals from another compliance measurement period. Compliance will be demonstrated when the arithmetic average of the combined 10-minute measurement intervals is less than or equal to the sound level limit set forth in subsection I(2).

(6) Variance from Sound Level Limits

A variance may be granted by the Department if: (1) a development is deemed necessary in the interest of national defense or public safety and the applicant has shown that the sound level limits cannot practicably be met without unduly limiting the development's intended function, and (2) a finding is made by the Department that the proposed development will not have an unreasonable impact on protected locations. The Department shall consider the request for a variance as part of the review of a completed Site Location of Development Law application or a request for certification for a small-scale wind energy development. In granting a variance, the Department may, as a condition of approval, impose terms and conditions to ensure that no unreasonable sound impacts will occur.

(7) Submissions

Technical information shall be submitted describing the wind energy developer's plan and intent to make adequate provision for the control of sound. The wind energy developer's plan shall contain the following:

(a) A map depicting the location of all proposed sound sources associated with the wind energy development, property boundaries for the proposed wind energy development, property boundaries of all adjacent properties within one mile of the proposed wind energy development, and the location of all protected locations located within one mile of the proposed wind energy development;

(b) A description of the major sound sources, including tonal sound sources and sources of short duration repetitive sounds, associated with the construction, operation and maintenance of the proposed wind energy development;

(c) A description of the equivalent noise levels expected to be produced by the sound sources at protected locations located within one mile of the proposed wind energy development. The description shall include a full-page isopleths map depicting the modeled decay rate of the predicted sound pressure levels expected to be produced by the wind energy development at each clearly identified protected location within one mile of the proposed wind energy development. The predictive model used to generate the equivalent noise levels expected to be produced by the sound sources shall be designed to represent the "predictable worst case" impact on adjacent properties and shall include, at a minimum, the following:

1. The maximum rated sound power output (IEC 61400-11) of the sound sources operating during nighttime stable atmospheric conditions with high wind shear above the boundary layer and consideration of other conditions that may affect in-flow airstream turbulence;

2. Attenuation due to geometric spreading, assuming that each turbine is modeled as a point source at hub height;

3. Attenuation due to air absorption;

4. Attenuation due to ground absorption/reflection;

5. Attenuation due to three dimensional terrain;

6. Attenuation due to forestation;

7. Attenuation due to meteorological factors such as but not limited to relative wind speed and direction (wind rose data), temperature/vertical profiles and relative humidity, sky conditions, and atmospheric profiles;

8. Inclusion of an "uncertainty factor" adjustment to the maximum rated output of the sound sources based on the manufacturer's recommendation; and

9. Inclusion, at the discretion of the Department, of an addition to the maximum rated output of the sound sources to account for uncertainties in the modeling of sound propagation for wind energy developments. This discretionary uncertainty factor of up to 3 dBA may be required by the Department based on the following conditions: inland or coastal location, the extent and specificity of credible evidence of meteorological operating conditions, and the extent of evaluation and/or prior specific experience for the proposed wind turbines. Subject to the Department's discretion based on the information available, there is a rebuttable presumption of an uncertainty factor of 2 to 3 dBA for coastal developments and of 0 to 2 dBA for inland developments.

(d) A description of the protected locations near the proposed wind energy development.

(e) A description of proposed major sound control measures, including their locations and expected performance.

(f) A comparison of the expected sound levels from the proposed development with the sound level limits of this regulation.

(g) A comparison of the expected sound levels from the proposed development with any quantifiable noise standards of the municipality in which the proposed development will be located and of any municipality which may be affected by the noise.

(h) A description and map identifying one or more compliance testing locations on or near the proposed wind energy development site. The identified compliance testing locations shall be selected to take advantage of prevailing downwind conditions and be able to meet the site selection criteria outlined in subsection I(8)(d)(2).

(i) A description of the compliance measurement protocol as required by subsection 8 below.

(j) A description of the complaint response protocol proposed for the wind energy development. The complaint response protocol shall adequately provide for, at a minimum:

1. A 24-hour contact for complaints;

2. A complaint log accessible by the Department;

3. For those complaints that include sufficient information to warrant an investigation, the protocol must provide for an analysis as set forth in (a) through (c) below. Sufficient information includes, at a minimum: the name and address of the complainant; the date, time and duration of the sound event; a description of the sound event, indoor or outdoor, specific location and a description of any audible sounds from other sources outside or inside the dwelling of the complainant. Analysis of the complaint by the licensee must include:

(a) documentation of the location of the nearest turbines to the complaint location and ground conditions in the area of the complaint location;

(b) weather conditions at the time of the complaint and surface and hub height wind speed and direction;

(c) power output and direction of nearest turbines; and

(d) notification of complaint findings to the Department and the complainant;

4. A plotting of complaint locations and key information on a project area map to evaluate complaints for a consistent pattern of site, operating and weather conditions; and

5. A comparison of these patterns to the compliance protocol to determine whether testing under additional site and operating conditions is necessary and, if so, a testing plan that addresses the locations and the conditions under which a pattern of complaints had occurred.

(8) Measurement Procedures

These procedures specify measurement criteria and methodology for use with wind energy development applications, compliance and complaint response. They provide methods for measuring the sound from operation of the wind energy development and set forth the information to be reported.

(a) Measurement Criteria

1. Measurement Personnel

Measurements shall be supervised by personnel who are well qualified by training and experience in measurement and evaluation of environmental sound, or by personnel trained to operate under a specific measurement plan approved by the Department.

(b) Measurement Instrumentation

1. A sound level meter or alternative sound level measurement system used shall meet all of the Type 0 or 1 performance requirements of American National Standard Specifications for Sound Level Meters, ANSI S1.4.

2. An integrating sound level meter (or measurement system) shall also meet the Type 0 or 1 performance requirements for integrating/averaging in the International Electrotechnical Commission Standard on Integrating-Averaging Sound Level Meters, IEC Publication 61672-1 and ANSI 1.43.

3. A filter for determining the existence of tonal sounds shall meet all the requirements of the American National Standard Specification for Octave-Band and Fractional Octave-Band Analog and Digital Filters, ANSI S1.11 and IEC 61260, Type 3-D performance.

4. The acoustical calibrator used shall be of a type recommended by the manufacturer of the sound level meter and one that meets the requirements of American National Standard Specification for Acoustical Calibrators, ANSI S1.40.

5. The microphone windscreen used shall be of a type recommended by the manufacturer of the sound level meter.

6. Anemometer(s) used for surface (10 meter (m)) (32.8 feet) wind speeds shall have a minimum manufacturer specified accuracy of 11 mph providing data in one second integrations and 10 min. average/maximum values for the evaluation of atmospheric stability.

7. Audio recording devices shall be time stamped (hh:mm:ss) and at a minimum 16 bit digital, recording the sound signal output from the measurement microphone at a minimum sampling rate of 24 thousand (k) samples per second to be used for identifying events. Audio recording and compliance data collection shall occur through the same microphone/sound meter and bear the same time stamp.

(c) Equipment Calibration

1. The sound level meter shall have been calibrated by a laboratory within 12 months of the measurement, and the microphone's response shall be traceable to the National Institute of Standards and Technology.

2. Field calibrations shall be recorded before and after each measurement period and at shorter intervals if recommended by the manufacturer.

3. Anemometer(s) and vane(s) shall be calibrated annually by the manufacturer to maintain stated specification.

(d) Compliance Measurement Location, Configuration, and Environment

1. Compliance measurement locations shall be at nearby protected locations that are most likely affected by the sound from routine operation of the wind energy development subject to permission from the respective property owner(s).

2. To the greatest extent possible, compliance measurement locations shall be at the center of unobstructed areas that are maintained free of vegetation and other structures or material that is greater than 2 feet in height for a 75-foot radius around the sound and audio monitoring equipment.

3. To the greatest extent possible, meteorological measurement locations shall be at the center of open flat terrain, inclusive of grass and a few isolated obstacles less than 6 feet in height for a 250-foot radius around the anemometer location. The meteorological data measurement location need not be coincident with the sound and audio measurement location provided there is no greater than a 5 mile separation between the data collection points and the measurement locations have similar characterization, i.e. same side of the mountain ridge, etc.

4. Meteorological measurements of wind speed and direction shall be collected using anemometers at a 10-meter height (32.8 feet) above the ground. Results shall be reported, based on 1-second integration intervals, and shall be reported synchronously with hub level and sound level measurements at 10-minute measurement intervals. The wind speed average and maximum shall be reported.

5. The sound microphone shall be positioned at a height of approximately 4 to 5 feet above the ground, and oriented in accordance with the manufacturer's recommendations.

6. When possible, measurement locations should be at least 50 feet from any sound source other than the wind energy development's power generating sources.

(e) Compliance Data Collection, Measurement and Retention Procedures

1. Measurements of operational, sound, audio and meteorological data shall occur as set forth in subsection I(8)(e)(7 through 10).

2. All operational, sound and meteorological data collected shall be retained by the wind energy development for a period of 1 year from the date of collection and is subject to inspection by the Department and submission to the Department upon request.

3. All audio data collected shall be retained by the wind energy development for a period of four weeks from the date of collection unless subject to a complaint filed in accordance with the complaint protocol approved by the Department and is subject to inspection by the Department and submission to the Department upon request. Specific audio data collected that coincides with a complaint filed in accordance with the approved complaint protocol shall be retained by the wind energy developer for a period of 1 year from the date of collection and is subject to inspection by the Department and submission to the Department upon request.

4. Written notification of the intent to collect compliance data must be received by the Department prior to the collection of any sound level data for compliance purposes. The notification shall state the date and time of the compliance measurement period.

Note : Notice received via electronic mail is sufficient regardless of whether it is received during business hours.

5. Compliance data from the operation of a wind energy development shall be submitted to the Department, at a minimum:

(a) Once during the first year of facility operation;

(b) Once during each successive fifth year thereafter until the facility is decommissioned;

(c) In response to a complaint regarding operation of the wind energy development as set forth in subsection I(7)(j) of the rule and any subsequent enforcement by the Department; and

(d) For validation of an applicant's calculated sound levels when requested by the Department.

6. All sound level, audio and meteorological data collected during a compliance measurement period for which the Department has been notified that meets or exceeds the specified wind speed parameters shall be submitted to the Department for review and approval. All data submittals shall be submitted to the Department within 30 days of notification of intent to collect compliance data.

7. Measurement shall be obtained during weather conditions when the wind turbine sound is most clearly noticeable, generally when the measurement location is downwind of the wind energy development and maximum surface wind speeds < 6 miles per hour (mph) with concurrent turbine hub-elevation wind speeds sufficient to generate the maximum continuous rated sound power from the nearest wind turbines to the measurement location. A downwind location is defined as within 45 [0]of the direction between a specific measurement location and the acoustic center of the five nearest wind turbines.

[Note: These conditions typically occur during inversion periods usually between 11 pm and 5 am.]

8. In some circumstances, it may not be feasible to meet the wind speed and operations criteria due to terrain features or limited elevation change between the wind turbines and monitoring locations. In these cases, measurement periods are acceptable if the following conditions are met:

(a) The difference between the L A90 and L A10 during any 10-minute period is less than 5 dBA; and

(b) The surface wind speed (10 meter height) (32.8 feet) is 6 mph or less for 80% of the measurement period and does not exceed 10 mph at any time, or the turbines are shut down during the monitoring period and the difference in the observed L A50 after shut down is equal to or greater than 6 dBA; and

(c) Observer logs or recorded sound files clearly indicate the dominance of wind turbine(s).

9. Measurement intervals affected by increased biological activities, leaf rustling, traffic, high water flow, aircraft flyovers or other extraneous ambient noise sources that affect the ability to demonstrate compliance shall be excluded from all compliance report data. The intent is to obtain 10-minute measurement intervals that entirely meet the specific criteria.

10. Measurements of the wind energy development sound shall be made so as to exclude the contribution of sound from other development equipment that is exempt from this regulation.

(f) Reporting of Compliance Measurement Data

Compliance Reports shall be submitted to the Department within 30 days of notification of intent to collect compliance data or upon request by the Department and shall include, at a minimum, the following:

1. A narrative description of the sound from the wind energy development for the compliance measurement period result;

2. The dates, days of the week and hours of the day when measurements were made;

3. The wind direction and speed, temperature, humidity and sky condition;

4. Identification of all measurement equipment by make, model and serial number;

5. All meteorological, sound, windscreen and audio instrumentation specifications and calibrations;

6. All A-weighted equivalent sound levels for each 10-minute measurement interval;

7. All L A10 and L A90 percentile levels;

8. All 10 minute 1/3 octave band linear equivalent sound levels (dB);

9. All short duration repetitive events characterized by event amplitude. Amplitude is defined as the peak event amplitude minus the average minima sound level immediately before and after the event, as measured at an interval of 50 milliseconds ("ms") or less, A-weighted and fast time response, i.e. 125 ms. For each 10-minute measurement interval short duration repetitive sound events shall be reported by number for each observed amplitude integer above 5 dBA.

10. Audio recording devices shall be time stamped (hh:mm:ss) and at a minimum 16 bit digital, recording the sound signal output from the measurement microphone at a minimum sampling rate of 24 thousand (k) samples per second to be used for identifying events. Audio recording and compliance data collection shall occur through the same microphone/sound meter and bear the same time stamp. Should any sound data collection be observed by a trained attendant, the attendant's notes and observations may be substituted for the audio files during the compliance measurement period;

11. All concurrent time stamped turbine operational data including the date, time and duration of any noise reduction operation or other interruptions in operations if present; and

12. All other information determined necessary by the Department.

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August 26, 2020 Letter to Land Use Planning Commission

ATTACHMENT 2

MDEP Chapter 200 Rules Feasibility Study Requirements

CODE OF MAINE RULES
Current through August 21, 2020
06. DEPARTMENT OF ENVIRONMENTAL PROTECTION
096. GENERAL

Chapter 200. METALLIC MINERAL EXPLORATION, ADVANCED EXPLORATION AND MINING
SUBCHAPTER 3: PERMITS
Section 9. Application Requirements

* * * *

D. Mining Operation Plan. A mining operation plan shall be included as part of the application. The mining operation plan shall provide a detailed metallic mineral mining **feasibility study** including, but not limited to, designs, plans and specifications, analyses, and schedules along with supporting data and information, as applicable, of the following:

(1) Type and method of metallic mineral mining proposed, and the expected operating life of the mine, including a mining and production schedule;

(2) Area, volume, type, and mineralogy of ore to be excavated, and schedule of metallic mineral mining and stockpiling of ore;

(3) Area, volume, and characteristics of topsoil, overburden, lean ore, ore, and waste rock to be excavated, including plans and schedules for excavating, segregating, processing, storing, and stabilizing these materials. All mine waste must be characterized according to their potential to generate acid rock drainage or otherwise discharge contaminants to the environment, and plans for excavation, segregation, processing, storage, and stabilization of each type of material must specifically address the nature of the material identified by this characterization;

(4) Locations, designs, schedules of development, proposed use, and dimensions of stockpiles;

(5) Location, extent, depth, dimensions, and elevation contours of excavations, underground mine openings and workings, shafts, portals, and other openings to the land surface, including a schedule of development;

(6) Locations, dimensions, and proposed use of buildings, facilities, and structures including those used for storage and transfer of chemicals, and location, dimensions, and proposed use of fuel and explosives storage, washdown, and maintenance areas;

(7) Transportation plan, including off-site ore concentrate or metallic product hauling;

(8) Plan for providing necessary general infrastructure requirements to the mining operation including electrical power requirements, water, wastewater, and

general solid waste disposal, and access roads for transportation of equipment, materials, and labor required for the mining and restoration operation. This plan shall include details on the addition of the mining operation to existing civil infrastructures within the metallic mineral mining and affected areas;

(9) Beneficiation plan describing type, methods, extent and sequences, as well as associated materials, reagents, wastes, products, equipment, and processes;

(10) Tailings management plan, including a description of the quantity, method, location, sequence, and schedule;

(11) Water management plan for storm water, surface water, groundwater, potable water, and process water describing:

(a) Withdrawal sources, quantities, rates, and duration of use;

(b) Expected hydrologic impacts on water supply sources, groundwater, wetlands, and other surface water resources;

(c) Purpose, location, size, capacities, design, operating procedures of all ponds, impoundments, dewatering systems, diversions, and other water control structures and treatment facilities;

(d) Location and estimated volumes, rates, quality, and duration of discharges; and

(e) Anticipated wastewater treatment methodology, design, and procedures;

NOTE: For some activities in, on, over or adjacent to a wetland or waterbody, a permit under the Natural Resources Protection Act may be required. See 38 M.R.S. §480-B and the Department's Wetlands and Waterbodies Protection rule, 06-096 C.M.R. ch. 310. Any discharge to the Waters of the State requires a permit pursuant to 38 M.R.S. §413.

(12) Waste management plan including descriptions by waste stream type, source, anticipated volumes, characteristics, provisions for minimization, treatment, on-site storage, containment, management, transportation, and disposal endpoints. Waste management plans shall not include perpetual treatment methodologies; and

(13) Dust management plan for the control of dust and other fugitive emissions.

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F. Quality Assurance Plan (QAP). A QAP must be established and included as part of the application to assure that design specifications and performance requirements for all mining operations are met during construction, operation, reclamation, and closure. The QAP must include, but is not limited to, the following:

(1) A description of the Construction Quality Assurance (CQA) measures to be implemented;

(2) A description of the relationship between the QAP, construction quality control, and the construction contract bid documents. The construction contract bid documents must also clearly define this relationship;

(3) A description of the extent and scope of the responsibility and authority of organizations and/or personnel involved in permitting, designing, constructing, and certifying construction, operation, reclamation and closure of the mining operation. This must also include a description of a construction problem resolution process that incorporates the roles and responsibilities of all parties, including the Applicant /Permittee, CQA personnel, contractors, and the Department;

(4) The required qualifications of the CQA personnel and testing laboratories. Personnel qualifications must include recognized industry certifications where available and applicable. Testing laboratories must be certified by the appropriate state and national accreditation programs for the tests to be performed;

(5) The inspections and tests to be performed to ensure that the mining operation conforms to the requirements of the mining permit, this Chapter and the Act;

(6) The sampling activities, sample size, methods for determining sample locations, frequency of sampling, acceptance and rejection criteria, and methods for ensuring that corrective measures are implemented;

(7) Record keeping and reporting requirements for CQA and inspection activities;

(8) A list and description of all items requiring CQA certifications, including identification of the engineer(s) responsible for these certifications; and

(9) A description of the process for evaluating CQA and inspector performance, and for terminating CQA personnel and inspectors, including notification to the Department.

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August 26, 2020 Letter to Land Use Planning Commission

ATTACHMENT 3

MDEP Chapter 200 Rules Financial Capacity Requirements

CODE OF MAINE RULES
Current through August 21, 2020
06. DEPARTMENT OF ENVIRONMENTAL PROTECTION
096. GENERAL

Chapter 200. METALLIC MINERAL EXPLORATION, ADVANCED EXPLORATION AND MINING
SUBCHAPTER 4: FINANCIAL ASSURANCE AND INSURANCE
Section 17. Financial Assurance and Insurance Requirements

A. Requirements. Financial assurance and insurance is required for all advanced exploration and mining activities and must be posted and fully funded prior to the issuance of a mining permit.

(1) The Permittee shall continuously maintain financial assurance, as a condition of the mining permit, until the Department determines that all reclamation, closure, post-closure maintenance and monitoring, and corrective actions have been completed.

(2) The Permittee shall be required to maintain financial assurance for as long as the Department determines that the mining operation and any associated waste material could create an unreasonable threat to public health and safety or the environment.

(3) Financial assurance must be available and made payable to the Department when requested by the Department.

(4) Financial assurance may not be canceled by the Permittee unless it is replaced by alternative mechanisms in the appropriate amount and with the express written consent of the Commissioner after 30 days public notice in a paper of statewide coverage.

(5) Financial assurance must be fully valid, binding, and enforceable under state and federal law.

(6) All financial assurances obtained under this Chapter must be in a form such that it would not be subject to discharge under any and all provisions of the Bankruptcy Reform Act of 1978, as amended by the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005, Pub. L. No. 109-8, 119 Stat. 23, *11 U.S.C. §101* et seq. (as may be further amended from time to time) (the "United States Bankruptcy Code") and must be in a form such that it will not be considered property of the bankruptcy estate under any and all provisions of the United States Bankruptcy Code in the event that a bankruptcy petition is filed by or against the Permittee.

(7) All forms of financial assurance and terms and conditions of financial assurances must be approved by the Department and must be analyzed by individuals with documented experience in material handling and construction, mining costs, and financial analysis. If the Department does not have adequate in-house expertise, the Department shall hire third-parties with documented experience in material handling and

construction, mining costs, risk analysis, and financial analysis to analyze and evaluate the proposed terms and conditions of financial assurance required for the Applicant or Permittee. The individuals and company hired to perform this function shall have no conflict of interest with the applicant, related persons, applicant's consultants, attorneys or any of their employees. All costs of the third- party evaluation must be paid by the Applicant pursuant to 38 M.R.S. §352(4-A).

(8) Failure of financial providers. The financial assurance shall provide a mechanism for a bank or guarantor to give prompt notice by certified mail to the Department and the Permittee of any administrative or judicial action filed or initiated alleging the insolvency or bankruptcy of the bank or the Permittee, or alleging any violations which could result in suspension or revocation of the bank charter or license to do business.

(9) Upon incapacity of a bank or guarantor by reason of bankruptcy, insolvency, suspension or revocation of charter or license for any other reason, the Permittee shall be deemed to be without financial assurance coverage and shall cease mining and immediately begin to conduct reclamation, closure, post-closure maintenance and monitoring, and corrective actions measures in accordance with the mine plan. The Department may, for good cause shown, grant up to two 30-day extensions prior to the initiation of reclamation and closeout measures. Mining operations shall not resume until the Department has determined that an acceptable replacement financial assurance has been provided.

(10) Advance notice

(a) The Permittee shall notify the Department within 30 days thereof if its and/or its parent company's credit rating falls below investment grade as determined by Moody's Investor Services, Standard & Poor, or other comparable ratings service.

(b) If the Permittee's and/or its parent company's credit rating falls below investment grade, within 30 days of such determination the Permittee shall secure an irrevocable standby letter of credit in an amount and form approved by the Commissioner.

(c) The Permittee shall notify the Department of the availability on line of quarterly financial statements (filed by it and/or its parent company) within 30 days of when such statements are filed with the United States Securities and Exchange Commission (SEC). If quarterly financial statements become unavailable on line, the Permittee shall submit these statements in writing to the Department within 30 days of when such statements are filed with the SEC.

B. Coverage of Financial Assurance

(1) Financial assurance under this section applies to mining, including advanced exploration, and reclamation operations that are subject to a mining permit. The amount of financial assurance must be sufficient to cover the cost for the Department to administer, and hire a 3rd-party to implement all necessary investigation, monitoring,

closure, post-closure, treatment, remediation, corrective action, reclamation, operation and maintenance activities under the environmental protection, reclamation and closure plan, including, but not limited to:

(a) The cost to investigate all possible releases of contaminants at the site, monitor all aspects of the mining operation, close the mining operation in accordance with the closure plan, conduct treatment activities of all expected fluids and wastes generated by the mining operation for a minimum of 100 years, implement remedial activities for all possible releases and maintenance of structures and waste units as if these units have released contaminants to the groundwater and surface water, conduct corrective actions for potential environmental impacts to groundwater and surface water resources as identified in the environmental impact assessment and conduct all other necessary activities at the mine site in accordance with the environmental protection, reclamation and closure plan; and

(b) The cost to respond to a worst-case catastrophic mining event or failure, including, but not limited to, the cost of restoring, repairing and remediating any damage to public facilities or services, to private property or to the environment resulting from the event or failure.

(2) An Applicant for a mining permit must include with its application a review of the proposed financial assurance amounts required under 38 M.R.S. §490-RR(2) and this Chapter as performed by a qualified, independent 3rd-party reviewer approved by the Department. The costs of the 3rd-party reviewer must be paid by the Applicant. Estimates of the costs of a worst-case catastrophic mining event or failure under subsection 17(B)(1)(b) provided by the applicant may not include costs to the applicant associated with the loss of use of any mining operation or facility or the costs of repairing any damaged mining operation or facility to restore operations or other functions.

(3) The Applicant or Permittee must provide detailed documentation of the estimated cost to implement the activities in the mine plan and the provisions of subsection 9(I)(5) of this Chapter with the application for permit, in the corrective action plan, and in other submittals as follows:

(a) Cost estimates must be in current United States dollar value;

(b) No salvage value attributed to the sale of products, wastes, facility structures, equipment, land or other assets may be used for estimating purposes; and

(c) Cost estimates must be re-evaluated and updated at any time that the Department requires a corrective action, a change to the mining permit or changes to the cost estimates, and the financial assurance amount must be adjusted accordingly within 30 days of the filing of a new or modified corrective action plan, mine plan or when the permit or cost estimates are changed.

(4) The Applicant or Permittee must provide financial assurance in the amount determined by the 3rd-party reviewer under subsection 17(B)(2) to be sufficient for the

Department to conduct all activities listed under subsection 17(B)(1). Financial assurance estimates provided by the Applicant and reviewed by the 3rd-party reviewer under this section must use the highest cost option for all estimates, include a minimum 20% contingency to account for unexpected expenses, assume that all activities are to be completed concurrently, and base cost estimates on the maximum permitted quantities and volumes.

(5) The financial assurance must be updated annually and adjusted using the implicit price deflator for gross national product as published by the United States Department of Commerce, Survey of Current Business, and must be submitted to the Department on or before March 15 of each year. The financial assurance shall not be adjusted downward in the event of a negative implicit price deflator.

(6) The financial assurance must not include funds from t he Maine Mining Oversight Fund as established at 36 M.R.S. §2866.

(7) Without limitation, changes in the financial assurance may be required due to modifications of the permit, changed financial or site conditions, technology changes, inflation, anticipated changes in mining activity and waste unit utilization, or changes in requirements for closure, post-closure maintenance, corrective action or reclamation. The Permittee shall annually report to the Department, subject to the Department's approval, an estimate of cost changes as provided in this Chapter on or before March 15. The permit remains in effect only if all required deposits or increases are made within 30 days of the due date provided in this rule. The obligation to make deposits or increases ceases only upon approval from the Department.

C. Allowable Forms of Financial Assurance. The financial assurance must consist of a trust fund that is secured with any of the following forms of negotiable property, or a combination thereof as approved by the Department:

(1) A cash account in one or more federally insured accounts;

(2) Negotiable bonds issued by the United States, a state or municipality having a Standard and Poor's credit rating of AAA or AA, or an equivalent rating from a national securities rating service; or

(3) Negotiable certificates of deposit in one or more federally insured depositories.

The financial assurance must be in a form that cannot be canceled, withdrawn, revoked, or otherwise reduced without the express written consent of the Department.

D. General Terms and Conditions of Financial Assurance

(1) Trust fund requirements. The Permittee must deposit the required financial assurance in a trust fund prior to the issuance of a mining permit. The trust fund must be fully funded with one or more of the instruments identified in subsection 17(C) above.

(a) The Department shall be a party to the trust agreement as beneficiary and shall have the right to withdraw and use part or all of the funds in the trust fund or to

require the liquidation of the assets of the trust fund, at its sole discretion, to carry out the Act requirements including all associated regulations, permit, and other requirements as the Department determines necessary. The trust agreement must provide that there shall be no withdrawals from the trust fund except as authorized in writing by the Department.

(b) The trust fund must not constitute an asset of the trustee or Permittee, and must be established in such a manner so as to ensure the funds in the account will be available to the Department and not any creditor, including in the event of bankruptcy or reorganization of the trustee or Permittee. The Permittee shall pay all costs of managing the fund and compensating the trustee.

(c) The trustee must not invest assets of the trust fund in any real estate or real estate investment trust, any contract for the future sale or delivery of commodities or foreign currency, any state, municipal or corporate bond, or any other equity instrument or security, except that assets of the trust fund may be invested in securities issued by the United States Treasury.

(d) The trustee shall notify the Department immediately in the event that any payment from the Permittee is not remitted by the due date.

(e) The trustee shall submit to the Department an annual statement of deposits, letters of credit, investments, and any income and principal in the trust fund, and changes in the same over the prior year.

(f) The financial institution serving as a trustee is subject to Department approval and is limited to the following:

(i) A bank or trust company chartered by the State of Maine;

(ii) A national bank chartered by the Office of the Comptroller of Currency; or

(iii) An operating subsidiary of a national bank chartered by the Office of the Comptroller of Currency.

E. Financial Assurance Mechanisms.

(1) Cash accounts and Certificates of Deposits. When the Department has authorized the Applicant or Permittee to meet its financial assurance obligations through the establishment of a trust fund secured with a cash account or certificate of deposit, the following requirements apply:

(a) Any interest paid on a cash account must be retained in the account and applied to the account; and

(b) The Department shall require that certificates of deposit be made payable to or assigned to the Department, both in writing and upon the records of the bank issuing the certificates. If assigned, the Department shall require the banks issuing

these certificates to waive all rights of setoff or liens against the certificates prior to the Department's acceptance.

(2) Negotiable bonds. The Department may authorize the Applicant or Permittee to meet its financial assurance obligations through the establishment of a trust fund secured with negotiable bonds.

(a) Negotiable bonds shall have a fair market value at the time of permit approval in excess of the financial assurance amount by at least 10%. The amount of such excess shall reflect changes in value anticipated over a period of 5 years, including depreciation, appreciation, marketability, and market fluctuation. In any event, the Department shall require a margin for legal fees and costs of disposition of the bonds in the event of forfeiture.

(b) The financial assurance value of the negotiable bonds used to secure a trust fund may be evaluated at any time by the trustee or the Department. The Permittee shall increase the assets in the trust fund as necessary. In no case shall the value attributed to the negotiable bonds exceed market value.

F. Release of Financial Assurance

(1) When requesting release of financial assurance funds, the Permittee shall submit to the Department:

(a) An environmental evaluation of the mining operation, mining site, affected areas, waste units, reclamation, and any required corrective action to ensure that any remaining problems are identified and corrected before financial assurance funds are released;

(b) A detailed cost breakdown of the expended funds and the amount of money requested by the Permittee to be released from the trust fund; and

(c) A detailed cost breakdown of the funds needed to complete the actions contained in subsection 17(F)(1)(a) above.

(2) At the time the financial assurance release request is filed with the Department, the Permittee shall submit proof that notice of the request has been mailed by certified mail to abutters, as determined by local tax records or other reliable means, to the municipal office of the municipality(ies) where the project is located and, if the project is located in the unorganized or deorganized areas of the State, to the appropriate county commissioners. The notice must also be published once per week for 4 successive weeks in a newspaper with statewide circulation. Copies of the published notice must be submitted with the application. The notice must include the following information:

(a) The Permittee's name;

(b) Permit number and approval date;

(c) The precise location of the real property affected;

(d)The number of acres;

(e) The type and amount of financial assurance;

(f) The type and appropriate dates of reclamation, closure, post-closure maintenance, monitoring, and corrective actions;

(g) A description of compliance with the Permittee's approved permit and mine plan; and

(h) The name and address of the Department contact, to whom written comments, objections, or requests for public hearings on the financial assurance release request may be submitted.

(3) The Department shall provide notice of the receipt of the request for release of financial assurance to the Department of Inland Fisheries and Wildlife, Department of Agriculture, Conservation and Forestry, and other state and federal agencies deemed appropriate.

(4) The Department shall post the public notice on the Department webpage dedicated to this permit.

(5) Release inspection by the Department. Upon receipt of the complete request for release of financial assurance, the Department shall conduct a release inspection and evaluation of the reclamation, closure, post-closure maintenance and monitoring, and corrective actions completed at the mine site. The surface owner or lessor of the real property, other state and federal agencies as listed in this section, and any persons who have requested advance notice of the inspection shall be given notice of the release inspection and may be present at that inspection as may other members of the interested public to the extent reasonably practicable. The Department may arrange with the Permittee to allow access to the permit area, upon request, by any person with an interest in the financial assurance release, for the purpose of gathering information relevant to the proceeding. Nothing in this subsection prevents the Department from making additional inspections of the reclamation, closure, post-closure maintenance and monitoring, and corrective actions completed at the mine site

(6) Public Hearing

(a) The Department shall hold a public hearing on all requests for release of the financial assurance, and the Department shall inform all persons who have requested notice of hearings and persons who have filed written objections in regard to the request of the time and place of the hearing at least 30 days in advance of the public hearing. The hearing shall be held in the area of the permitted facility.

(b) The date, time, and location of the public hearing shall be advertised by the Department in a newspaper of statewide circulation once a week for two consecutive weeks. All persons who have submitted a written request in advance to the Department to receive notices of hearings shall be provided notice at least 30 days prior to the hearing. The hearing procedures of 06-096 C.M.R. ch. 3 will be followed.

(c) Within 90 days after a public hearing has been held pursuant to this section, the Department shall notify in writing the Permittee, trustee or other persons with an interest in collateral, and the persons who either filed objections in writing or participants in the hearing proceedings who supplied their contact information to the Department, if any, of the decision to release the financial assurance. The Department does not release the Permittee from any mining obligations, reclamation, closure, post-closure, or corrective action requirements or third party liability as a result of releasing any funds.

(d) If the Department denies the release application or portion thereof, the Department shall notify the Permittee and any person with an interest in collateral, in writing, stating the reason for denial.

G. Forfeiture of Financial Assurance to the Department. If a Permittee refuses or is unable to conduct or complete reclamation, closure, post-closure maintenance and monitoring, and corrective actions of the mining operation, if the terms and conditions of the permit are not met, or if the Permittee fails to comply with the conditions under which the financial assurance was accepted, the Department shall take the following action to require forfeiture of all or part of the financial assurance for the mine or an increment of the mine.

(1) Send written notification by certified mail, return receipt requested, to the Permittee and the Trustee informing them of the determination to forfeit all or part of the financial assurance, including the reasons for the forfeiture, and the amount to be forfeited. The amount shall be based on the estimated total costs of completing reclamation, closure, post-closure maintenance and monitoring, and corrective actions.

(2) Upon failure to comply with the conditions under which the financial assurance was accepted, the Department may cause the forfeiture of any and all financial assurances to complete reclamation, closure, post-closure maintenance and monitoring, and corrective actions for which the financial assurance was provided. Financial assurance liability shall extend to the entire mining site under conditions of forfeiture.

H. Insurance Requirement. The Applicant must include, as part of its application, and the Permittee must provide annually thereafter as part of the mining and reclamation report required under subsection 26(B) of this Chapter, proof of comprehensive general liability insurance for the site for sudden and accidental occurrences. N on-sudden occurrence insurance may be required by the Department on a case by case basis and, and shall be required whenever there are land disposal units, land storage units, or mine waste units. The insurance underwriter(s) must be approved by the Department. Requirements include, but are not limited to, the following:

(1) Liability insurance coverage must be provided during operation, reclamation, corrective actions, closure, and, where mine wastes will remain on the site after closure, during the post-closure maintenance period;

(2) The level of coverage for sudden and accidental insurance must be at least $ 10 million per occurrence and $ 20 million annual aggregate, unless because of a greater risk, a higher minimum is required by the Department for a particular site;

(3) The level of coverage for non-sudden insurance must be at least $ 6 million per occurrence and $ 12 million annual aggregate, unless because of a greater risk, a higher minimum is required by the Department for a particular site;

(4) All liability insurance coverage amounts must be exclusive of legal defense costs;

(5) An Applicant/Permittee may not self-insure. If liability insurance is unavailable, an irrevocable letter of credit drawn upon a reputable bank which meets the following criteria may be utilized in lieu of liability insurance for sudden and accidental and non-sudden occurrences:

(a) Letters of credit must meet the terms below, and be unconditional, irrevocable, issued for a period of at least 1 year, and otherwise be in a form satisfactory to the Department.

(i) Any irrevocable letter of credit must be issued by a separate financial institution from the trust fund financial institution.

(ii) A letter of credit must be issued by:

(A) A bank chartered by the State of Maine;

(B) A national bank chartered by the Office of the Comptroller of Currency; or

(C) An operating subsidiary of a national bank chartered by the Office of the Comptroller of Currency; and

(b) When a letter of credit is used as liability insurance, the issuing financial institutions must be acceptable to the Department and the institution must have sufficient resources and assets to demonstrate that there is certainty the money will be available should the Department need to draw the funds;

(c) The Permittee and the letter of credit institution must be independent of one another; and

(d) The letter of credit must be modeled after the respective instrument language in 40 CFR 264.151 as modified to cover mining activities and meet the needs of this Chapter.

(6) The liability insurance policy may not be written as a "claims made" policy unless approved by the Department.

Section 18. Failure to Maintain Financial Assurance.

A failure to provide financial assurance in accordance with this Chapter constitutes grounds for the Commissioner to order the immediate suspension of mining activities including, but not limited to, suspending the extraction of metallic product or removal of metallic product from the site.

* * * *

August 26, 2020 Letter to Land Use Planning Commission

ATTACHMENT 4

2017 Me. Laws 142 (June 7, 2017)

MAINE 128TH LEGISLATURE
FIRST REGULAR SESSION
CHAPTER 142
SENATE PROPOSAL 265

2017 Me. Laws 142; 2017 Me. Ch. 142; 2017 Me. SP 265

Enacted June 7, 2017

An Act to Protect Maine's Clean Water and Taxpayers from Mining Pollution

Added: Text highlighted in green
Deleted: ~~Red text with a strikethrough~~

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 12 MRSA §12 M.R.S. § 549-B, sub-§7, ¶C-1 is enacted to read:

C-1. Notwithstanding any other provision of law to the contrary, the director of the agency having jurisdiction over the state lands on which a mining lease is sought may not grant a mining lease under this section that authorizes mining operations proposed to be located wholly or partially in, on or under any of the following state lands:

(1) Designated lands under section 598-A;

(2) Historic sites as defined in section 1801, subsection 5;

(3) Parks as defined in section 1801, subsection 7;

(4) Public reserved lands as defined in section 1801, subsection 8;

(5) Submerged lands as defined in section 1801, subsection 9;

(6) The Allagash Wilderness Waterway as established under chapter 220, subchapter 6; and

(7) State-owned wildlife management areas acquired in accordance with section 10109, subsection 1.

Sec. 2. 38 MRSA §38 M.R.S. § 490-MM, sub-§§5-A, 10-A, 10-B, 10-C and 13-A are enacted to read:

5-A. Dry stack tailings management. "Dry stack tailings management" means the process of disposing of dewatered, compacted mine tailings into a freestanding, stable structure on an area with an impervious liner designed to shed water to a water collection and treatment system.

10-A. Mine shaft. "Mine shaft" means a vertical, inclined or horizontal excavation, including all underground workings, with a surface opening not exceeding 1,000 square feet.

10-B. Mine waste. "Mine waste" means all material, including, but not limited to, overburden, rock, lean ore, leached ore or tailings, that in the process of mining and beneficiation has been exposed or removed from the earth during advanced exploration and mining activities.

10-C. Mine waste unit. "Mine waste unit" means any land area, structure, location, equipment or combination thereof on or in which mine wastes are managed. A structure or area of land does not become a mine waste unit solely because it is used to store nonreactive mine wastes generated on the site, such as soil or overburden, for 90 days or less.

13-A. Open-pit mining. "Open-pit mining" means, for any single mining operation permitted under this article, the process of mining a metallic mineral deposit by use of surface pits or excavations having greater than 3 acres of surface area in aggregate or by means of a surface pit excavated using one or more horizontal benches.

Sec. 3. 38 MRSA §38 M.R.S. § 490-MM, sub-§17, as enacted by PL 2011, c. 653, §23 and affected by §33, is repealed and the following enacted in its place:

17. Tailings impoundment. "Tailings impoundment" means a surface area, contained by dikes or dams, on which is deposited the slurry of material that is separated from a metallic product in the beneficiation or treatment of minerals, including any surrounding dikes constructed to contain such material. "Tailings impoundment" does not include a lined surface area on which dewatered tailings are stacked.

Sec. 4. 38 MRSA §38 M.R.S. § 490-MM, sub-§18 is enacted to read:

18. Wet mine waste unit. "Wet mine waste unit" means a mine waste unit in which mine wastes are placed under water to minimize sulfide oxidation, acid formation or particulate pollution.

Sec. 5. 38 MRSA §38 M.R.S. § 490-NN, sub-§1, ¶B, as enacted by PL 2011, c. 653, §23 and affected by §33, is amended to read:

B. In addition to other powers granted to it, the department shall adopt rules to carry out its duties under this article, including, but not limited to, standards for exploration, advanced exploration, construction, operation, closure, post-closure monitoring, reclamation and remediation. Except as otherwise provided, rules adopted under this article are major substantive rules for purposes of Title 5, chapter 375, subchapter 2-A and are subject to section 341-H. Notwithstanding Title 5, section 8072, subsection 11, or any other provision of law to the contrary, rules provisionally adopted by the department in accordance with this article and submitted for legislative review may not be finally adopted by the department unless legislation authorizing final adoption of those rules is enacted into law.

Sec. 6. 38 MRSA §38 M.R.S. § 490-NN, sub-§2, as enacted by PL 2011, c. 653, §23 and affected by §33 and amended by c. 682, §38, is further amended to read:

2. Maine Land Use Planning Commission. The department may not approve a permit under this article in an unorganized territory unless the Maine Land Use Planning Commission certifies to the department that:

A. The proposed mining is an allowed use within the subdistrict or subdistricts in which it is to be located; and

B. The proposed mining meets any land use standard established by the Maine Land Use Planning Commission and applicable to the project that is not considered in the department's review.

The Maine Land Use Planning Commission shall adopt rules in accordance with this subsection relating to the certification of mining permit applications under this article. Notwithstanding any other provision of law to the contrary, rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

Sec. 7. 38 MRSA §38 M.R.S. § 490-OO, sub-§4, ¶¶D and H, as enacted by PL 2011, c. 653, §23 and affected by §33, are amended to read:

D. There is reasonable assurance that discharges of pollutants from the mining operation will not violate applicable water quality standards. Notwithstanding sections 465-C and 470, ~~discharges to~~ contamination of groundwater from activities permitted under this article may occur within a mining area, but such ~~discharges~~ contamination must be limited and may not result in ~~contamination of groundwater beyond each mining area. In determining compliance with this standard, the department shall require groundwater monitoring consistent with the standards established pursuant to section 490-QQ, subsection 3.~~ :

(1) Contamination of groundwater beyond the mining area;

(2) Contamination of groundwater within the mining area that exceeds applicable water quality criteria for pollutants other than pH or metals;

(3) Contamination of groundwater within the mining area due to pH or metals that exceeds limits set forth in the mining permit by the department based on site-specific geologic and hydrologic characteristics;

(4) Any violation of surface water quality standards under section 413 or article 4-A; or

(5) If groundwater or surface water quality within the mining area prior to the commencement of any mining activity exceeds applicable water quality standards, further degradation of such groundwater or surface water quality.

In determining compliance with this standard, the department shall require groundwater monitoring consistent with the standards established pursuant to section 490-QQ, subsection 3.

Notwithstanding section 490-MM, subsection 12, for the purposes of this paragraph, "mining area" means an area of land, approved by the department and set forth in the mining permit, not to exceed 100 feet in any direction from a mine shaft, surface pit or

surface excavation, and does not include the following lands, regardless of the distance of such land from a mine shaft, surface pit or surface excavation: the land on which material from mining is stored or deposited, the land on which beneficiating or treatment facilities are located, the land on which groundwater and surface water management systems are located or the land on which water reservoirs used in a mining operation are located.

E. The mining operation will not unreasonably cause or increase the flooding of the area that is altered by the mining operation or adjacent properties or create an unreasonable flood hazard to any structure. ~~Mining~~ Notwithstanding any provision of law to the contrary, mining operations involving the removal of metallic minerals, the storage of metallic minerals or mine waste, the processing of metallic minerals or the treatment of mine waste may not be placed in or on flood plains or flood hazard areas~~as long as they are designed, constructed, operated and reclaimed in a manner that complies with the approval criteria in this subsection and the Natural Resources Protection Act~~.

Sec. 8. 38 MRSA §38 M.R.S. § 490-OO, sub-§4, ¶¶K to O are enacted to read:

K. No part of the mining operation will be located wholly or partially in, on or under any state land listed in Title 12, section 549-B, subsection 7, paragraph C-1.

L. The mining operation will not involve the removal of metallic minerals in, on or from a river, stream or brook, as defined in section 480-B, subsection 9; a great pond, as defined in section 480-B, subsection 5; a freshwater wetland, as defined in section 480-B, subsection 4; or a coastal wetland, as defined in section 480-B, subsection 2.

M. The mining operation will not involve placement of a mine shaft in, on or under a significant river segment, as identified in section 437; an outstanding river segment, as identified in section 480-P; an outstanding river, as identified in Title 12, section 403; a high or moderate value waterfowl and wading bird habitat that is a significant wildlife habitat pursuant to section 480-B, subsection 10, paragraph B, subparagraph (2); a great pond, as defined in section 480-B, subsection 5; or a coastal wetland, as defined in section 480-B, subsection 2.

N. The mining operation will use dry stack tailings management and will not use wet mine waste units or tailings impoundments for the management of mine waste and tailings, except that the mining operation may involve the placement into a mine shaft of waste rock that is neutralized or otherwise treated to prevent contamination of groundwater or surface water.

O. The mining operation will not use open-pit mining.

Sec. 9. 38 MRSA §38 M.R.S. § 490-RR, sub-§2, as enacted by PL 2011, c. 653, §23 and affected by §33, is repealed and the following enacted in its place:

2. Coverage and form of financial assurance. The financial assurance required under subsection 1 applies to all mining and reclamation operations that are subject to a mining permit.

A. The amount of the financial assurance must be sufficient to cover the cost for the department to administer, and hire a 3rd party to implement, all necessary investigation, monitoring, closure, post-closure, treatment, remediation, corrective action, reclamation, operation and maintenance activities under the environmental protection, reclamation and closure plan, including, but not limited to:

(1) The cost to investigate all possible releases of contaminants at the site, monitor all aspects of the mining operation, close the mining operation in accordance with the closure plan, conduct treatment activities of all expected fluids and wastes generated by the mining operation for a minimum of 100 years, implement remedial activities for all possible releases and maintenance of structures and waste units as if these units have released contaminants to the groundwater and surface water, conduct corrective actions for potential environmental impacts to groundwater and surface water resources as identified in the environmental impact assessment and conduct all other necessary activities at the mine site in accordance with the environmental protection, reclamation and closure plan; and

(2) The cost to respond to a worst-case catastrophic mining event or failure, including, but not limited to, the cost of restoring, repairing and remediating any damage to public facilities or services, to private property or to the environment resulting from the event or failure.

B. An applicant for a mining permit must include with its application a review of the proposed financial assurance amounts required under this section as performed by a qualified, independent 3rd-party reviewer approved by the department. The costs of the 3rd-party review must be paid by the applicant. Estimates of the costs of a worst-case catastrophic mining event or failure under paragraph A, subparagraph (2) provided by the applicant may not include costs to the applicant associated with loss of use of any mining operation or facility or the costs of repairing any damaged mining operation or facility to restore operations or other functionality.

C. The department shall require the applicant to provide financial assurance in the amount determined by the 3rd-party reviewer under paragraph B to be sufficient for the department to conduct all activities listed under paragraph A. Financial assurance estimates provided by the applicant and reviewed by the 3rd-party reviewer under this section must use the highest cost option for all estimates and include a minimum 20% contingency to account for unexpected expenses.

D. The financial assurance required by department under this subsection must consist of a trust fund that is secured with any of the following forms of negotiable property, or a combination thereof, as approved by the department:

(1) A cash account in one or more federally insured accounts;

(2) Negotiable bonds issued by the United States or by a state or a municipality having a Standard and Poor's credit rating of AAA or AA or an equivalent rating from a national securities credit rating service; or

(3) Negotiable certificates of deposit in one or more federally insured depositories.

E. The financial assurance required by the department under this section must be posted by the applicant before the department issues a permit to mine under this article.

Sec. 10. 38 MRSA §38 M.R.S. § 490-RR, sub-§3, as enacted by PL 2011, c. 653, §23 and affected by §33, is repealed.

Sec. 11. Department of Environmental Protection; approval of final adoption.

Final adoption of Chapter 200: Metallic Mineral Exploration, Advanced Exploration and Mining, a provisionally adopted major substantive rule of the Department of Environmental Protection that was submitted to the Legislature for review pursuant to the Maine Revised Statutes, Title 5, chapter 375, subchapter 2-A on January 13, 2017, is authorized only if the following changes are made:

1. The rule must be amended in section 2 to define "dry stack tailings management" consistent with the statutory definition of "dry stack tailings management" under Title 38, section 490-MM, subsection 5-A;

2. The rule must be amended in section 2 to define "mine shaft" consistent with the statutory definition of "mine shaft" under Title 38, section 490-MM, subsection 10-A;

3. The rule must be amended in section 2 to amend the definition of "mine waste" as necessary to ensure consistency with the statutory definition of "mine waste" under Title 38, section 490-MM, subsection 10-B;

4. The rule must be amended in section 2 to amend the definition of "mine waste unit" as necessary to ensure consistency with the statutory definition of "mine waste unit" under Title 38, section 490-MM, subsection 10-C;

5. The rule must be amended in section 2 to define "open-pit mining" consistent with the statutory definition of "open-pit mining" under Title 38, section 490-MM, subsection 13-A;

6. The rule must be amended in section 2 to amend the definition of "tailings impoundment" as necessary to ensure consistency with the statutory definition of "tailings impoundment" under Title 38, section 490-MM, subsection 17;

7. The rule must be amended in section 2 to amend the definition of "wet mine waste unit" as necessary to ensure consistency with the statutory definition of "wet mine waste unit" under Title 38, section 490-MM, subsection 18;

8. The rule must be amended, as necessary, in section 11(A), section 20(B) and any other affected sections to incorporate the statutory prohibition against the permitting of a mining operation located in, on or under any state land listed in Title 12, section 549-B, subsection 7, paragraph C-1, as provided in Title 38, section 490-OO, subsection 4, paragraph K;

9. The rule must be amended, as necessary, in section 11(A), section 20(B) and any other affected sections to incorporate the statutory prohibition against the permitting of a mining operation involving the removal of metallic minerals in, on or from certain natural resources as provided in Title 38, section 490-OO, subsection 4, paragraph L;

10. The rule must be amended, as necessary, in section 11(A), section 20(B) and any other affected sections to incorporate the statutory prohibition against the permitting of a mining operation involving the placement of a mine shaft in, on or under certain natural resources as provided in Title 38, section 490-OO, subsection 4, paragraph M;

11. The rule must be amended, as necessary, in section 11(A), section 21, section 24 and any other affected sections to incorporate the statutory requirement for the use of dry stack tailings management and the statutory prohibition against the permitting of a mining operation involving the use of wet mine waste units or tailings impoundments as provided in Title 38, section 490-OO, subsection 4, paragraph N;

12. The rule must be amended, as necessary, in section 11(A) and any other affected sections to incorporate the statutory prohibition against the permitting of a mining operation that uses open-pit mining as provided in Title 38, section 490-OO, subsection 4, paragraph O;

13. The rule must be amended in section 17 and any other affected sections to clarify the coverage and form of required financial assurance pursuant to Title 38, section 490-RR, subsection 2;

14. The rule must be amended in section 22 and any other affected sections to clarify the limited definition of “mining area” pursuant to Title 38, section 490-OO, subsection 4, paragraph D;

15. All necessary grammatical, formatting, punctuation or other technical nonsubstantive editing changes must be made to the rule, including, but not limited to, the addition of subsection headings in section 2 and the removal of strikethrough letters or words remaining from prior drafts and edits; and

16. All other necessary changes must be made to the rule to ensure conformity throughout the rule and consistency with the provisions of this Act.

Sec. 12. Maine Land Use Planning Commission rulemaking; certification of mining permit applications.

By July 1, 2018, the Maine Land Use Planning Commission shall adopt rules related to commission certification of metallic mineral mining permit applications in accordance with the Maine Revised Statutes, Title 38, section 490-NN, subsection 2. Rules adopted pursuant to this section must include any additional provisions necessary to ensure consistency with the Maine Metallic Mineral Mining Act and rules related to the Maine Metallic Mineral Mining Act adopted by the Department of Environmental Protection.

History

Governor's Veto Overridden June 7, 2017

Effective date: 90 days after adjournment

Attachment 2

Wolfden Rezoning Petition
Proposed Pickett Mountain D-PD
T6 R6 WELS, Penobscot County

Chapter 12 Basis Statement, dated April 8, 2013

MAINE LAND USE PLANNING COMMISSION

Department of Agriculture, Conservation, and Forestry

BASIS STATEMENT and SUMMARY OF COMMENTS

For PROPOSED AMENDMENTS to

CHAPTER 12: LAND USE DISTRICT REQUIREMENTS FOR METALLIC MINERAL MINING AND LEVEL C MINERAL EXPLORATION ACTIVITIES

April 8, 2013

STATUTORY AUTHORITY: 12 M.R.S.A §685-A,3 and §685-C,5,A; and P.L. 2011, Chapter 653, LD 1853

FACTUAL AND POLICY BASIS FOR THE RULE AMENDMENT:

Chapter 12 of the Commission's rules, adopted in accordance with 12 M.R.S.A. §206-A, contains the rules for rezoning to and portions of the rules for permitting (the remainder of the permitting rules are contained in Commission's Chapter 13 rules) of the development in a D-PD Planned Development Subdtrict for the purposes of metallic mineral mining and level C mineral exploration activities.

In response to P.L. 2011, ch.653 (enacting LD 1853), the Commission must update its rules regulating metallic mineral mining and level C mineral exploration activities. The Commission will no longer be responsible for issuing permits for metallic mineral mining and level C mineral exploration activities. This function has been transferred to the Department of Environmental Protection. The Commission will only be responsible for rezoning for these activities.

Consequently the Commission must modify Chapter 12 of its rules (Land Use District Requirements for Metallic Mineral Mining and Level C Mineral Exploration Activities) to reflect the fact that the Commission is only reviewing

the rezoning portion of the application (rezoning to a D-PD subdistrict) and not the permitting portion of the application. The DEP will be responsible for issuing permits. It should be noted that following any issuance of a permit by the DEP, the LUPC will be responsible for certification review of that permit.

EFFECTIVE DATE OF THE RULE AMENDMENT:

COMMENTS AND RESPONSES:

Comments and responses are contained in the following table:

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
Opposed to Legislation: • Strongly oppose rushing major changes through the legislative process like what LD 1853 proposes, weakening Maine's mining standards just so one company might get a permit more easily. • Concerned about the proposed watering down of the regulations. Politicians are more concerned with the interests of 'big money' corporations than they are regarding the interests of people they are supposed to represent. • It is the responsibility of government to protect our water resources. I become concerned when the very entity instituting and strengthening such protections suggests that they should be weakened. If our legislature and state agencies fail to be vigilant in the safeguarding of our water resources, then it will only be a matter of time before we have fish kills in what were previously pristine rivers. • Have never seen such a reckless slice and dice of statutes and key state agencies as was delivered to us by the 125th Legislature. It was a very hurried incomplete and ultimately disastrous response to a long boiling reality of ownership patters in the UT. • LD1853 and LD 1798 impede what the two statutes purport to strengthen and protect. • No diligent effort by LUPC or DEP can produce sensible good government resulting from these mandated rules. • Revoke the mining statute and suspend all work pursuant to it – establish a statewide moratorium on all metallic mining until we can do some more homework with reference to relevant science.	Linda Woods, Steve Spear, Lindsay Bowker, Anna Nellis Smith, Jim Barresi, Bob Klotz	Comments on the legislative process are not relevant to this rule making process. The LUPC must respond to legislation resulting from LD 1853 and revise its rules for the rezoning process for metallic mineral mining.	No change.
Do not think revision of Chapter 13 [12?]is the wisest approach: • While understandable, I don't feel that the cut and paste of existing Chapter 13 rules is the wisest response. I think it is possible to do much more and that it is imperative for LUPC to use what is left of its authority to hold the line in transparency and clarity until we all get back to the table	Lindsay Bowker	The LUPC must operate within its current rezoning framework when revising its rules for the rezoning process	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
to clarify and patch up the many flaws in the statutory framework under which we are otherwise forced to proceed. • The rule must address the nature of what we call rezoning for an activity like metallic mining. Metallic mining as an activity does not lend itself to usual static mapping of allowed uses. It would be better as a special district zoning. The 'rezoning' would be a list of specific allowed technologies and the protocols which must ensure, through proof, that there is no off-site degradation of water, air, habitat, or wildlife. • Rezoning from a management subdistrict to a development subdstrict is a reckless, irresponsible standard for anything to do with metallic mining unless the proposed standard of .05% sulfur-sulfide (for ore content) is also adopted as part of the new title 12 rule. • 'Conditional permit' rather than 'rezoning' makes it much clearer that the day by day performance of the applicant is the central concern.		for metallic mineral mining.	
Do not support mining and general concerns about mining: • Strip mining is a bad idea in both the short and long term • Maine's mountains, forests, pristine rivers, lakes, streams and wildlife are an important part of Maine's "brand". Open-pit mining could spoil all of that for the short term profits gained by temporary jobs. • Do not think that the minerals can possibly be worth the cost to the state's environment, which is a principal source of revenue for Maine • Open-pit mining in Maine could result in arsenic, lead and other toxic chemicals contaminating lakes, rivers, streams and soils as it has done in other states. • Providing for a particular business opportunity such as mining is an important consideration. But any mining project is a very short proposition in comparison to the ongoing need for resources from which many of us glean our food, our livings, and our sense of place. • Please prevent the devastation of mining in Aroostook and elsewhere would reap upon the great state of Maine. • While there may be some places in Maine where carefully regulated mining could be profitable and possible without undue environmental impact, I urge caution so as not to kill the goose which lays the golden egg. Tourism has and will continue to grow in Maine and is the economic future of inland Maine. The future is not in the one-time extraction of minerals at the expense of our natural environment. • Open pit mines can have very significant environmental and scenic impacts, greatly altering the landscape and viewsheds. The negative environmental impacts of mining practices are not minimal, and given the passage of LD	Sharon Sprague, Linda Woods, Ann Waldron, Phyllis Gibson, Tammy Cloutier, Susan Cottle, Josh Jackson, Burt Knapp, Steve Spear, AMC, Tony Sousa, Carole Jean, Al Justice, Anna Nellis Smith, Sandra Wright, Joanne Dunlap, Norton Lamb, Robert Kimber, Jason Johnston, Tyler Arndt, Jeanie McGowan, Scott Belair, Roger LeClair	While the LUPC appreciates the concerns about mining, it is not the LUPCs responsibility to advocate for or against mining in its rules. It is the LUPC's responsibility to revise its Chapter 12 rules to clarify the rezoning process for mining. In revising its rules the LUPC should be mindful of the concerns that are raised here. Many of these concerns are repeated in more detailed comments below and will be responded to there.	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
1853, we want to assure that the best zoning practices are implemented. • This will not create any substantial jobs. The profits will go to Canada. In Canada they do not care about the environment. Mining will create severe environmental damage to our lakes, streams and wildlife. Maine will be stuck with all of the environmental damage and cleanup costs. • If this is a transfer of regulatory control it means one thing. If however, it is expanding mining concepts to open pit mining it means quite another. • Rules should require a complete description of all aspects of the project. Rules should require disclosure of all persons or organizations making significant investments in the project whether or not they are owners. • Urge the Commission to come up with the most rigorous possible regulations to ensure protection of surface and groundwater, soils, and our scenic and recreational resources.			
Whether members of the public support mining or not is irrelevant • Whether individual members of the public think mining should be allowed in Maine is not relevant to the LUPC's rule making task. And it is not one of the standards set by the legislature.	Aroostook Timberlands	LUPC agrees.	No change.
Concerned about Bald Mountain: • Impacts on the Bald Mountain area could be enormous. Mining activities there would likely drain into the Fish River and the Fish River Chain of Lakes. Fish River Chain of Lakes is the last remaining cold water fishery in the state that is free of any invasive or exotic species of fish. Protecting this area is important ecologically and economically. • Aroostook Timber Holdings should be denied a rezoning for an open pit mine at Bald Mountain to prevent ruining two river systems, Fish River and Aroostook River, with acid.	Theo Nykreim, Anna Nellis Smith, Jim Barresi, Roger LeClaire	The current rule making process does not pertain to a specific site or applicant. The rule making process is intended to clarify the rules for evaluating rezoning petitions anywhere in the jurisdiction.	No change.
Concerned about Monitoring of the Site over time: • Control of acid mine drainage is expensive. Mining companies are rarely willing to invest in the technology, operation and maintenance of dealing with acid mine drainage once the mining has ceased. The taxpayers are left to foot the bill. • A trust fund needs to be created by law into which the mining company makes payments of $10 million every year that ore is extracted. • Without a trust fund, there is no compelling reason for the mining company to stick around for mitigation. Iron Mountain, MI, Bathurst NB, Callahan Mine ME are examples of acid pollution with unsuccessful mitigation.	Don Holmes, Theo Nykreim, CLF, Lindsay Bowker, Joanne Dunlap	Monitoring and closure of the site will be part of the DEP permitting process. However, the LUPC believes that an understanding of site conditions following closure and potential future reclamation of the site is relevant	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
• LUPC should not give up oversight of certain requirements prior to DEP assuming same. Given the poor track record of metallic mines to operate or be closed without causing significant environmental harm, there should be no gaps in regulatory oversight and significant communication and discussion between LUPC and DEP during this rule-making process. • The DPD must include information on 'closure' – technology and protocols. Virtually all of the most severe degradation from metallic mining occurs post closure.		contextual information in the rezoning process and consequently has asked for information on this during the rezoning process.	
Which sections of D-PD will be replaced by proposed mining rule revisions? • Clarify which sections of the Planned Development Subdistrict (D-PD) description the proposed mining rule revisions are meant to replace. Based on conversations with LUPC staff, we are under the impression that the revised mining rules will replace Chapter 10.21, G, Sections 6-8 of the LUPC rules. • The Commission should make it clear in the rules that, given the changes made by the new Mining Act, Chapter 10.21,G(9) (previously 10) does not apply to a D-PD for mining.	NRCM	The sections of the Planned Development Subdistrict (D-PD) that do not pertain to mining are clearly listed in the D-PD subdistrict in Chapter 10. Chapter 10.21,G states that sections 6-8 of that chapter do not apply to mining activities. Chapter 10.21,G should also state, but does not currently, that section 9 of this chapter does not apply to a D-PD for mining either. This oversight needs to be corrected. Chapter 10.21,G will be revised as soon as possible to correct this error.	No change at this time. But will revise chapter 10 as soon as possible.

Sections 1 through 4
Rule should use definitions contained in the recently enacted Maine Metallic Mineral Mining Act:
• It makes no sense to use definitions that are based on the prior statutory structure, when the new Act uses different definitions. Using old terms leads to confusion.
  ○ The proposal references Level C Mineral exploration activities. The Mining Act uses the terms 'exploration' and 'advanced exploration'
  ○ 'Advanced exploration' is included in the definition of 'mining' in the Mining Act and requires rezoning from the Commission and a Mining Act permit from DEP
	Aroostook Timberlands	The LUPC uses specific terms for describing various levels of mining exploration in Chapter 10 in order to parse out what level of activity is allowed in each subdistrict. The LUPC believes that it makes the most sense to continue	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
○ 'Exploration' may occur without a Mining Act permit, and presumably without rezoning, but is subject to DEP regulatory standards.		using these existing terms for the time being. The LUPC intends to change the terms that are used in Chapter 10 in order to align with the new definitions during a separate rule making effort aimed at revising the exploration rules. Changing the terms used in Chapter 12 needs to be part of this larger effort. For now, the use of these terms has little to do with clarifying the rezoning process.	
Section 1. Purpose **Rule should have a purpose statement:** • Rule should have a clear purpose statement focused on the inherent incompatibility of use issues between 'metallic mining' and the vast watershed network of the UT. DPD for mining is not a right. It will only be granted where it can be demonstrated that this incompatibility can be resolved. Only those specific technologies for any aspect of mining that have a demonstrated history in comparable sites of reliably overcoming the inherent incompatibility between metallic mineral mining and off site environmental degradation will be allowed.	Lindsay Bowker	The rule has a clear purpose statement which is that it 'establishes procedures and changes to land use subdstrict boundaries for metallic mineral mining activities'…	No change.
Section 3. Certain Mining Activities to be Conducted in the Planned Development (D-PD) Subdistrict **Rezoned area should not be limited by size:** • The only restriction on the size of the subdistrict should be what is necessary for the mining operation. Buffers need not be included in the rezoned area, and DEP permitting will govern the appropriate buffers. Permitting of metallic mineral mining is now within the sole purview of DEP.	Aroostook Timberlands, Patrick Strauch	One of the Commission's responsibilities is to discourage the intermixing of incompatible industrial, commercial, residential and recreational activities. The Commission also has a statutory charge to ensure that the creation of a D-PD	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
		for mining will not have an undue adverse impact on existing uses or resources. Buffers must be included in the rezoned area for the Commission to have assurance that it has adequately carried out its statutory charge. Therefore the LUPC feels that requiring the size of the rezoned area be adequate to buffer mining activities from surrounding uses or resources is appropriate. In addition, this language on the minimum size of the rezoned area and 'buffers' was part of the original Chapter 12 rule. In revising Chapter 12, the Commission has been mindful of limiting revisions to those that are aimed at the legislative mandate of separating the permitting process from the rezoning process. Therefore the Commission believes that it is important to leave this language as is.	
Section 3. Certain Mining Activities to be Conducted in the Planned Development (D-PD) Subdistrict **Rezoned area for mine site should include an adequate surrounding buffer:** • The actual mine site should be created so that in addition to the amount of land needed for the most likely mining	Lindsay Bowker, NRCM	The LUPC agrees that the rezoned area should include enough area to create an adequate buffer. Section 3 of	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
operations, it includes an adequate amount of land strictly needed for the most likely mining operations. It includes an adequate surrounding buffer, on which no mining operations or related uses may be undertaken and wide enough to provide early warning and early alert to any emerging off site degradation threats.		the Chapter 12 rule reads, "The size of such Subdistrict shall be limited to an area necessary to reasonably conduct mining…, and to adequately buffer those activities from surrounding uses and resources or uses…"	
Section 4.A Commission Approval Required **Mining Act does not require rezoning application to be filed first:** • The Mining Act does not require that the rezoning application must be filed before the DEP application. Section 2 of PL 2011, Chapter 653 amends 12 MRS 685-B(1-A)(B-1) to provide that a notice of intent must be filed with LUPC before "or concurrently with" submission of the DEP application. There is no reason the LUPC rezoning and DEP development applications cannot proceed concurrently.	Aroostook Timberlands	The LUPC agrees and believes that the draft rule already reflects this point. Section 4 states that an applicant who seeks a mineral mining permit from the DEP "must petition and receive approval from the Commission for a change in subdistrict boundary". It does not state that an applicant must petition the Commission *first*.	No change.
Section 4.A Commission Approval Required **Hearing should not be subject to Chapter 5:** • A rulemaking hearing is not subject to APA adjudicatory hearing procedures, and thus should not be subject to Chapter 5. See 5 MRS 8052(2). The last sentence in section 4.A should simply say that the petition shall be subject to the rulemaking requirements of the APA.	Aroostook Timberlands	The provisions for the adoption or amendment of land use district boundaries are contained in statute at 685-A(7-A), and in the Commission's Chapter 4 Rules of Practice. Chapter 4 states that with regard to adoption or amendment of land use district boundaries, holding a hearing "is at the discretion of the Commission unless otherwise required	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
		by the Constitution of Maine or statute or if five or more interested persons request in writing that the Commission hold a hearing". Chapter 5 of the Commission's rules "govern all public hearings before the Land Use Regulation Commission." Although these hearings are not "adjudicatory" as that term is defined in the APA, 5 M.R.S. § 8002(1), they are evidentiary hearings with many characteristics of adjudicatory hearings. See Forest Ecology Network v. Land Use Regulation Comm'n, 2012 ME 36, ¶¶ 36 – 46, 39 A.3d 74 (explaining the role of the hearing within Commission rezoning proceedings, which are rulemakings by statute).	
Section 4.A Commission Approval Required ***Hearing should be subject to Chapter 5:*** • Mining rezoning petitions should be treated in the same manner as other rezoning matters. Chapter 5 rules are appropriate for those projects where adjudicatory hearings are held.	NRCM (rebuttal)	See response immediately above.	No change.
Section 4.B Criteria for Approval… **Section 4.B should not go beyond the rezoning criteria:** • The rule should not attempt to redefine the statutory rezoning criteria. Recommend that Sections 4.B(2) and 4.B(3) be deleted. ○ The factors listed in Section 4.B(2) go well beyond the new Mining Act. What does it mean to consider Maine's 'natural resource-based	Aroostook Timberlands, Patrick Strauch	The LUPC believes that it is important to retain these sections which provide further guidance on the rezoning criteria. These sections are	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
economy'. o What are ecological and natural 'values'. o Natural resource impacts will be considered by DEP o At a minimum Section B(3) should contain an acknowledgement that the determination under Section B(1)(b) must be made recognizing that the DEP, in reviewing the mining permit application, will be considering impacts on and protection of existing uses and resources within the affected area. o 12 MRS 685-A(8-A)(B) allows rezoning not only when the proposed land use district has no undue adverse impact on existing uses or resources, but , alternatively, when a new district designation is more appropriate for the protection and management of existing uses and resources within the affected area. The question in section B(3) is not whether the proposed mining activity has undue adverse impacts on existing uses and resources, but how the proposed protection and management of existing uses and resources compares to the current protection and management of existing uses and resources. The last sentence of Section B(3) should be amended to recognize this distinction. o Why is the note proposed to be removed? Believe that if Section B(3) is to be retained then the Note should also be retained but that the words 'has no undue adverse impact or is more appropriate' should be substituted for the words 'is beneficial'.		intended to be helpful and to give applicants and the public further information about how the Commission interprets and applies the statutory standard. This is not the only instance where the LUPC has clarified rezoning criteria in rule. For example, in Chapter 10, sections 10.08 B and C provide further information on how the Commission interprets and applies the statutory standard in the case of rezoning areas adjacent to lakes and in prospectively zoned areas respectively. Section 4.B(2) provides, in rule, clarification on what the LUPC will look at in order to satisfy the statutory criteria of "consistency with the purpose, intent and provisions of 12 M.R.S.A. Chapter 206-A." Section 4.B(3) provides, in rule, clarification on what the LUPC will look at in order to satisfy the statutory criteria that "the change in districting will have no undue adverse impact on existing uses or	

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		resources or a new district designation is more appropriate for the protection and management of existing uses and resources within the affected area." Furthermore, the terms used in Section 4.B(2)(a) are taken directly from the purpose and scope language in statute recently amended by the legislature. With regard to Section 4.B(3)and the argument that this section assumes that the applicant chooses to rely on the first clause in Section 685-A(8-A)(B) and fails to acknowledge that the applicant may rely on the second clause ("more appropriate for protection and management"), while the Commission agrees that Section 685-A(8-A)(B) may be satisfied in two ways, it has typically viewed the second clause in the context of rezoning to protection or management districts and has not used it as a justification for rezoning to	

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		development districts.	
Section 4.B Criteria for Approval… **Section 4.B does not go beyond the rezoning criteria:** • While impacts to Maine's natural resource economy and ecological and natural values may be considered by DEP in their permitting review, such factors will be considered using a narrow site specific lens. The Commission has the capacity to consider impacts on a landscape level during the rezoning process and thus will consider such factors in a manner wholly different and not duplicative of DEP's permitting review. • The location of the project in relation to ecological and natural values and natural resource based economies is essential to rezoning decisions. • Recommend that the Commission retain Sections 4.B(2) and 4.B(3)	NRCM (rebuttal to Aroostook Timberlands above)	See the response immediately above.	No change.
Section 4.B Criteria for Approval… **Section 4.B should retain 'ecological and natural values' language:** • "ecological and natural values" language comes the closest to capturing the connection of the Houlton Band of Maliseet Indians has to our ancestral homeland the St. John watershed. We ask that this language be retained. It reflects a key difference between the roles of the LUPC and the MDEP.	Chief Commander (rebuttal to Aroostook timberlands above)	The terms used in Section 4.B, to include 'ecological and natural values' are taken directly from the purpose and scope language in statute recently amended by the legislature. The LUPC believes that it is important to retain this language in the rule.	No change.
Section 4.B Criteria for Approval… **Section 4.B(1) contains an incorrect reference:** • Section 4.B(1) should refer to 12 MRS 685-a(8-A) not 685-A(8)	Aroostook Timberlands	The LUPC agrees. The section should refer to 12 MRS 685-A(8-A).	Changed. See Section 4.B(1) of the rule.
Section 4.B Criteria for Approval… **Section 4.B(2)(a) suggested wording changes:** • Recommend the following changes to the last sentence of subsection 4(B)(2)(a) which specifies criteria to be considered during rezoning: "Such impacts may include, **but are not limited to**, impacts to regional economic viability, Maine's natural resource-based economy, local residents and property owners, ecological and natural values **including conservation and preservation of natural resources**, recreation, and **health and safety**.	CLF	The LUPC believes that adding the language "but are not limited to" is consistent with both the Commission's intent and the original language in Chapter 12 and so has added this language back into the rule.	Changed. See Section 4(B)(2)(a) of the rule.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
		The LUPC believes that the language "including conservation and preservation of natural resources" is not necessary. The terms used in this section of the rule, section 4.B(2)(a), are taken directly from the LUPC's purpose and scope in statute. "Including conservation and preservation of natural resources" is not a term included in the Commission's purpose and scope. LUPC feels that it is appropriate to add language on health and safety as it adds another important factor for consideration. However, the Commission believes that it is important to use the language contained in statute which is "public health, safety and general welfare."	
Section 4.B Criteria for Approval… **There should be no off-site degradation:** • A privilege is being granted that would otherwise not be allowed and therefore a minimum applicable standard is "no offsite degradation".	Lindsay Bowker	The LUPC's criteria for evaluating proposals to change a subdistrict boundary are spelled out in statute. The LUPC cannot change these criteria or deviate from them in rule.	No change.
Section 4.B Criteria for Approval	Andy Cadot,	The language	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
Concern for protection of natural areas: • Rules must protect sensitive natural resources, including aquifers, wildlife, wildlife habitat, wetlands, shore lands, high mountain areas, scenic resources, and recreational resources. The proposed rule affords no such protection. Maintain or increase the level of protection for sensitive natural areas within protection zones such as wetlands, shore lands, etc. Impacts should be avoided. Any unavoidable impacts should be mitigated. • Impact on fragile protection subdistricts in Maine should not be removed. • Section 4(B)(2)(b) should read: "Positive and negative impacts upon the areas within and adjacent to the Commission's jurisdiction, including the impact on protection subdistricts or other land uses likely to be affected by the proposed activities, resulting from the use and development of associated transportation routes and other infrastructure…" • LUPC should modify section 4(B)(3) to require applicants to provide substantially equivalent protection of natural resources. Currently the D-PD requires that the Commission ensure that an applicant's proposal: "Incorporates, where the land proposed for inclusion in the D-PD subdistrict is in a protection subdistrict, a substantially equivalent level of environmental and resource protection as was afforded under such protection subdistrict."	Debbie McCarthy, Diane Walker, Tammy Cloutier, Susan Cottle, Scott Cronenweth, Maine Audubon, AMC, NRCM, CLF, Sandra Wright	suggested for addition to section 4.B(3), that the Commission must ensure that an applicant's proposal "Incorporates, where the land proposed for inclusion in the D-PD subdistrict is in a protection subdistrict, a substantially equivalent level of environmental and resource protection as was afforded under such protection subdistrict" is a paraphrasing of Section 8 of the D-PD rule contained in Chapter 10.21,G. The D-PD rule contained in Chapter 10.21,G specifically states that Section 8 does not apply to development related to metallic mineral mining and level C mineral exploration activities. Section 8 of the D-PD rules has never applied to D-PDs for mining activities as mining is a unique activity with its own set of standards (the Chapter 12 rules) that replace specific sections of the D-PD rule.	

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
Section 4.BCriteria for Approval **LUPC should not be concerned with the Protection of Natural Areas** • Protection of natural resources is regulated by MMMMA and not by LUPC in the rezoning process.	Aroostook Timberlands (rebuttal to comments immediately above)	The LUPC is responsible for resource protection in the context of rezoning and the standards for this are contained in the Chapter 12 rule.	No change.
Section 4.B(3)Criteria for Approval… **Commission should include 'avoidance' of impacts:** • Recommend that the Commission consider whether impacts can be avoided on existing uses and natural resources before considering the potential for a permittee to minimize and mitigate potentially adverse impacts on existing uses and resources. ○ Suggest the following revisions to Section 4(B)(3): "In considering these impacts and determining whether any undue adverse impact associated within the proposed rezoning is an undue adverse impact on existing uses and resources, the Commission **may** consider the potential for a metallic mineral mining or Level C mineral exploration permittee to **avoid**, minimize, or mitigate to the extent permitted by law, a potentially adverse impact so that the resulting impact is not an undue adverse impact." • Subsection 4(B)(3) adds language referencing "no undue adverse impact." This provision must be strengthened. Without a strong definition of "undue adverse impact" a permittee can argue that an adverse impact is not "undue" and therefore does not warrant mitigation.	Maine Audubon, NRCM, CLF	The LUPC agrees that the Commission should consider whether impacts can be avoided before considering the potential to minimize and mitigate impacts. LUPC believes that the term "shall" is appropriate. LUPC does not think that it is appropriate to define "no undue adverse impact" in rule. Its legal interpretation is up to the Commission to decide on a case by case basis given the specific facts and circumstances of that case.	Changed. See section 4.B(3) of the rule.
Section 4.B Criteria for Approval… **Primary and Secondary Services should be defined:** • Define primary and secondary services in Section 4(B)(3)(b) of the proposed rule revisions. • The changes from current subsection 4(B)(3)(a)(v) referencing "essential services" to new subsection 4(B)(3)(b) referencing "primary and secondary services" are puzzling. Please explain the change in terminology.	NRCM, CLF	The LUPC agrees that this change in terminology is confusing. It would be less confusing to refer to "services" rather than differentiating between primary and secondary services. The LUPC also feels that it would be helpful to give a few examples of the types of services it is	Changed. See section 4(B)(3)(b) of the rule.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
		referring to in the rule. Further, the Commission feels that it is appropriate to include consideration of the obligations and burdens on 'county' government to provide these services.	
Section 4.B Criteria for Approval… **Concerned about deletion of list of factors:** • Subsection 4(B)(3)(a) has been revised to delete the list of factors that LUPC might consider during the rezoning process, presumably because LUPC has deemed them to be provisions relating to permitting. The list of factors, however, also may be appropriate considerations for a rezoning process and should not be removed at this time.	CLF	While this list of factors is shown as deleted in the text, the LUPC did not remove these ideas from the rule. Rather the list has been consolidated, reworded, and reorganized in section 4(B)(3)(a), (b), (c), and (d).	No change.
Section 4.C Submittal Requirements **Too many requirements have been eliminated. LUPC shouldn't worry about duplicating information in the DEP permit process. Gaps in regulation should not be created. The submittal requirements are not duplicative:** • Recognize that some provisions of the current rule may be proposed to be removed because the issues addressed in those provisions will be addressed by DEP in the permitting process. However, recommend that these provisions not be removed until DEP permitting rules are finalized. Due to the serious environmental consequences of metallic mineral mining, such a gap in regulation must not occur. LUPC should not at this time remove any requirements from Chapter 12 that reasonably relate to rezoning. If necessary, LUPC can revise its rules again once DEP has completed its rule-making process • Some of these issues – namely water quality, soil suitability, and equivalent natural resource protection – are vital to rezoning decisions and deserve consideration by LUPC during the rezoning process at some level, even if DEP will be doing a later, and possibly more detailed, review. • DEP has published for public comment its amendments to rules related to exploration and advanced exploration. Apparently DEP drafted its proposed rules in isolation rather than pursuant to the collaborative process mandated by the Mining Act. Strongly urge LUPC to	Maine Audubon, NRCM, CLF	The LUPC does not want to create gaps in regulation. At the same time, the LUPC does not want to unnecessarily duplicate requests for information with the DEP permit process. Statute outlines, in general form, the information that the DEP must ask for in its permitting process. The LUPC can rely on this to determine what information will be duplicative of the DEP permitting process. In view of what is provided in statute, this rulemaking is not creating a gap in regulation, but in	No Change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
consult with the DEP before it deletes requirements from its current mining rules to ensure that DEP does not promulgate rules without LUPC input and in direct contravention to the Mining Act. • Because the Commission is unique in its capacity to consider environmental and natural resource impacts on a landscape level, the submittal requirements do not duplicate DEP's review.		the event that the LUPC determines in the future that a relevant piece of information is not picked up by the DEP, the LUPC can regulate in accordance with Title 12 and revise its rules as necessary. The LUPC also agrees that the Commission is tasked with considering environmental and natural resource impacts on a landscape scale which is fundamentally different from DEP's permitting review and the Commission needs adequate information in order to do this.	
Section 4.C Submittal Requirements **The Commission should not duplicate DEP's review:** • DEP will review environmental and natural resource issues during the permitting process, and the Commission should not duplicate that review as part of the permitting process. • LUPC should delete any requirements that it deems to be a permitting provision regardless of what DEP might do later. The legislature left that second step to DEP not LUPC. When there is ambiguity about whether a requirement may relate to rezoning or to permitting, LUPC must defer to DEP regulation and remove that requirement from Chapter 12. • The following provisions are related to permitting as they are listed in MMMA and therefore should be removed from LUPC: ground water and surface water quality, flora and fauna, hydrology, geology and geochemistry, soil types, closer and reclamation, hazardous materials, financial assurance, existing uses, scenic character, air quality, other natural resources, public and private water supplies, solid waste, flooding, public safety.	Aroostook Timberlands, Patrick Strauch, George Kendrick	As stated above, the LUPC does not want to unnecessarily duplicate requests for information with the DEP permit process. At the same time, the LUPC does not want to create gaps in regulation and must fulfill its statutory charge.	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
Section 4.C Submittal Requirements **The Commission has not duplicated DEP's review:** • Obtaining information necessary to evaluate "ecological and natural values" such as soils, geology, hydrology, vegetation, and fish and wildlife populations is not a duplicative review.	Chief Commander (rebuttal to Aroostook Timberlands above)	See responses in two rows immediately above.	No change.
Section 4.C Submittal Requirements **Submittal Requirements should not go beyond the rezoning requirements in the Commission's statute:** • Section 4.C(1)(h) goes beyond the rezoning requirements by looking beyond the area to be rezoned. Should only consider the area to be rezoned. • Section 4.C(1)(i) and (j) go beyond the rezoning requirements by looking beyond the are to be rezoned, to include a three mile radius. These paragraphs should be amended to clarify that they only consider the area to be rezoned. DEP will consider impacts beyond the area to be rezoned, as applicable to their review standards. • Section C(1)(k) assumes that the applicant chooses to rely on the first clause in Section 685-A(8-A)(B) and fails to acknowledge that, alternatively, the applicant may rely on the second clause("more appropriate for protection and management"). Also this paragraph should use the term "undue adverse impact" not "significant adverse impact." • Section C(1)(o) is not appropriate, because reclamation and closure will be considered by DEP. Reclamation and closure should not be considered by LUPC as part of the initial rezoning process.	Aroostook Timberlands	LUPC does not believe that the referenced submittal requirement s (h,i, and j) go beyond the rezoning requirements in statute. The impacts of a mining project may extend beyond the project boundary. To evaluate the proposal and its impacts, to include impacts on existing uses, and fulfill the Commission's purpose and scope, the LUPC needs information on uses and resources in the surrounding area that may be impacted. With regard to Section 4.C(1)(k) and the argument that this section assumes that the applicant chooses to rely on the first clause in Section 685-A(8-A) and fails to acknowledge that the applicant may rely on the second clause ("more appropriate for protection and management"), as	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
		stated previously above, the Commission has typically viewed the second clause in the context of rezoning to protection or management districts and has not used it as a justification for rezoning to development districts.	
Section 4.C Submittal Requirements **Submittal Requirements do not go beyond the rezoning requirements in the Commission's statute:** • Section 4.C(1)(h) does not go beyond the rezoning requirements by looking beyond the area to be rezoned. This information is crucial from a broad planning perspective. • It is crucial that the Commission consider impacts within a three mile radius of the site. The Dead River (a Class A river) is less than two miles from the Alder Pond site and so are several Class A tributaries/ The Commission needs information about water resources in proximity to mining sites to consider impacts on a variety of resources.	NRCM (rebuttal to Aroostook Timberlands above)	See response immediately above.	No change.
Section 4.C Submittal Requirements **Values of natural world do not begin and end at boundaries of a mine site:** • We can't come up with a specific area that should be considered when evaluating rezoning request for mining activity, the values of Maliseet people place on our natural world do not begin or end at the boundaries of a mine site.	Chief Commander (rebuttal to Aroostook Timberlands two rows above)	See response to Aroostook Timberlands two rows above.	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
Section 4.C Submittal Requirements **Concern for water resources. Request for groundwater information should not be deleted:** • Given the potential for negative impacts resulting from open pit mining on water resources, it is crucial for decision-making that the LUPC has thorough scientific information of the water resources in the vicinity of any proposed mining operation. • Request that any revision of the regulation pertaining to zoning for mineral mining continues to require that mining companies conduct a thorough analysis of groundwater characteristics, including flow rates, and travel direction, and that the study details in what way any possible contamination of groundwater and surface waters might affect nearby lakes, streams, and wetlands and the wildlife they support. • LUPC needs information about groundwater in order to consider impacts on drinking water sources for homes and businesses downstream, and the likelihood of groundwater mixing with lakes, streams and wetlands, affecting fish and wildlife habitat. • LUPC should retain submittal requirement: "A description of groundwater characteristics which delineates flow rates and travel direction of the groundwater for the property proposed for D-PD Development Subdistrict designation."	Andy Cadot, Debbie McCarthy, Lucy W. Hull, Diane Walker, Tammy Cloutier, Susan Cottle, Scott Cronenweth, Steve Spear, Maine Audubon, NRCM, CLF, Sandra Wright, Judy Rowe, Jeff Reardon	The LUPC agrees that some information on groundwater is important to the rezoning phase in order to evaluate whether the area contains groundwater supplies that are of such high value and sensitivity that mining in the area poses too much risk. The LUPC believes that information on public, private and industrial water supplies as well as mapped aquifers should be required at the rezoning phase and has added this to the draft rule. The LUPC does not believe that additional information beyond this is warranted at the rezoning phase as the DEP is required by statute in the permitting process to ensure that there is no contamination of groundwater beyond the mining area. DEP will also be responsible for regulating withdrawals of groundwater.	Changed. See section 4(C).1 of the rule.
Section 4.C Submittal Requirements **Concern for water resources. Request for surface water information should be included:** • The Commission should make sure that it has adequate	Maine Audubon, AMC, NRCM,	The LUPC has asked for surface water information in	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
information about surface waters within and adjacent to potential mining sites. • The Planning Commission must have a description of both surface and groundwater characteristics in order to fully understand the potential impacts on drinking water sources, nearby lakes, streams and wetlands, and surface runoff from the project site. Maine is required to maintain its water quality standards and not allow for water quality degradation. • Maps submitted should identify all surface waters. • LUPC should not delete the requirement to include P-SL2 districts on the existing site condition map that an applicant must submit as part of exhibit 4(C)(1)(c)(1)(f) • LUPC should change the term "water courses" in Section 4 (C)(1)(f) to a list of all potential water courses including lakes, ponds, rivers, streams and estuaries.	CLF, Jeff Reardon	submittal (k), "a map identifying significant natural resources… including protected water bodies…" This would include information on streams (P-SL1 and P-SL2), ponds (P-GP), and wetlands (P-WL). In addition, with regard to other possible surface water related concerns, the Commission has asked for information on significant wildlife and plant areas and recreational uses. The LUPC feels that all relevant information for the rezoning phase should be captured in these submittals and feels that additional surface water information is more appropriate at the permitting phase. It should also be noted that the DEP is required by statute as part of its permitting process to ensure that the mining operation will not cause a direct or indirect discharge of pollutants into surface waters or discharge groundwater containing	

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
		pollutants into surface waters that results in a condition that is in nonattainment of or noncompliance with the standards in article 4-A or section 414-A or 420.	

Section 4.C Submittal Requirements
Concern for soil resources. Request for soils information should not be deleted:
• To ensure that there are suitable soils on the site for the type of activity proposed, LUPC has routinely required soils maps for rezoning for large developments. But under the proposed mining rules, soils maps would also not be reviewed by LUPC, despite the fact that mining activities involve many developments and soils maps are available from the NRCS at no cost. LUPC should require soils information and ensure soil suitability for the site.
• To ensure soil suitability, the applicant must be required to submit at minimum:
  ○ a low-intensity soil map for the whole project area, of which the attributes and data can be obtained by the NRCS;
  ○ a higher resolution soils data for the specific areas of where any proposed infrastructure would be built; and
  ○ an erosion control plan which would include demonstration of proof that the erosion would be minimal and indication of what the applicant would do if their erosion control plan proves insufficient.
• LUPC should retain submittal requirement: "A soils map of high intensity or equivalent that encompasses those portions of the property proposed for D-PD Development Subdistrict designation, including identification of soils used in the USDA Soils Series."
• LUPC should retain submittal requirement with some minor modifications: "A soils map of appropriate intensity that encompasses those portions of the property proposed for D-PD Development Subdistrict designation, including identification of soils used in the USDA Soil Series."
	Andy Cadot, Debbie McCarthy, Lucy W. Hull, Diane Walker, Tammy Cloutier, Susan Cottle, Maine Audubon, AMC, NRCM, CLF, Sandra Wright	The LUPC agrees that some soils information is relevant at the rezoning phase in order to determine if there are large areas of soils types that would be so unsuitable as to pose significant risks to the environment. The LUPC believes that it is appropriate to ask for a low intensity soil map for the area. DEP will be considering more detailed soils information during the permitting phase.	Changed. See section 4(C).1 of the rule.

Section 4.C Submittal Requirements **Request for geological information should be included:** • Applicant must be required to submit a geological map identifying bedrock and any underlying features. It is important for the applicant to identify what metal and	AMC	The LUPC agrees that geologic maps should be required during the rezoning phase. It has	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
other contaminants could be released through oxidation processes which contaminate both surface water and ground water.		already asked for this information in section 4(C).1.g of the current draft rule. However, the LUPC does not believe that asking for a contamination assessment is appropriate at the rezoning phase. The DEP will be responsible for ensuring that there is no contamination of surface or ground water during the permitting phase. Additionally, as specified in the MMMA, the DEP will request "a description of the geochemistry of the ore, waste rock, overburden, …, including characterization of leachability, reactivity and acid-forming characteristics" as part of the permitting process.	
Section 4.C Submittal Requirements **Request for visual impacts Information should be included:** • Must require more than a map showing visual impacts. To properly assess the visual impact of open pit mining it is paramount that the Commission's rules include the requirement to submit a specific analysis of the level of visual impact from critical scenic resources using accepted visual analysis techniques. This analysis should be required for an eight mile radius with the option of requiring a fifteen mile radius if the project is either highly visible or in a sensitive location. Beyond this radius of identified critical scenic resources, we recommend that a topographic and vegetative screen be applied to these resources, and if the location is screened by one of these features, then this would be the only exception to the requirement of an in-depth, site specific visual study.	AMC	The LUPC does not believe that it would be practicable to require a specific analysis of the level of visual impact from critical scenic resources since detailed information on the size or configuration of the project will not yet exist. Consequently, the details of visual impact will be difficult if not	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
		impossible to determine at the rezoning phase. That said, during the rezoning phase it seems entirely possible that an applicant could identify areas from which the project location is visible. Consequently, the Commission has asked for a map of scenic resources within a three mile radius of the project site. LUPC does not believe that the 8 mile radius applied during the wind turbine permitting process is necessarily transferable to rezoning for mining as mining projects are unlikely to occupy ridgelines in the way that wind turbines do and are unlikely to have an array of equipment as visible as turbines. Additionally, visual impact evaluation will be part of the DEP permitting process. As specified in the MMMA, the applicant must make "adequate provision for fitting the mining operation harmoniously into the existing natural environment and	

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
		the development will not unreasonably adversely affect …scenic character" during the permitting process.	
Section 4.C Submittal Requirements **Evaluate natural resource impacts with different radius:** • The proposed rule would only require natural and scenic resources within three miles of the proposed mine and associated facilities to be identified by the applicant, even though wind power rules appropriately require maps showing impacts within an eight mile radius. Impacts of open pit mines, particularly those on mountains, will affect resources and uses much further than three miles, including downstream rivers, streams and lakes, scenic vistas and recreation areas. Like current wind power rules, the proposed mining rules should require maps showing impacts within an eight mile radius.	Andy Cadot, Debbie McCarthy, Scott Cronenweth, Maine Audubon, AMC, NRCM	The LUPC believes that a "three-mile radius" is a reasonable area within which to ask for natural resource information during the rezoning process. This distance was part of the original Chapter 12 rule and the Commission does not see a compelling reason to change it. However, that does not mean that information on natural resources located at a greater distance could not be entered in the record during the hearing process and, therefore, considered by the Commission. The Commission feels that the rule should be clarified to read that the three mile radius is measured from the "mining area or exploration site" rather than the "mine or exploration site".	Changed. See section 4.C(i),(k) and (l) of the rule.
Section 4.D Subdistrict Boundary Change for a Limited Period **Section 4.D goes beyond the legislative directive:** • The changes to subsection 4(D) are substantive changes that are not related to removing permitting provisions; as such they are not authorized by Section 29 of the Mining Act and must not be enacted as routine technical rules.	CLF	As required by the applicable legislation, these rule changes are limited to separating the LUPC rezoning	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
○ Object to increasing the time period a subdistrict boundary change is effective to 'the longer of a period of 10 years from the date of approval of the subdistrict change (current rule is 7 years) or the expiration date of a permit issued by the Department or the Commission. ○ Object to the changes in the last sentence that now require a landowner to petition LUPC for rezoning rather than allowing the land to automatically revert to its prior zoning designation.		and DEP permitting functions from one another. Because the permitting process is changing and is anticipated to take longer than was envisioned in the past, it is appropriate to increase the effective time period of the subdistrict boundary from 7 to 10 years in the case where no mining activities have occurred. The LUPC believes that it would be irresponsible to allow the land to automatically revert to its prior zoning designation as that designation may no longer be appropriate. The LUPC believes that the landowner should bear the burden of the necessary work of rezoning. The LUPC can assume this role if the landowner does not for whatever reason.	
Section 4.D Subdistrict Boundary Change for a Limited Period **Section 4.D should not limit the duration of the rezoning:** • There is no statutory basis for such a limitation. • The second sentence in Section 4.D suggests that the mining activity may only continue for 10 years of the term of the DEP permit, regardless of whether the mining activities are underway. Is that the intent? • There is no basis for an automatic reversion to "the appropriate subdistrict designation" even if no mining activities have occurred within 10 years of the zone change.	Aroostook Timberlands, Patrick Strauch	The rule states that a subdistrict boundary change is limited to the longer of a period of 10 years from the date of approval of the subdistrict change or the expiration date of a permit issued by DEP. If a	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
		permit is issued by DEP the expiration of that permit will determine the life of the subdistrict. If a permit is not issued by DEP the calculation of 10 years from the date of approval of the subdistrict will determine the life of the subdistrict. LUPC does not believe that this is confusing or warrants further clarification. Statute gives the Commission discretion to determine the boundaries of areas within the unorganized and deorganized areas of the State that fall into land use districts and designate each area in one of the following major district classifications: protection, management and development. The Commission also possesses the statutory authority to rezone. Rezoning an area for a defined period, as opposed to for an indefinite period, is wholly consistent with the Commission's zoning and rezoning	

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
		authority. The Commission has applied other time limited zones such as D-CI zones for gravel pits and P-RP zones for concept plans or resource protection plans. So limiting the life of a zone is not a new practice. Additionally, the existing Chapter 12 contains a time limit.	
Section 4.D Subdistrict Boundary Change for a Limited Period **Section 4.D should not limit the duration of the rezoning:** • Support the provision that if no mining activity occurs within 10 years of the zone change, the D-PD shall automatically revert to the appropriate subdistrict designation. Conditions may change over a 10 year period that may render the Commission's zone change inappropriate.	NRCM (rebuttal to Aroostook Timberlands above)	LUPC agrees. See response immediately above.	No change.
Section 4.D Subdistrict Boundary Change for a Limited Period **Need to clarify that LUPC must make its zoning decision before DEP can make permit decision:** • Contrary to the suggestion in the first sentence of this paragraph, the LUPC must make its rezoning decision before DEP can make its decision. See 38 MRS 490-NN(2).	Aroostook Timberlands	LUPC agrees.	Changed. See first sentence in Section 4.D
Comments on Presentations given by Robert Marvinney, Carol White and George Kendrick to the Commission at their February 1st meeting • Disagree with some points in each presentation and with the tone which strongly implied that the Commission should not be worried about the environmental impacts of mining in Maine. • LUPC has the ability to protect important resources, such as fisheries resources, during rezoning in ways that DEP cannot. While DEP can deny a permit for a particular application that is not likely to meet existing standards, it cannot say that an area is too valuable to risk siting a mine. LUPC can find that an area is too valuable for mines through its planning and zoning process. • Dr Marvinney strongly implied that mining operations were likely to be small in Maine. However, Maine has one of the largest sulfide deposits in the world near Katahdin Iron Works. The Commission should not assume that mining operations will be small in Maine.	NRCM (rebuttal to Aroostook Timberlands above)	The LUPC recognizes that the rezoning and permitting processes are different from one another and that they fulfill different functions. The LUPC recognizes that part of the rezoning process is determining if there are places that may not be appropriate to rezone as the risks to various resources may be too great. The decisions that the	No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
• Advocates for the mining industry claim they have developed new, advanced technologies that will solve mining's environmental problems. The Commission should be skeptical of this claim. These technologies have been around for a while. They are expensive and the mining industry has therefore been resistant to use them. In addition, technologies like liners are not foolproof. They can leak and if the mining company then goes bankrupt, the government is left with the cleanup costs. As the LUPC considers a rezoning request, the Commission should consider the consequences if mining companies fail to pay to treat wastewater for decades or even centuries after a mining project stops generating income. • Mining companies typically underestimate the water quality consequences of their operations. More often than not water treatment plants that must operate in perpetuity must be installed to deal with water quality issues. The Commission should assume that adverse impacts on water quality will often be greater than predicted. • All of the "model" modern mines that Mr Kendrick described have had water quality problems and all will require long-term or even perpetual maintenance and water treatment. According to Mr Kendrick, Flambeau mine has violated water quality standards. It must truck wastewater off site to have it treated periodically. Greens Creek mine in Alaska, which Mr Kendrick cited as a "model" has a number of potentially serious and expensive environmental issues. A consulting firm recently conducted an audit of the mine and identified a number of "highly significant" problems. • Heavy metal concentrations in water are naturally elevated in some parts of Maine, but mining operations will increase these levels. The natural presence of arsenic in the ground or surface water should not serve as a justification for allowing mining in the vicinity. Just the opposite: if levels are already high, extra scrutiny is required because mining is extremely likely to make the problem worse. • Mining companies frequently overstate the economic and employment benefits of mining. • The Commission should not rezone areas for mining near population centers, public or private drinking water sources, or valuable fish and wildlife resources. Ms White said that it would not be a good idea to put mines near population centers, public or private drinking water sources, or wetlands and waterbodies that are significant for wildlife habitat or recreational values. We strongly agree with this. • Request the opportunity to address the Commission orally		Commission is making on the types of information needed during rezoning are aimed at determining what resources are going to be impacted by a mine and if those impacts pose a risk that is too great to allow rezoning to go forward. The Commission has tried to ask for the type of information and level of detail that will most adequately inform this process. The Commission has not in general asked for highly technical information that will be required by DEP as part of their more technical site review.	

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to ensure that the Commission members and staff receive multiple perspectives on issues raised by mineral mining. The information presented has not been balanced and needs to be augmented by the perspective of someone representing public, environmental and conservation interests.			

Articles, publications and other documents submitted into the record
• Acid Rock Drainage Prediction for Low-Sulfide, Low-Neutralization Potential Mine Wastes. Michael G. Li
• Appendix to statement of Lindsay Newland Bowker on LUPC Draft Rule on DPD's for Metallic Mining
  o The attached discussion on open pit sulfide mining focuses on issues of reliable prediction of ARD (acid rock drainage) and the inadequacy of what have been widely accepted as threshold standards for allowing open pit sulfide mining. Science tends to support both DEP and LUPC adopting a minimum threshold of 0.05% sulfide-sulfur content (or NP:AP>5 under the EPA standard) at which any extensive disturbance of sulfide ores would be allowed.
  o Discussion on cyanide heap leach processing speaks to the complex chemistry of cyanide and its tendency to form complex compounds that cause substantial environmental impairment at great distances from the site and for very long periods. Modern science supports a ban on cyanide heap processing and no DPD in the UT should include this as an 'allowed use'.
• CAO Marlin Mine Assessment: Technical Responses. Robert E. Moran, Ph.D.
  o Importance of extracting samples for the % sulfide – sulfur analysis and the NP:AP rations from the same depths at which the ore will be extracted and not from the surface
  o Proper testing for any reliable prediction of ARD takes at least 20 weeks
  o Even the ,0.05% standard is not a fool proof indicator and the NP:AP ratio affects lag time for ARD reactivity
  o Importance of taking into account of history at other comparable sites using the exact same technology proposed by applicant.
  o Mine sites all over the world with as little as 0.2% sulfur-sulfide have generated ARD.
• Appendix II to statement of Lindsay Newland Bowker on LUPC Title 12 Draft Rule
  o Do not mine an area where there is potential for eventual formation of ARD. Once ARD
	Lindsay Bowker	These comments are voluminous and general in nature, and they do not pertain to a specific section of the revised rule; thus the Commission does not feel that a response to all of this information is necessary.
		
		The regulatory issues raised by the type of information in these comments are more relevant during the permitting stage. DEP is receiving this type of information as part of permit review and therefore when LUPC gets to the certification phase of rulemaking, this information may be considered at that time.
			No change.

COMMENT	MADE BY	LUPC RESPONSE	REVISION TO RULE
commences it cannot be effectively managed or mitigated with any known technology. o Research challenges the premise that rezoning can be accomplished in advance of even preliminary explorations. o Important to try to establish when ARD will start to generate. o The characteristics of the mine site and the results of kinetic tests, not some arbitrary time frame, should determine the period of time over which the operator remains fully accountable for all damages arising from its operations. o The generally accepted minimum for kinetic tests is 20 weeks.			

Attachment 3

Wolfden Rezoning Petition
Proposed Pickett Mountain D-PD
T6 R6 WELS, Penobscot County

LUPC Letters, dated March 6, April 15, and May 27, 2020

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
LAND USE PLANNING COMMISSION
22 STATE HOUSE STATION
AUGUSTA, MAINE 04333-022

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

JUDY C. EAST
EXECUTIVE DIRECTOR

March 6, 2020

Via U.S. Mail and E-mail

Jeremey Ouellette
Wolfden Mt. Chase, LLC.
1100 Russell St., Unit 5
Ontario P7B 5N2
Canada

Dear Mr. Ouellette;

The Land Use Planning Commission has completed a preliminary review of Zoning Petition 779, a petition to rezone 197.5 acres in T6 R6 WELS in Penobscot County, Maine to a Planned Development Subdistrict (D-PD) for the purpose of metallic mineral mining.

This letter specifies additional information necessary for a thorough review of the rezoning proposal by LUPC staff. It also provides a timeline for information submission based on the goal of allowing sufficient time for staff and public review of the petition ahead of the required public hearing. Requests for additional information are divided into three time categories below: within 15 days, within 30 days, and by June 15th (pending completion of field surveys). Staff anticipate that sufficient responses to the information requests in the "within 15 days" category will allow the LUPC to deem the zoning petition complete for processing. Once the zoning petition is complete for processing, staff will begin a formal and thorough review.

Whenever revisions are made, please submit the affected sections in their entirety and include a revision date at the top. This protocol will greatly aid staff review by providing a single place to find the most up-to-date information on a topic. To assist with submitting revised and dated materials, we have noted the applicable petition questions and exhibits below where possible.

Additional information requests:

<u>Within 15 days (needed to deem the petition complete):</u>

1) Tailings Management

a) The current proposal includes disposing of a portion of the mine tailings in the mine shaft. This disposal method is not allowed under Maine's Metallic Mineral Mining Act nor under the associated rules of the Maine Department of Environmental Protection. Submit a revised project description and tailings management plan showing that all tailings will be disposed of using dry stacking, and update all materials in the petition affected by this change. The update should include any changes to the proposed height and area of the Tailings Management Facility that result. [Note that the height of the Tailings Management Facility is currently inconsistent within the zoning petition. In some sections the height is given as 10 feet while the tailings management strategy shows a maximum height of 22 feet.]

2) D-PD Subdistrict Boundary

a) The boundary of the D-PD subdistrict must include a 400 ft buffer between any development activities within the zone and the surrounding property lines. Confirm that the proposed subdistrict boundary includes this buffer. If it does not, adjust the boundary and the acreage of the subdistrict accordingly and carry those changes throughout the petition, including on any maps or figures.

3) Project Description (Question 4)

a) Include the following:

- an estimate of the total area to be cleared for development activities;
- the height of the tallest building proposed for the project;
- the height and type of any other structure that will exceed the height of the tallest building;
- the percentage of the total parcel that will be covered by impervious surfaces (asphalt, concrete, liners, compacted materials, roadways, parking areas, rooftops, etc.) as a result of the proposed development;
- the width of clearing for the new transmission lines needed for the project;
- the location and square footage needed for the new substation;
- an estimate of the total length and final width of roads requiring upgrades for the project; and
- clarification that Wolfden Mt. Chase LLC has decided not to include a solar energy facility. [Note that if a solar energy facility may be of interest in the future, it should be included as an allowed use by permit in the Development Plan).

4) Development Proposal (Question 17) and D-PD Subdistrict (Appendix A, Section P)

a) Provide a response to Question 17, including information on harmonious fit, scenic impacts, wildlife habitat, sufficient land area, and high yield aquifers. [Note that responses about scenic impacts, wildlife habitat, and high yield aquifers can reference other sections of the petition; however, a full response to harmonious fit and to sufficient land area is required for this question. In particular, the petition needs a more detailed explanation supporting the proposed boundaries and acreage of the D-PD.]

5) Section B(3)(a)

a) Define the acronym CIP (used in describing the wastewater treatment process).

Within 30 days

6) Project Description (Question 4)

a) The project description states that mined materials may be imported from other facilities for processing at this site. Provide information on the types and quantities of mined materials to be imported, where materials will be imported from, how they will be transported to the site, the transportation route(s) to the facility, and the frequency of importation.

b) Provide additional detail about the security of the facility, including the areas that will be fenced in and other security measures and infrastructure that will be needed, if any.

c) Include the timing of all stages involved in the construction of the Tailings Management Facility. The high level schedule currently includes TMF Stage 1 in the construction phase of the project but does not include any other stages.

7) Public and Community Services (Question 11)

a) Correct the listing of the closest Service Center to the project and its distance from the proposed facility. Area Service Centers are listed in the zoning petition form, Question 11, Page 16 and do not include Patten.

8) Consistency with the Comprehensive Land Use Plan (Question 15) and Natural and Historic Features (Appendix A, Section K)

a) Noise sources that will occur simultaneously should not be considered individually. Provide a model prepared by a qualified professional that estimates the cumulative noise levels at property lines, the nearest seasonal residence, and Pickett Mountain Pond. This model may be based on sound levels produced during normal operations as provided by manufacturers. Alternatively, sound levels could be measured by a qualified professional at a similar facility under routine operations and used to estimate noise levels at property lines, the nearest seasonal residence, and Pickett Mountain Pond.

b) Provide a conceptual blasting plan that addresses the requirements for blasting given in the Maine DEP's Chapter 200 rules.

c) Provide a desktop viewshed analysis using an area of potential impact of 3 miles, and any additional documentation on the scenic impact of the mine facilities. On the analysis, label scenic view points within the Katahdin Woods and Waters National Monument, viewpoints along Route 11 (the Fish River Scenic Byway), and other scenic resources from which views of development could have an adverse impact. Consider consulting with individuals that know the area to learn about resources of concern such as campsites, hiking trails, boat launches, waterbodies, etc.

9) Recreational Resources (Question 19; Appendix A, Section L)

a) Provide additional detail on the level of use and potential impacts, including visual (during daytime and from lighting at night) and noise impacts, on the following resources:

- lakes within 3 miles of the project site, especially those with public boat ramps;
- campsites within 3 miles of the project; and

- permanent trails within 3 miles of the project.

Noise levels should be estimated by a qualified professional, and level of use can be obtained through individuals with local knowledge.

b) Provide a clearer map of the recreational resources within a 3 mile radius of the project site. Include boat ramps, waterbody names, campsites, permanent trails (ATV, snowmobiling, hiking), etc.

c) Explain whether or not there is hunting, or any other traditional use, on the parcel, particularly in the proposed area for rezoning.

10) Public Services (Exhibit L or Appendix A, Section O)

a) Provide letters from the Penobscot County Sheriff's Department, Casella, and Spectrum (or another phone/cable provider) indicating that they can provide services to the facility.

11) Socioeconomic Impact (Section B(3)(a))

a) Discuss whether employees coming from Houlton and other communities more distant from the property will need to move closer to work at the facility. If so, show that there is sufficient housing to support their needs and describe any other socioeconomic impacts of this shift in residency.

b) The list of employee roles does not include the role of health and safety. Discuss which employees will provide first aid and underground fire response at the facility.

12) Waste Disposal (Section B(3)(a))

a) Explain how waste rock will be neutralized or treated to prevent contamination of groundwater or surface water prior to disposal in the mine shaft.

b) Explain what the buffer capping material will likely be and why that material was chosen.

c) Explain whether the raw water pond will be lined and provide the reason(s) why or why not.

d) Explain how discharges from the underground washroom facilities will be treated for disposal.

e) Provide monitoring data from an existing, similar wastewater treatment plant to show that the treatment methodology is effective, including data on upgradient groundwater quality, treatment plant influent and effluent water quality, and downgradient groundwater quality.

f) Explain how wastewater from pressing tailings is managed and where that wastewater enters the wastewater treatment system.

g) Provide additional detail on the disposal of waste cement and concrete, including how cement trucks and other equipment will be washed during construction and whether disposal of waste concrete will be onsite.

h) Explain whether concentrators, flotation chambers or any other parts involved in the milling, extraction, and water treatment processes need to be cleaned out periodically during operation. If

so, explain how waste materials, including waste chemicals, will be disposed of and provide the disposal location and evidence of that location's capacity to accept the waste.

i) Explain how waste chemicals will be disposed of at mine closure.

j) Provide a conceptual plan for how spills of hazardous materials (ferric chloride, sulfuric acid, petroleum products, etc.) will be prevented, controlled, contained, and cleaned up.

k) Identify another acceptable method for disposal of large stumps that cannot be chipped such as grinding and use on site in an erosion control mix. Maine's Solid Waste Management Rules limit the area for onsite stump disposal to one acre unless a landfill permit is obtained and many disposal facilities do not accept stumps. [Stump disposal is also discussed in the Project Description.]

13) Transportation (Appendix A, Section J)

a) Provide evidence that landowners are willing to enter into a cooperative agreement for road upgrades and maintenance.

14) Beneficial Use (Appendix A, Section Q)

a) Provide information on other beneficial uses that are expected post-closure. Include a discussion of whether the area will be open to continued recreation and the types of recreation allowed.

b) Explain the measures that will be taken to protect the Tailings Management Facility from future incompatible development and activity. This discussion should include, but not necessarily be limited to, posting permanent signs to identify the location of the Tailings Management Facility and establishing deed covenants to limit uses on or near it.

<u>June 15, 2020 (following field surveys)</u>

15) Financial Capacity (Exhibit H)

The Commission will not approve a rezoning to a D-PD subdistrict for metallic mineral mining unless there is substantial evidence that, among other criteria, the proposed change in districting is consistent with the purpose and intent of 12 M.R.S. ch. 206-A, which includes sound planning and zoning, and with the standards and purpose of the D-PD Subdistrict. 01-672 C.M.R. ch. 12, § 4(B)(1)(a), 4(C)(1)(p). "The purpose of the D-PD subdistrict is to allow for large scale, well-planned development," proposals for which the Commission will consider "provided they can be shown to be of high quality and not detrimental to other values" of the Commission's jurisdictional area. 01-672 C.M.R. ch. 10, § 10(H)(1). Whether a project is technically feasible and financially practicable is a particularly important consideration for a custom zone, such as a D-PD subdistrict, that will be specifically established for a single large-scale development project. A project that is not technically feasible and financially practicable is not a well-planned or high-quality development and therefore would not satisfy the requirements of 01-672 C.M.R. ch. 12, § 4(B)(1)(a) or 4(C)(1)(p).

a) To allow evaluation of the financial practicability and technical feasibility of the proposed project, provide the following:

- a more detailed financing plan for development of the metallic mineral mine that is a commercially reasonable method for financing a metallic mineral mining operation from start-up through to closure and reclamation;

- information on the role of junior mining companies and major mining companies, and how each typically finance their roles in staking a claim, exploration, and development of a metallic mineral mine;

- confirmation that Wolfden Mt. Chase LLC is a junior mining company; and

- evidence that development of the Pickett Mountain Mine will be technically feasible and financially practicable with supporting documentation such as a Preliminary Economic Assessment.

16) Development Plan (Appendix A, Section R)

a) The proposed development plan must be consistent with the LUPC's Land Use Districts and Standards (Chapter 10 of the LUPC's Rules and Standards) in terms, definitions, and standards; or the Development Plan will need to include new definitions and proposed standards. Improve the Development Plan by:

- Providing definitions for terms not defined in Chapter 10.

- Providing standards for activities allowed by standard if none exist in Chapter 10.

- Considering that determinations on whether or not an allowed use requires a permit (such as solar facilities and worker housing) must be consistent with DEP permit requirements.

[Additional consultation with LUPC Staff on improvements to the Development Plan is recommended]

17) Existing Zones (Question 3; Appendix A, Section A)

a) If any streams are identified during field surveys in the proposed D-PD area, include on a site plan, the P-SL2 zones for these streams and discuss the development impacts on these zones.

18) Natural and Historic Features (Question 18, Exhibit M)

a) Provide a Phase 0 archaeology study for the area proposed for rezoning to D-PD.

19) Soil Suitability (Exhibit J)

a) Submit a report from a certified soil scientist, based on a field survey, that indicates the soils onsite are suitable for the proposed use, or that any onsite soil limitations can be overcome with standard engineering practices.

[Published soil maps available to LUPC Staff indicate soil suitability for proposed uses is limited, and therefore cannot be relied upon for a soil suitability determination.]

20) Waste Disposal (Exhibit K)

a) Provide the location of the proposed sanitary wastewater disposal facility.

21) Existing Conditions (Appendix A, Section F)

a) Submit a revised existing conditions plan (See Exhibit D-2) at a scale of at least 1"=100' and that shows streams, wetlands, and vernal pools mapped by a qualified professional at least at a reconnaissance level of mapping. Include a supporting report by the qualified professional describing the methodology used to prepare the map and discussing whether any other significant wildlife habitats or S1/S2 plant communities were found on the site during the field reconnaissance.

Please note that additional questions may arise during the Commission's continued review of the completed zoning petition. If you have any questions about the agency's additional information request or about the petition process, please feel free to contact me. I can be reached during normal business hours at telephone number 207-557-2535 or by e-mail at stacie.r.beyer@maine.gov.

Sincerely,

Stacie R. Beyer
Planning Manager
Land Use Planning Commission

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
LAND USE PLANNING COMMISSION
22 STATE HOUSE STATION
AUGUSTA, MAINE 04333-022

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

JUDY C. EAST
EXECUTIVE DIRECTOR

April 15, 2020

Via E-mail Only

Jeremey Ouellette
Wolfden Mt. Chase, LLC.
1100 Russell St., Unit 5
Thunder Bay, Ontario P7B 5N2
Canada

Dear Mr. Ouellette;

The Land Use Planning Commission has reviewed the Development Zoning Proposal (Question 17) and the revised Project Description (Question 4) and B(3)(d) sections submitted by Wolfden Mt. Chase, LLC. on March 21, 2020 as part of Zoning Petition 779. The Commission's review focused on information needed to accept the petition for processing. There are several items in the revised Project Description and B(3)(d) sections requiring revision or clarification before the petition can be deemed complete for processing. These are:

1) *Estimate of the total cleared area.* Please clarify whether the total cleared area provided in the Project Description includes any necessary clearing for road improvements.

2) *Percent of the total parcel covered by impervious area.* The current calculation of 19% for the proposed lot coverage appears to reflect impervious area due to structures and lined facilities but not impervious area due to roadways, parking areas, laydown areas, and equipment storage. Note that the percentage of impervious area should be calculated based on the area of the entire parcel rather than the area proposed for rezoning. Please update the calculation in the project description.

3) *Width of roads and transmission corridor.* Please provide separately the final width(s) of improved roads (travel surfaces and shoulders) and the width of the transmission corridor.

4) *Location and square footage of the new substation*. For the new substation proposed, provide either the requested information on location and square footage or evidence that Emera will be responsible for locating, permitting, financing, and constructing the substation as a separate project. For large projects, such as wind and solar farms, project developers are typically responsible for new, project specific substations.

5) *Waste management, tailings disposal*. The last bullet under Operations/Production refers to backfilling tailings in the mine shaft. This bullet should be removed as backfilling of tailings is not allowed under Maine's Metallic Mineral Mining Act nor under the associated rules of the Maine Department of Environmental Protection.

6) *Section B(3)(d).* Section B(3)(d) has several references that are now out of date, including references to the size of the proposed D-PD, the height and size of the Tailings Management Facility, and the total developed area. Although the Commission can accept the petition for processing without receiving the other updated sections of the petition at this time, revised sections that are submitted need to be up-to-date to avoid confusion.

Additionally, the items below do not affect the determination of the petition as complete for processing, but you may wish to address them for clarity.

1) Consider changing all mentions of P-DP zones to the correct zone of D-PD (Development – Planned Development). The acronyms for the LUPC's Protection Zones begin with 'P.'

2) New language on page 4 of the revised Project Description (1st paragraph, lines 7-10) could be interpreted to mean that there are two steps in the tailings management process with the tailings being moved each time. However, the revisions to Section B(3)(d) include language describing a one step process (Tailings Treatment and Management Strategy, 2nd paragraph).

If you have any questions about this request for additional information, please feel free to contact me at 207-557-2535 or at stacie.r.beyer@maine.gov.

Sincerely,

Stacie R. Beyer
Planning Manager

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
LAND USE PLANNING COMMISSION
22 STATE HOUSE STATION
AUGUSTA, MAINE 04333-022

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

JUDY C. EAST
EXECUTIVE DIRECTOR

May 27, 2020

Via E-mail

Jeremey Ouellette
Wolfden Mt. Chase, LLC.
1100 Russell St., Unit 5
Thunder Bay, Ontario P7B 5N2
Canada

Dear Mr. Ouellette;

The Land Use Planning Commission has reviewed the additional information submitted by Wolfden Mt. Chase, LLC. on May 1, 2020 for Zoning Petition 779, Pickett Mountain Mine. Because the additional information responds, in part, to both the request for additional information in the Commission's April 15, 2020 letter and items requested in the Commission's March 6, 2020 letter, we are providing an updated, comprehensive list of information that the Commission needs to begin a thorough analysis of the petition. Based on this latest review, there are still several items requiring revision or clarification before the petition can be deemed complete for processing. In addition, there are other outstanding information requests, and a few new questions based on the revised submittals to date, that the Commission needs answered to complete its review.

When Wolfden Mt. Chase submits a response to this letter, please 1) submit the entire section in which the revised information is contained, 2) *date and number the pages* in each revised section, and 3) provide a table that indicates where each of the items requested below can be found, by question, exhibit, or attachment number and page number. The Commission requests that the next submission of additional information provide a response to all the information listed below. If the next submission does not provide sufficient information to deem the petition complete for processing, the Commission may consider stopping the review process and returning the petition. If you have questions about the implications of returning the petition, we would be happy to discuss it with you. Please respond to this letter by June 30, 2020.

Information Required to Deem the Petition Complete:

1. *Estimate of the total cleared area.* Although the estimate of the cleared area was revised, the May 1 submittal did not clarify whether the total cleared area provided in Question 4, Project Description includes all necessary clearing for road improvements. Please provide that clarification.

2. *Percent of the total parcel covered by impervious area.*

    a. The current calculation of 19% for the proposed lot coverage appears to reflect impervious area due to structures and lined facilities but not impervious area due to roadways, parking areas, laydown areas, and equipment storage. Note that the percentage of impervious area should be calculated based on the area of the entire parcel rather than the area proposed for rezoning. Please update the calculation in Question 4, Project Description.

b. The revised discussion of lot coverage in Question 4, page 1 indicates that lined dry stack tailings facilities represent an area of 96.4 acres. Should that read "lined facilities represent an area of 96.4 acres (including 91.7 acres for lined tailings"?

3. *Minimum width of roads.* The last submittal provided information on the width of the transmission line corridor, and a proposed maximum width of access roads. To review whether the roads will provide safe access to and from the facility, in Question 4, Project Description or Attachment J, Transportation, provide the *minimum width* of improved roads (travel surfaces and shoulders).

4. *Waste management, tailings disposal*. There is still at least one residual reference to backfilling tailings in the mine shaft which is found in Question 15, CLUP Consistency; see attached with highlights. Please review and update all questions, exhibits, and attachments, as needed.

5. *Section B(3)(d).* Section B(3)(d) still has several references that are now out of date, including references to the height and size of the Tailings Management Facility and the total developed area; see attached with yellow highlights.

Additional information requests:

1. D-PD Subdistrict Boundary

   a. Provide updated sections with revised maps that show the new boundary of the proposed D-PD subdistrict. Based on LUPC staff review, at least the following sections will need to be updated: Questions 5 and 6; Exhibits A, D-1, and D-2; and Attachments B, E, G, H, I, and K.

   b. Also provide a new shape file with the new boundary of the proposed D-PD subdistrict.

2. Existing Zones (Question 3; Appendix A, Section A)

   a. If any streams are identified during field surveys in the proposed D-PD area, include on a site plan the P-SL2 zones for these streams and discuss the development impacts on these zones.

3. Public and Community Services (Question 11)

   a. Revise the table provided in response to Question 11 with updated information on the provider for cable services and the distance to the nearest public road.

4. Consistency with the Comprehensive Land Use Plan (Question 15)

   a. Noise. Noise sources that will occur simultaneously should not be considered individually. Provide a model prepared by a qualified professional that estimates the cumulative noise levels at property lines, the nearest seasonal residence, and recreational resources including lakes and ponds, campsites, and hiking trails. This model may be based on sound levels produced during normal operations as provided by manufacturers. Alternatively, sound levels could be measured by a qualified professional at a similar facility under routine operations and used to estimate noise levels at property lines, the nearest seasonal residence, and the recreational resources.

   b. Visual Impact.

      i. Include more detailed information describing the method used to complete the viewshed analysis, including what software was used and any assumptions that were made in the analysis. Explain why a height of 10 meters was used for the analysis. Given the height of the proposed concentrator building of 60 feet, it appears that 18 meters is the more appropriate figure to use.

ii. Provide a revised map for the desktop viewshed analysis that labels scenic resources from which there may be views of the proposed development including campsites, hiking trails, boat launches, waterbodies, etc.

iii. LUPC staff recommends that a qualified professional with experience in visual impact analysis provide an interpretation of the results of the desktop viewshed analysis.

5. Natural and Historic Features (Question 18, Exhibit M)

   a. Provide a Phase 0 archaeology study for the area proposed for rezoning to D-PD.

6. Recreational Resources (Question 19; Appendix A, Section L)

   a. Provide additional detail on *the level of use* and potential impacts to recreational resources, including daytime visual impacts, visual impacts from lighting at night and *noise impacts*, on the following resources:

      i. Lakes within 3 miles of the project site, especially those with public boat ramps or launches, including Pleasant Lake;

      ii. Campsites within 3 miles of the project, including the campsites on Pleasant Lake; and

      iii. Permanent trails within 3 miles of the project, for example the hiking trail on Mt. Chase.

   The best source of available information on the location of public boat ramps, launches, and campsites is the DeLorme Maine Atlas and Gazetteer (available for purchase online) or individuals with local knowledge. Note, the DeLorme Atlas shows campsites and a boat launch on Pleasant Lake. Noise levels should be estimated by a qualified professional, and level of use can be obtained through individuals with local knowledge.

   b. Provide a clearer map of the recreational resources within a 3-mile radius of the project site. Show and label boat ramps, launches, waterbodies, campsites, and permanent hiking trails, etc.

7. Preliminary Site Plan (Exhibit D-2)

   a. Update the Preliminary Site Plan narrative and table to include updated figures on the cleared area and developed area (including square feet for the dry stack tailings facility) and add the parking areas for employees and equipment to the table and site plan.

8. Financial Capacity (Exhibit H)

   The Commission cannot approve a rezoning to a D-PD subdistrict for metallic mineral mining unless there is substantial evidence that, among other criteria, the proposed change in districting is consistent with the purpose and intent of 12 M.R.S. ch. 206-A, which includes sound planning and zoning, and with the standards and purpose of the D-PD Subdistrict (See 01-672 C.M.R. ch. 12, § 4(B)(1)(a), 4(C)(1)(p). "The purpose of the D-PD subdistrict is to allow for large scale, well-planned development," proposals for which the Commission will consider "provided they can be shown to be of high quality and not detrimental to other values" of the Commission's jurisdictional area. 01-672 C.M.R. ch. 10, § 10(H)(1). Whether a project is technically feasible and financially practicable is a particularly important consideration for a custom zone, such as a D-PD subdistrict, that will be specifically established for a single large-scale development project. A project that is not technically feasible and financially practicable is not a well-planned or high-quality development and therefore would not satisfy the requirements of 01-672 C.M.R. ch. 12, § 4(B)(1)(a) or 4(C)(1)(p).

a. To allow evaluation of the financial practicability and technical feasibility of the proposed project, provide the following:

   i. a more detailed financing plan for development of the metallic mineral mine that is a commercially reasonable method for financing a metallic mineral mining operation from start-up through to closure and reclamation;

   ii. information on the role of junior mining companies and major mining companies, and how each typically finance their roles in staking a claim, exploration, and development of a metallic mineral mine;

   iii. confirmation that Wolfden Mt. Chase LLC is a junior mining company; and

   iv. evidence that development of the Pickett Mountain Mine will be technically feasible and financially practicable with supporting documentation such as a Preliminary Economic Assessment.

9. Soil Suitability (Exhibit J)

   a. Submit a report from a certified soil scientist, based on a field survey, that indicates the soils onsite are suitable for the proposed use, or that any onsite soil limitations can be overcome with standard engineering practices.

   [Published soil maps available to LUPC Staff indicate soil suitability for proposed uses is limited, and therefore cannot be relied upon for a soil suitability determination.]

10. Public Services (Exhibit L or Appendix A, Section O)

   a. Provide letters from the Penobscot County Sheriff's Department, and Hughes Net (or another phone/cable provider) indicating that they can provide services to the facility.

11. Potential Impacts to Uses and Resources (Section B(3)(d))

   a. Update the Estimated Hydrologic Budget table with the current size of the developed area and revise results based on the larger developed area. The table does not appear to include the new size of the Tailings Management Facility, within which precipitation will be captured and then used in the beneficiation process.

   b. Provide confirmation from the reverse osmosis (RO) manufacturer that the RO units are capable of removing all the analytes showing an increase in concentration in the Halfmile Mine August 2019 samples.

   c. Provide additional information on where the samples were collected from, and who collected and analyzed the samples to produce the data in the Halfmile Mine Analysis of Metals in Water table.

   d. What is the function of the clean in place tank and how does it fit into the treatment flow for the wastewater treatment process? The diagram for the wastewater treatment process does not show any flow to this unit.

12. Existing Conditions (Appendix A, Section F)

   a. Submit a revised existing conditions plan (See Exhibit D-2) at a scale of at least 1"=100' and that shows streams, wetlands, and vernal pools mapped by a qualified professional at least at a reconnaissance level of mapping. Include a supporting report by the qualified professional describing the methodology used to prepare the map and discussing whether any other significant

wildlife habitats or S1/S2 plant communities were found on the site during the field reconnaissance.

13. Transportation (Appendix A, Section J)

    a. Provide evidence that landowners are willing to enter into a cooperative agreement for *road upgrades and maintenance*. The letter provided from H.C. Haynes indicates a right to use the off-site private roads for access but does not provide evidence of a right to improve and maintain the private roads.

14. Development Plan (Appendix A, Section R)

    a. The proposed development plan must be consistent with the LUPC's Land Use Districts and Standards (Chapter 10 of the LUPC's Rules and Standards) in terms, definitions, and standards; or the Development Plan will need to include new definitions and proposed standards. Improve the Development Plan by:

        i. Providing definitions for terms not defined in Chapter 10.

        ii. Providing standards for activities allowed by standard if none exist in Chapter 10.

        iii. Considering that determinations on whether an allowed use requires a permit (such as solar facilities and worker housing) must be consistent with DEP permit requirements.

    [Additional consultation with LUPC Staff on improvements to the Development Plan is recommended]

Please note that additional questions may arise during the Commission's continued review of the zoning petition. If you have any questions about the agency's additional information request or about the petition process, please feel free to contact me. I can be reached during normal business hours at telephone number 207-557-2535 or by e-mail at stacie.r.beyer@maine.gov.

Sincerely,

SRBeyer

Stacie R. Beyer
Planning Manager
Land Use Planning Commission

Enclosure

Excerpts from ZP 779, Pickett Mountain Mine Petition
With LUPC Highlights

Yellow highlights indicate statements or figures that may require updates based on the current proposal

5. ACREAGE.

Specify the acreage proposed for rezoning under "Acres to be Developed." If your petition to rezone is intended for subsequent subdivision, specify the acreage proposed to be retained by the petitioner under "Retained Acres." Specify the total amount of contiguous land area that is owned or leased by the petitioner within the township, town or plantation of the project area under "Total Contiguous Acres." "Total Contiguous Acres" should equal the sum of "Acres to be Developed" and "Retained Acres."

Acres to be Rezoned / Developed: **197.5**	Acres to retain current zoning: **6,947.5**	Total Contiguous Acres: **7,145** (by Deed)

6. SITE CONDITIONS.

Describe in detail the present condition of your property and areas to be rezoned, including the nature of any water frontage (rocky, sandy, wooded, cleared, etc.); the general slope and topography of the ground (flat, steep, percent slope, etc.); existing vegetation; the history of vegetation clearing and timber harvesting activities; hydrologic features, including whether portions of the site are subject to flooding or ponding; special natural features, such as rare or unique plants or plant communities; and other natural and cultural conditions.

Water Frontage: The area proposed for rezoning does not have water frontage. The area proposed to be rezoned is approximately 2.76 % of the total property. The balance of the Wolfden property (outside the area proposed for rezoning) includes Pleasant Lake and the western portions of Mud Lake and Pickett Mountain Pond. The water frontage of Pickett Mountain Pond is approximately 17,300 feet and wooded including adjacent areas outside of the Wolfden property. Combined Pleasant and Mud Lakes have a frontage of approximately 48,860 feet and are wooded including eastern Mud Lake which is outside the Wolfden parcel.

Slope and Topography: Topography within the area proposed for rezoning is gently sloping where development is proposed. Minimum slopes of 0.02 ft/ft to maximum slopes of 0.04 ft/ft (2%-4%). Area proposed is along a broad and relatively flat upland ridge. The remainder of the Wolfden property has a wide range of topographic conditions from flat lying forested and wetland areas around the previously mentioned lakes and streams, to a series of moderate mountain peaks, including Pickett Mountain to the south (el. 1,753 ft), a prominent ridge line in middle of the property (maximum el. 1,330 ft), to a series of unnamed ridges north of Pleasant Lake ranging from 1,146 ft to 1,100 ft. The steepest hill slopes are around Pickett Mountain which rises approximately 710 feet above Picket Mountain Pond at an average slope of 0.3 ft/ft.

Existing Vegetation: The area proposed for rezoning is primarily upland forested habitat, co-dominated by deciduous trees (i.e., beech, birch, and red maple trees) and coniferous trees (i.e., spruce, fir, cedar and hemlock). The area has been logged in the past and is currently in vegetative re-growth, while part of the area may be harvested during the development of the operation. It is presumed the forest habitat of the balance of the Wolfden property is dominated by similar deciduous and coniferous tree species.

Hydrologic Features: The area proposed for rezoning contains at least two intermittent streams associated with forested wetlands that have yet to be fully mapped and characterized. The Wolfden property includes lakes, ponds, and streams, including Pleasant Lake, Pickett Mountain Pond, Mud Pond, and West Branch of the Mattawamkeag River. Depth to groundwater is shallow, where observed and intermittent stream features are present as discussed further below. Groundwater hydrology has not been formally characterized. A moderate yield sand and gravel aquifer has been mapped on the northern side of Pleasant Lake.

Wetlands: During site reconnaissance within the area proposed for rezoning, wetlands, potential vernal pools, and intermittent streams were observed. A detailed wetland and vernal pool survey during the growing season and amphibian breeding season is planned for the Spring of 2020. The final design permitted by DEP will attempt to avoid or minimize to the extent practical impacts to these resources and mitigate unavoidable impacts. Within the balance of the Wolfden property, NWI mapped forested wetland and scrub-shrub wetlands are present surrounding drainages and streams associated with the lakes and ponds. Wetlands of special significance are also associated with areas between Pleasant Lake and Mud Lake and surrounding Mud Lake.

Special Natural Areas: Special natural areas have not been observed during site reconnaissance and the Maine Natural Area Program (MNAP) has prepared an environmental site review and identified no rare botanical features in the project area based on available data. Wolfden will work with the MNAP to document botanical features in the lakeside graminoid/shrub fen between Pleasant and Mud Lakes.

Natural and Cultural Conditions: A Phase 0 archeological survey will be conducted in the Spring of 2020. The scope of the survey has been developed in consultation with the MHPC to identify the potential presence of historic or prehistoric cultural features. A Phase 1 survey will follow if necessary.

7. CURRENT USE OF PROPERTY.

How has your property been used over the past ten years?

- ☐ Residential
- ☐ Residential with home occupation
- ☐ Commercial or industrial
- ■ Undeveloped / Forestry
- ☐ Public or institutional
- ☐ Other: _____

13. SURROUNDING USES.

A. Within one mile of the site, the area is forested and is currently in use for wood harvesting. In general, the area beyond one mile is surrounded by commercial forests. The site has been logged within the last 7 to 10 years and is in vegetative regrowth. Pickett Mountain Pond is within one mile of the site and Pleasant Lake (and nearby Mud Lake) are slightly beyond a mile. Maine Department of Inland Fisheries and Game surveys (1958 and 1953 respectively) indicate both are shallow mud bottom ponds with warm temperatures at all depths in summer months. The ponds did not have conditions supportive of cold-water fish species at the time of these surveys, but inlet and outlet streams (West Branch of the Mattawamkeag River, Pickett Mountain Stream and Spring Brook) provided spawning and nursing areas for trout. The use of these ponds and streams for recreational use is not restricted. There are a small number of seasonal residences around Pleasant Lake. Two residences are located within 675 feet of the southern shore, and four residences are located along the northern shore within 1,600 feet of the outlet to Mud Lake. These residences are from 1 mile to 1.6 miles from the closest border of the area proposed for rezoning. These are depicted in **Appendix A-Attachment B.**

B. Beyond the six seasonal residences / house lots depicted in Attachment B, there are no other residential or commercial enterprises or other established land uses proximal to the site. The Wolfden property is occasionally used for motorized recreation (ATVs and snow mobiles) and these uses foreseeably may continue outside the area of the future operations and any main access roads (although Wolfden reserves the right to assert its property interests against trespassers and assumes no liability for trespass on its property). Roads accessing private parcels within the Wolfden tract are established right of ways to these properties and their use will also continue.

15. CONSISTENCY WITH COMPREHENSIVE PLAN.

Consistency with the LUPC's Comprehensive Land Use Plan

The Comprehensive Land Use Plan (CLUP) provides for sound planning practices in the public interest to encourage and manage multiple uses of land and resources within the LUPC's jurisdiction. The following subsections describe how the proposed rezoning fits within the CLUP, and how the planned Pickett Mountain Mine project would meet the CLUP's goals and policies.

BROAD GOALS

The Pickett Mountain deposit is a unique mineral resource that is ideally situated to allow mineral extraction in an environmentally responsible manner through underground mining while ensuring the following:

- Enhancing the living and working conditions of the people of Maine including property owners and residents by creating an economic benefit in terms of capital investment, training, jobs and enhanced tax base within host and adjacent communities and counties.
- The proposed rezoning will meet the goal of separating incompatible uses. The area that is proposed for rezoning is currently a general management subdistrict (M-GN) that has been used for timber, and outside the proposed activity the logging operations can continue. The proposed rezoning will not impact any great ponds.
- The proposed project is designed to have a small foot-print (approximately 528.2 acres) with a comprehensive water management plan that will ensure protection of adjacent natural resources including groundwater and surface water quality, forest resources, wildlife and other natural resource values such as plant and animal habitat. The current information available indicates no known occurrences of endangered, threatened or special concern species within the project area. The IF&W also has not mapped any significant wildlife habitats within the project area. Based on current information from the MNAP, rare and exemplary botanical features are not present or not expected to be present in the area proposed for rezoning. The MNAP did identify a priority area for a botanical survey on the Wolfden property located between Pleasant and Mud Lakes. This area is a graminoid/shrub fen and a survey is planned to determine the whether or not rare plants or natural community types are present.
- The proposed project will allow continued use of forest resources related to logging for wood and fiber production on Wolfden's property.

DEVELOPMENT GOALS AND POLICIES

Location of Development

The Pickett Mountain Mine project location is dictated by the unique geologic conditions that resulted in the formation of a mineral deposit of economic value. As such there are no alternatives to the project location and the project is exempt from the policy of adjacency. The location and physical relationship of the mineralized zones to surrounding topography and water bodies allows the deposit to be developed by underground mining methods which when combined with carefully managed mine water collection and treatment systems will allow mine development, operation and closure without impacting water quality of these adjacent resources. The manner in which the project will be designed shall be subject to avoidance and mitigation, to the extent possible, of protected natural resources including but not limited to wetlands, vernal pools, rare and endangered species including plants and wildlife. Therefore, aside from adjacency, the project as proposed, meets the LUPC's development goals and polices with respect to project location.

The project is also unique in having a finite duration currently anticipated to be from 10 - 15 years. Therefore, unavoidable impacts to resources such as wetlands are ephemeral or short lived, and resource values and functions can and will be restored upon project completion. The reclamation of the proposed site will sequentially remove all buildings and structures including the water treatment systems when they are no longer required or needed. Once the access to underground workings are permanently sealed and the site is regraded and revegetated it will attain the natural character and values that existed prior to mining. An above ground sub-aerial TMF will remain at closure. The TMF will be designed with a liner in accordance with DEP Chapter 200 requirements. This area will contain tailings that have been stabilized and compacted and which could present some risk to the environment if not managed properly. These risks will however be managed by collection and treatment of water that comes in contact with these materials during operations and capping at closure. The higher sulfide bearing tailings will be stabilized and used as a structural backfill in the underground mine working and will not present any risk. The above ground TMF will be constructed and graded to follow the original upland land surface at an elevation approximately ten feet higher over approximately 42 acres. This approach will preserve the current appearance of the ridgeline post reclamation. This area will also be revegetated and designed to allow regrowth of natural ground cover as discussed in later sections of this Petition.

Thus while meeting many of the goals related to location of development, the project is also consistent with and meets CLUP polices including:

Policy 1 Development that is directed to a suitable area and retains the principal values including a working forest, and integrity of natural resources.

Policy 2 The project location is near existing towns (the nearest community being Hersey (4.5 miles) and Patton (9.5 miles) with proximity and connectivity by public roads to other organized town and economic centers, with adequate available public infrastructure and services.

Policy 7 Project allows for (a) planned development dependent on a particular natural feature which is the presence of a metallic mineral resource.

Economic Development

One of the CLUP's goals is to encourage economic development that is connected to local economies, is efficient in its use of existing services and infrastructure and is compatible with existing natural resources and surrounding land uses.

The project will provide direct and substantial economic benefit to the local communities (see **Appendix A-Attachment N**). This benefit is in the form of job skills training, primary wages to local employees, wages that are spent in the local economy, an increase in property tax revenue, and indirect wages at secondary jobs that help support the mining operations (mechanical equipment repair, vehicle maintenance, road maintenance, solid waste management, and other specialized services).

The site is in vegetative regrowth from past logging efforts that are estimated to have occurred from 7 to 10 years ago. Wolfden actively leases its timber rights to a local logging company, preserving productive use of its working forests. The proposed development will be largely self-sufficient and not impose an undue burden on local community services or resources (see **Appendix A-Attachment O**). The project will require importation of approximately 6 megawatts of electrical supply which is larger than is currently available locally. This will require construction of approximately 14.6 miles of new transmission line along Route 11 and the existing private gravel access road.

The project occupies a largely upland area removed from adjacent lakes and ponds and would not impact water quality of such water bodies or affect related fish and wildlife resources during the active period of the project. Plants and natural communities that are located outside of the proposed area of land disturbance would not be impacted. If rare and exemplary botanical features are identified on-site in subsequent surveys impacts will be avoided to the extent possible, and such plant communities would be relocated or protected pending concurrence with the MNAP. The planned grading of the TMF will limit ridgeline impacts which will help mitigate scenic impacts. The presence of cultural resources, including historic logging camps and related structures are not known to be present on the site. A Phase 0 archeological survey will be conducted in the spring of 2020 to assess the presence of cultural features. The Phase 0 survey will also evaluate the potential for prehistoric archeological resources. A known prehistoric archeological site is in close proximity to the east end of Pickett

Pond. Since the extent of the site is limited in size, other mountain areas and other geologic resources would not be impacted.

The site is not in a remote area of the jurisdiction, being located approximately five miles from state highway SR-11 and is accessed by well developed, existing gravel roads on private property. The planned development of the site will occur along a portion of a ridgeline and at project completion the final profile of the ridgeline would be elevated approximately 10 feet from existing ground surface and parallel to the original profile. This slight alteration should not diminish overall character of the area and regrowth of vegetation common to the area is expected as part of the reclamation.

In addition to these goals the project also meets many elements of the CLUP's policies including the following items:

Policy 1 Encourage other resource-based industries and enterprises which further the jurisdiction's tradition of multiple use without diminishing its principal values.

Policy 4 Allow new technologies (sub-aerial tailings) which will provide the LUPC the opportunity to evaluate the technology and its effectiveness.

Site Review

A goal of the CLUP is to assure that development fits harmoniously into the existing communities, neighborhoods and the natural environment.

The nature of the proposed project, its location and the proposed reclamation, as discussed in following sections, would ensure a harmonious relationship to the natural environment and local communities.

In addition, the project will meet established noise and lighting requirements of the CLUP as specified under section 10.25F.

Noise. The maximum permissible continuous sound pressure level allowable in a D-PD district is determined by the LUPC. Specified maximum sound levels range from 70 dB(A) in daytime (7 AM to 7 PM) to 65 dB(A) at night (7 PM to 7 AM) for certain subdistricts (commercial-industrial for example) to 55 dB(A) and 45 dB(A) for all unspecified subdistricts. Construction activities conducted between 7 AM and 7 PM are exempt from 10.25F. Other exempt activities include but are not limited to safety and warning signals, traffic on roadways, etc.

During the mine construction phase, noise will be created from construction equipment operating above ground, including drilling and minor blasting. Once the underground development has progressed, blasting will be occurring below ground and will no longer be a source of noise above ground.

During mine operations, the noise source with the largest pressure levels will be the fans used to ventilate the underground workings. Rock crushing is also a source of noise but less so than the ventilation fans. Once crushed, the final milling of the mineralized rock is conducted within a building and is not a large source of noise. The ventilation fans will typically produce 110 decibels (dB) and can be dampened up to 20% to operate at approximately 88 dB.

Reduction in pressure levels with increasing distance from a source is described by an inverse square law. The most conservative assumption would a free field where sound is traveling over an unobstructed plane with no barriers between the source and receptor. Barriers that would exist at the site include buildings and tree lines. Sound is also dampened (absorbed) by the ground and vegetation.

Assuming a free field condition (unobstructed path) reduction in sound would be described as:

$$dL = Lp2 - Lp1$$

$$= 10 \log (R2 / R1)^2$$

$$= 20 \log (R2 / R1)$$

where

dL = difference in sound pressure level (dB)

Lp1 = sound pressure level at location 1 (dB)

Lp2 = sound pressure level at location 2 (dB)

R1 = distance from source to location 1 (ft, m)

R2 = distance from source to location 2 (ft, m)

A "free field" is defined as a flat surface without obstructions.

Assume L1 is 1 foot from the source at measured decibels

The nearest property boundary from the preliminary location of the ventilation fans is approximately 3,000 feet to the south, near Fire Road C. The nearest residence is approximately 8,850 feet to the northeast, on the south side of Pleasant Lake. Applying this equation yields the following reduction with distance from the source.

							Nearest Property Boundary			Nearest Residence
Source dB	110	110	110	110	110	110	110	110	110	110
L1 (ft)	1	1	1	1	1	1	1	1	1	1
L2 (ft)	1	10	100	500	1000	2000	**3000**	4000	5000	**8550**
dl=	0.0	20.0	40.0	54.0	60.0	66.0	69.5	72.0	74.0	78.6
Receptor dB	110.0	90.0	70.0	56.0	50.0	44.0	40.5	38.0	36.0	31.4
With 20% Dampening	20%									
Receptor dB	88.0	68.0	48.0	34.0	28.0	22.0	**18.5**	16.0	14.0	**9.4**

As noise sources can be sometimes unpredictable, confirmatory work for noise in the surrounding area are scheduled to be completed for the next stage of study and permitting. This study will be performed through several avenues and will justify the table above. This study will include a review of similar projects sites related to noise generation and carry as well as a desktop model of noise generation and projection using dampening impacts from trees and hills, etc. The proposed noise prediction model will be developed using the Cadna/A software published by DataKustik GmbH or equivalent software configured to implement ISO 9613-2 environmental noise propagation algorithms.

Calculated Sound Pressure Levels from Source (unobstructed path)

1. Ventilation Fans - Without dampening the underground ventilation fans, the expected sound levels at the property boundary and nearest residence are below sound levels for "all unspecified subdistricts". Wolfden intends to use enclosures and other means to dampen the source noise levels. Given the presence of other dampening factors (buildings, vegetation and tree lines), a conservative estimate of noise levels at the property line and the nearest seasonal residence (1.1 miles) indicates that expected noise levels will be very low at approximately 31.4 dB. It will be considerably lower at 3 miles, perhaps even undiscernible unless there is a wind from that direction. A value of 10 dB is commonly cited as the noise level of normal breathing.

2. Blasting **- I**nvolves the drilling holes into rock then charging or loading the holes with a specified amount of explosives that are numbered according to a firing sequence. When detonated, the firing sequence controls which holes "fire" or detonate in order to distribute the energy throughout the rock in a balanced controlled manner. The overall blasting process during the construction and development phase at Pickett Mountain is as follows:

    - Excavation of overburden and loose rocks from the footprint of the portal.

- Drill a blasting pattern (Typically 3′ x 3′ square pattern) with 4.5″ drill holes for desired blast. Typically, larger excavations such as portal can take 2 – 3 blasts to complete in a very controlled manner.
- Clean all of the holes and measure for accuracy.
- Load explosives and detonators into the holes at design levels and quantities.
- Clear property with sign outs and guards.
- Sound appropriate warnings and alarms
- Detonate the blast.
- Check over the blast to ensure proper detonation and fracturing
- Excavate fractured rock to waste rock storage pad.

It is worth noting that open-air blasting to commence the access (portal) for the underground workings is only expected to last two or three weeks. Once underground, (after two to three more weeks) sound from the underground blasting will no longer be heard at the property boundary.

Lighting. Within the plant operations area, all above ground exterior lights greater than 60 watts or incandescent lights greater than 160 watts will be housed in downward facing full cut-off fixtures as specified in CLUP Standards under 10.25F. Other sources of light will include vehicle headlights and building interior lighting.

In addition, the project would meet other CLUP policies including the following items:

Policy 1(a) A buffer would be established around the proposed area of rezoning and would be far removed from other land use activities. At closure of the project the ridgeline where the TMF is located would be elevated approximately 10 feet above its current topographic profile. Once reclaimed and vegetated this will be a minimal change to the natural appearance of the landforms at the site.

Policy 1(b) The project will provide for parking at the mine operations site and the transportation routes, described in **Appendix J** would not adversely affect traffic circulation.

Policy 1(c) The only signage visible to the public associated with the project would be for transportation safety at the location where vehicles egress and exit from SR-11 to private roads.

Policy 2 The project final design will be permitted through the DEP and efforts will be made to minimize impacts to the principal values of the jurisdiction including avoidance and mitigation of impacts to protected natural resources.

Infrastructure

The project meets the CLUP's goal of ensuring that infrastructure improvements are well planned and do not have an adverse impact on the jurisdiction's principal values. These improvements will include upgrading existing gravel access roads located on private lands and the intersection of the private road with State Highway 11 for public safety purposes. The project will also, separate from this Petition, establish a new power transmission service line to supply additional needed electrical power for the project.

The power transmission route has been discussed with Emera Maine and would run from their substation located on Route 11, located approximately 0.6 miles south of downtown Patten, Maine. The transmission line would run north and northeast along Route 11 for approximately 9.5 miles then follow the same gravel access road proposed for the mine for approximately 5.1 miles. The access road upgrades to be considered in the design for the permit application submittal will be developed concurrently with the transmission line design.

The project also meets other CLUP policies including the following items:

Policy 1 To consider the capacity of existing infrastructure and services to accommodate proposed development. It is Wolfden's objective that primary workforce be employed locally from residents. This will require training for that work force since many unique skills are required of miners working underground. The mine will employee approximately 60 workers, composed of 30 workers per shift with two shifts per day. With a local workforce, the imposition on existing infrastructure and services (housing, schools, roads, medical facilities, fire, police, solid waste, and municipal) is minimized since this population is already using these services. An analysis of the capacity of these services in the local communities is provided in **Appendix A- Attachment O**.

Policy 2 The project will not require construction or establishment of any new public roads that would degrade the natural character of remote areas.

Policy 3 The new utility lines, principally electric power transmission, will be located or co-located within or adjacent to existing utility or public road rights of way to the extent practicable. Where new utilities cannot be established along existing utility corridors, they will be designed to minimize visual and physical impacts that would degrade natural values of the area. The areas contemplated would not be considered remote and would be near or adjacent to existing private roads.

Policy 5 Although not highly visible, infrastructure at the Site (buildings, water collection and treatment ponds, soil stockpile areas or pens) would be decommissioned, dismantled and removed at the end of the project as part site reclamation. The land surface once occupied by these buildings would be regraded and returned as close to original grades as possible.

Development Rate, Density and Type

The project will be constructed in accordance with plans approved by the DEP with input from LUPC. Since the project will be constructed in one phase the density and type of structures will be known and with input from the LUPC, will be consistent with the jurisdiction's principal values and policies concerning development.

Affordable Housing

The project does not involve construction of housing but as described in **Appendix A – Attachment O** the local employment anticipated by the project will provide employee wages sufficient for those employees to afford available housing in the local market.

Land Conservation

The project will support the long-term conservation of select areas of working forests in the project area as well as protecting high-value natural resources such as surface water bodies, streams, wetlands, vernal pools, flora and fauna. The manner in which these natural resources shall be protected is discussed in **Section B (3)(d)**. Wolfden will continue to work with local logging companies to manage and allow harvesting of forest resources on its property.

The project would meet the CLUP's land conservation policy:

Policy 1 Wolfden has developed cooperative working relationships with local landowners and local timber companies, to ensure continued use of its working forest resources and help maintain public access on private roads to access lakes within its property.

Natural and Cultural Resources and Policies

Air and Climate Resources

The project will not adversely affect air quality since dust will be controlled and processes that utilize chemicals that would be considered air pollutants are not used. On-site emission

sources will be limited to motorized heavy machinery and vehicles for above ground and underground mining related activities.

Rock crushing operations are a potential source of dust, but adequate provisions will be provided for dust management and control. Dust suppression is an important operational safety concern below ground in the mine. Blasted rock is mucked out wet to eliminate dust underground. Rock placed into the crusher is therefore wet and that moisture greatly reduces dust during crushing operations. If dust becomes an issue, dust collection equipment can and would be installed above the crusher and removed via a bag house filter.

Cultural, Architectural and Historical Resources

The Maine Historic Preservation Commission (MHPC) has been consulted and due to the presence of archaeological site 147.001 (MHPC Archeological Survey report 2719- E.C. Jordan 1984) at the headwaters of Pickett Mountain Pond a Phase 0 Archeological survey will be conducted in Spring 2020 as discussed in **Exhibit M.** The scope for the Phase 0 survey has been developed in consultation with the MHPC and is presented the Exhibit M. By working cooperatively with MHPC, the project will meet the CLUP's goal of protecting archaeological and historical resources of cultural significance.

These activities will meet the following CLUP policies:

Policy 1 Identify and protect unique, rare and representative cultural resources to preserve their educational, scientific and social values.

Policy 2. Collaborate with other agencies in efforts aimed at the protection of cultural resources.

Policy 3. Complete an archaeological survey as part of this development proposal.

Energy

The project will further the CLUP's energy goals through designs that favor and incorporate energy efficiency and utilization of technologies such as heat pumps to assist heating and cooling at above ground facilities, when possible. The project will require a new transmission line to provide the needed energy requirements. The project will of course require emergency back-up power in the form of generators, but these would be used only when needed. Any new energy generation will be used exclusively for the project.

Forest Resources

As discussed in **Section B (3)(d)** and **Appendix A-Attachment Q** the project footprint will require only 57 acres of actual development. Only the area occupied by the dry TMF (approximately 42 acres) will be excluded as a future forest resource for lumber and fiber production. Upon final reclamation, all other areas (approximately 15 acres excluding roads) will be returned to current conditions. The balance of Wolfden's property will be accessible for timber harvest, thus meeting the CLUP's goal to conserve, protect and enhance the forest.

The specific policies items that are supported by the proposed project include:

Policy 1 Encourage active forest management.

Policy 2 Support uses that are compatible with continued timber and wood fiber production, as well as biodiversity.

Policy 3 Protect areas identified as environmentally sensitive.

Policy 5 Support efforts by landowners to manage vehicular access to private roads when necessary to reduce land use conflicts.

Policy 9. Encourage the use of Maine's best management practices for forestry on its land.

Geologic Resources

The LUPC has established goals of conserving soil and geologic resources by controlling erosion and protecting areas of significance. The CLUP's goal with respect to mineral resources is to allow environmentally responsible exploration and mining of metallic and non-metallic mineral resources where there are not overriding, conflicting public values which require protection.

The Pickett Mountain Site is under extensive exploration for mineral resources and there are no identified important natural geological formations, or geologic hazards such as seismically active faults, high elevations or steep slopes subject to instability or erosion. Based on visual inspection the area proposed for the project features nearly level to gentle slopes with high percentage of vegetative cover and organic matter, and moderate to deeply rooted vegetation in glacially derived soils with a shallow water table. Fragile soils, most subject to erosion, are not known to be present.

As discussed in **Attachment J**, site access is by existing gravel roads that are currently used for logging operations and which are in good condition. Any modification or improvement of these roads will be completed in accordance with a sedimentation and erosion control plan that will be developed during the mine design and permitting phase under DEP rules. Based on current information, soil types are suitable for proposed development, though detailed high intensity soil mapping and geotechnical investigations will be required prior to final design of buildings and the sub-aerial TMF. Any modification of roads or the one existing stream

crossing (outlet from Pickett Mountain Pond) would be completed in conformance with Land Use Standards enumerated in Chapter 10.27D.

The proposed metallic mineral mining would occur only within the area rezoned for planned development and would not adversely impact competing uses and public values. The proposed facility would minimize water, air, land, noise and visual pollution through operations described in **Section B (3)(d)** and **Appendix A-Attachment Q,** These operations will not affect public safety and health, and will avoid undue adverse impacts on fisheries, wildlife, botanical, natural, historic, archaeological, socioeconomic and other values. The proposed mining operation provides distinct economic and social benefits and would not pose undue burden on existing services as described in **Attachments M, N and O.**

The project will be subject to a long-term post closure monitoring and maintenance program subject to the requirements of DEP Chapter 200 rules and including reclamation of the mine site to restore natural values and protect public health and safety and allow beneficial reuse of the majority of the property.

Specifically, the project would support the following policy items pertaining mineral resources:

Policy 6 Exploration for mineral resources with minimal disturbance to natural and cultural resources.

Policy 9. Permit a major metallic mining development in an area zoned for planned development, which broadly considers impacts and benefits, competing uses and public values.

Policy 10. Regulate the mining operation to minimize water, air, land, noise and visual pollution, to ensure public safety and health, and to avoid undue adverse impacts on fisheries, wildlife, botanical, natural, historic, archaeological, socioeconomic and other values.

Policy 11. Complete effective monitoring and reclamation of the mining site to protect public health and safety and to promote beneficial reuse where feasible.

Plant and Animal Habitat Resources

The proposed mining activity is not within areas known to contain unique, threatened or endangered plant or wildlife resources and will be able to meet the CLUP goals and policies to preserve and protect aesthetic, ecological, cultural and economic values of plant and wildlife resources. The area proposed for development is primarily upland forested habitat, co-dominated by deciduous trees (i.e., beech, birch, and red maple trees) and coniferous trees (i.e., spruce, fir, cedar and hemlock). The area has been logged in the past and is currently in vegetative re-growth. The proposed mining activities are within an area that is actively logged and would have a lesser short- and long-term effect on habitats than current logging practices.

Since the area is relatively small compared to the surrounding woodland habitat it should not have a negative effect on connectivity of habitats in the area. Wolfden has received preliminary correspondence from the Maine Department of Inland Fisheries and Wildlife concerning potential habitats supporting Rare, Threatened or Endangered (RTE) species. Based on work completed to date habitat supporting rare, threatened, or endangered species are not known to be present in the area. Also, unique habitats such as deer wintering areas, great blue heron nesting sites or habitat for bats, were not observed. Wolfden plans on conducting delineation of wetlands and vernal pools in spring 2020 will at that time conduct a final assessment for potential RTE species.

Wolfden has also met with staff of the MNAP. There is one area, a fen, between Pleasant and Mud Lakes that MNAP has identified as a priority site for a botanical survey. This area is far removed from the proposed site and would not be adversely affected by proposed activities and is outside the area proposed to be re-zoned. The MANP environmental review for the project is presented in Exhibit N. Based on current information RTE plants are unlikely to be present in the upland areas proposed for rezoning. Wolfden plans on conducting additional evaluation in spring 2020 in consultation with the MNAP and if plant resources requiring protection are identified, Wolfden will make appropriate accommodations to avoid impacts where possible.

Specifically, the policy items that would be met by the project include:

Policy 1. Coordinating with and supporting agencies in the identification and protection of a variety of high-value wildlife habitats, including but not limited to: habitat for rare, threatened or endangered species; rare or exemplary natural community and ecosystem types; native salmonid fish species; riparian areas; deer wintering areas; seabird nesting islands; waterfowl and wading bird habitats; and significant vernal pools.

Policy 2. Conduct land use activities that are protective of sensitive habitats, including but not limited to habitats for fish spawning, nursery, feeding and other life requirements for fish species.

Policy 3. Develop the site in a manner that retains connectivity of habitats and minimize road mortality of wildlife by promoting road building practices that facilitate wildlife movement and by directing development to appropriate areas.

Policy 5. Protect wildlife habitat in a fashion that is balanced and reasonably considers the management needs and economic constraints of project owner (landowner).

Policy 7. Encouraging sustainable land use (forestry management) over much of the Wolfden parcel which will contribute to maintaining a large tract of undeveloped land, with ecological significance that is important locally to healthy plant and animal populations.

Recreational Resources

See Section 19 of this Petition for a discussion of recreational resources.

The specific recreational resource policies of the CLUP that would be met or supported by the proposed project include:

Policy 6. Cooperative efforts that assure continued public access across any rights of way on Wolfden's property (excepting reasonable restrictions on certain roads that lead to the mine site, if needed for public safety).

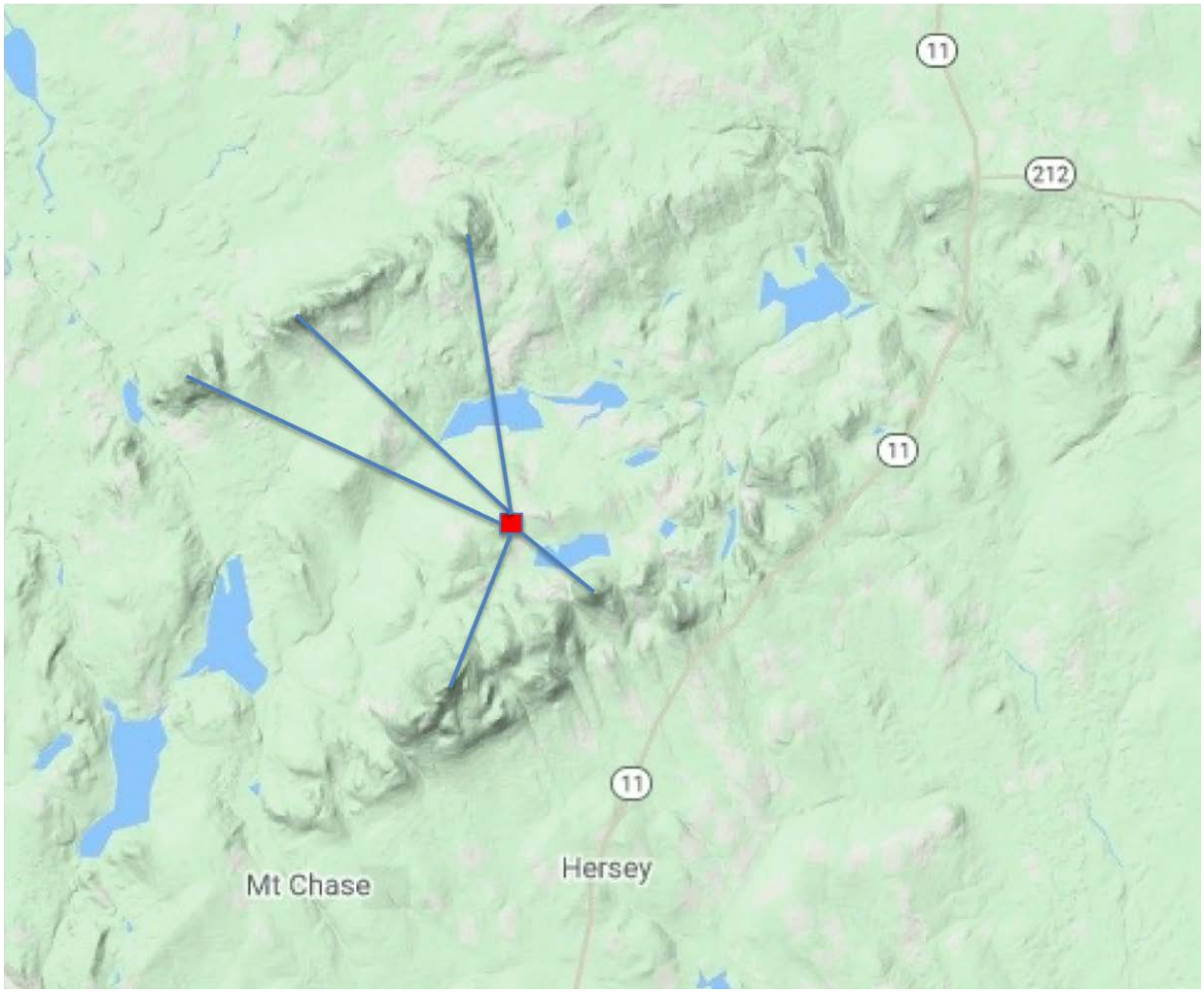
Policy 7. Efforts on the part of Wolfden that ensure continued public access to public waters .

Policy 8. Responsible use of Wolfden's property.

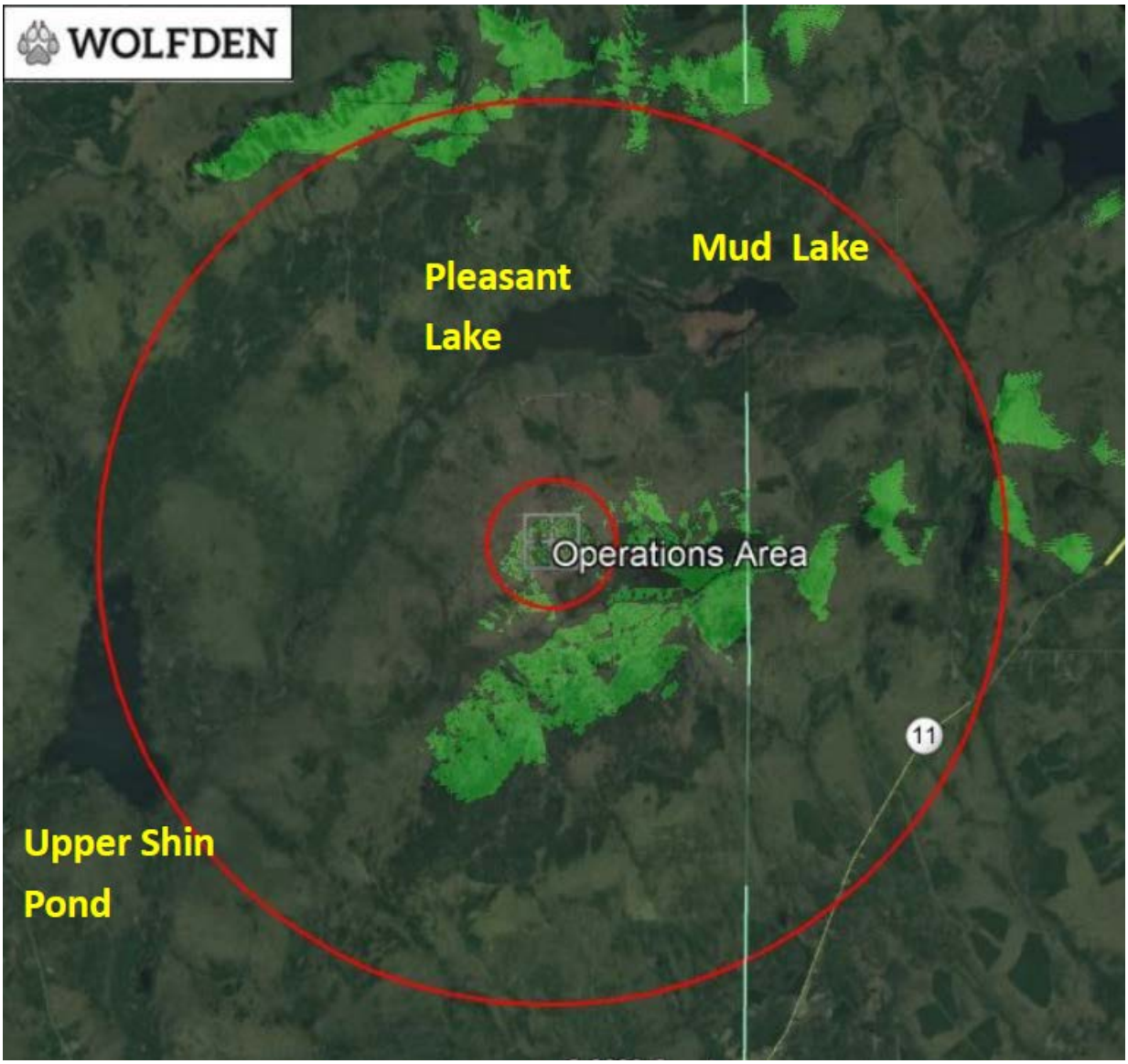
Scenic Resources

The topography surrounding the site provides the area proposed for rezoning a high degree of visual screening from public roads (Route 11 and Route 159) and the established high use recreation areas located to the west of the site. The area proposed for rezoning has a prominent ridgetop immediately west of the areas where proposed buildings would be constructed screening those buildings from view from that direction. A ring of higher elevation peaks is present south of Picket Mountain Pond and north and west of Pleasant Lake. While an unobstructed line of site exists from Pickett Mountain Pond, Pleasant Lake, Mud Lake and Grass Pond, the visibility of the site would likely be obscured by tree lines that would be left in place around the developed areas. The most visible portion of the site would be the northern and northeastern corners of the dry stacked tailings area.

The landforms surrounding the site are complex rolling hills and moderate elevation mountain peaks with mixed forests, that would be more tolerant to visual impacts from the site. Based on the topography, landforms and forested nature of the area, the proposed site is a reasonably harmonious fit with the surrounding environment and generally meets the CLUP's goal of protecting the high-value scenic resources of the surrounding area.



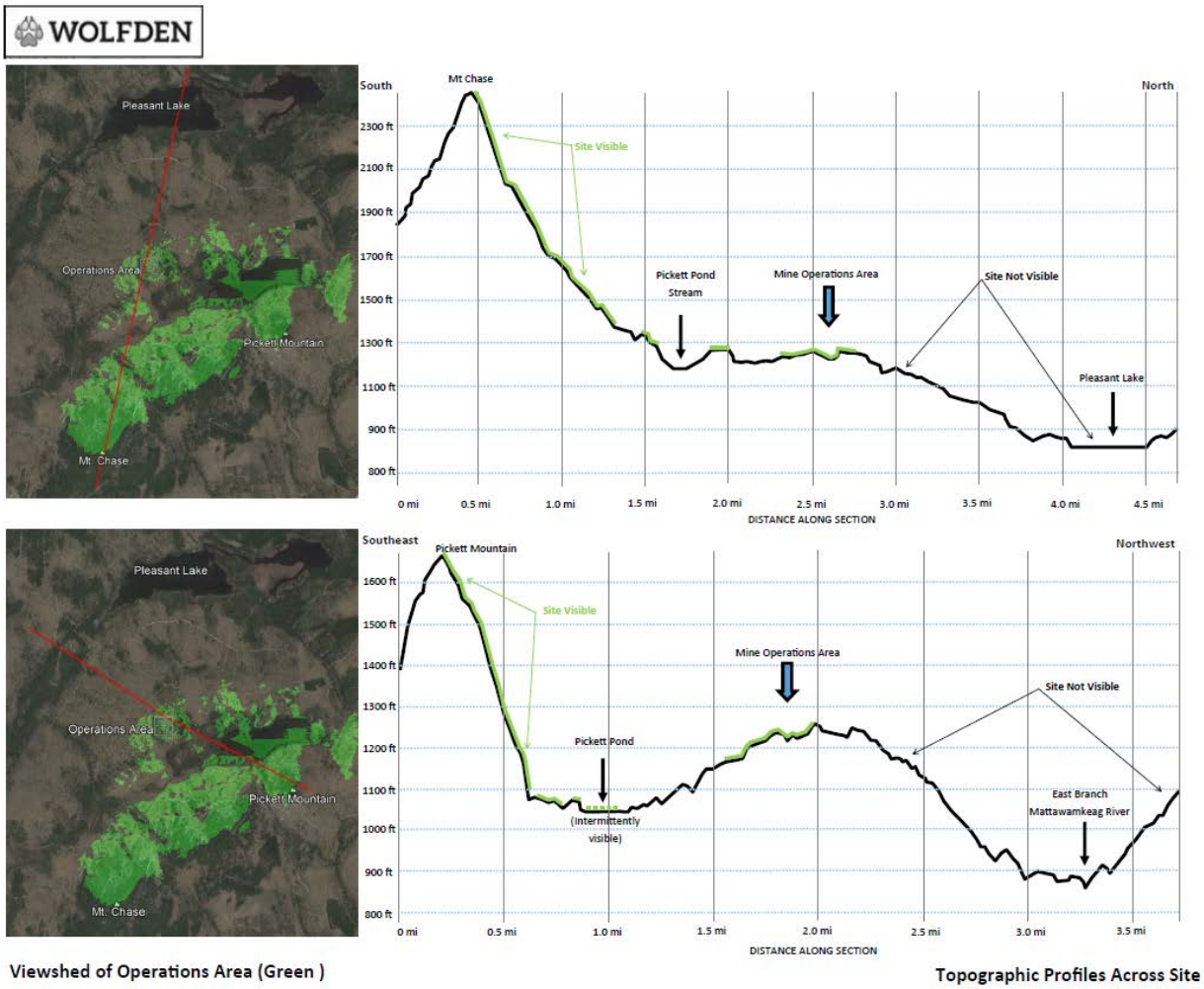
Peaks Surrounding Pickett Mountain Project Site



Three Mile Radius Analysis

The inner circle of the image above represents a 0.5 mile radius which encompasses the proposed site boundary. The outer circle is a 3.5 mile radius to show a net 3 mile radius from the boundary of the property. The view height is 10 meters above ground level (average tree height) therefore the highlighted areas (and those highlighted on surrounding peaks map) are potential areas with a line of site to the property. It should be noted, that to obtain a line of site to the property from the surrounding areas, one has to be above the tree line to have an unobstructed view. The property will not be visible from anywhere along Route 11 nor from any State park or State managed trail. There are no official trails within the proposed area, however, within a 3.0 mile radius of the site boundary, there are several ATV, snowmobile and hiking trails as shown in attachment L. Hiking trails are along the south face of the mountain belt and a snowmobile/ATV trail travels along the north face of the mountain belt. Based on the sections

below, trails that are travelled along the north face of Mount Chase are likely to have visual line of site to the property if standing on a cleared area. The tallest building on the property is estimated at 60 feet tall and would rise above the tree line and therefore would be the visible point.



Viewshed Sections

Water Resources

Appendix A Section B(3)(d) provides a discussion of Potential Impacts to Existing Uses and Natural Resources and provides an overview of mine water management, involving the collection and treatment of precipitation that contacts mined rock materials and tailings. The project description in Section 4 of this Petition describes the operations and reclamation phases of the project. Collectively these environmentally responsible mine-management practices would prevent degradation or impacts to groundwater and surface water and protect water quality in adjacent aquatic habitats including wetlands, vernal pools, streams, lakes and ponds.

These actions would meet the CLUP's goal of protecting the quality and quantity of surface waters and groundwater.

The project will have no direct impact on shorelands since the project location is removed from such features.

The specific CLUP policies that will be advanced through the planned development and regulatory framework include the following:

Policy 1 Regulate uses of land and water in order to prevent degradation of the jurisdiction's excellent water quality and undue harm to aquatic habitat.

Policy 2 Protect the recreational and aesthetic values associated with water resources.

Policy 4 Conserve and protect lakes, ponds, rivers, streams and their shorelands, which provide significant public recreational opportunities.

Policy 8 Control land uses on identified aquifers and their recharge areas in order to prevent adverse effects on water quality or quantity

Policy 10 Protect ground water quality throughout the jurisdiction through proper controls on potentially polluting activities.

Policy 12 Conserve the quality and quantity of public and certain private water supplies by managing land use in source protection areas.

Wetland Resources

See Appendix A Section B(3)(d) of this Petition for a discussion of wetland resources.

The specific wetlands resource policies of the CLUP that would be met or supported by the proposed project include:

Policy1 Support the nationwide goal of no net loss of wetland functions and values by avoidance or minimization of impacts.

Policy 2 Provide compensation to offset loss or degradation of wetland functions, while recognizing that such losses may not be avoidable in every instance.

Policy 3 Plan development to avoid alteration of wetland areas. If avoidance is not feasible, ensure that development minimizes alteration. If loss of wetland functions is unavoidable, require actions to restore, reduce or gradually eliminate lost or degraded wetland functions. If necessary, require compensation for lost or degraded wetland functions through protection of wetlands of equal or greater value.

B(3)(d) Potential Impacts to Existing Uses and Natural Resources

Introduction

The following subsections present an assessment of potential for impacts to natural resources including forest resources; historic sites; wildlife and plant habitats; scenic resources; water resources; and recreation resources.

A significant component of this discussion is dedicated to surface waters (ponds and streams) and groundwater since these are the resources most vulnerable during the development, operation and closure of the Pickett Mountain mineral deposit. This evaluation discusses the nature of the water resources including the relationships between topography, location of groundwater divides, areas of groundwater recharge and groundwater discharge. An initial estimate of an overall hydrologic water balance for the site is also provided.

The mine development, operation and closure strategy is predicated on protecting these water related resources. Therefore, a discussion of this overarching strategy is presented after discussion of the resources and addresses how these resources will be protected.

This information is followed by a general discussion of the Pickett Mountain mine development, operation and closure strategy and the management of mine-related waters. Those approaches, as well as the physical setting of the mineral deposit provide the means for mitigation of potential impacts to water resources.

Surface Water Resources and Groundwater

The following sections describe the physical setting, surface water, groundwater hydrogeology and groundwater resources.

Physical Setting and Surface Water Resources

The Pickett Mountain Deposit is situated beneath a portion of an approximate 2.7 mile long ridge with moderate elevations ranging from 1,360 to 1,140 feet (west to east). The ridge is bordered to the south by Pickett Mountain Pond, to the east by Tote Road Pond and Grass Pond, and to the north by Pleasant Lake and Mud Lake. Pickett Mountain Pond flows through an unnamed stream to Grass Pond and hence north to Mud Lake and the West Branch of the Mattawamkeag River. Pleasant Pond flows easterly to Mud Lake. Tote Road Pond outlets to a stream that flows easterly to Hale Pond and hence northerly through Green Pond to an unnamed stream that also joins the West Branch of the Mattawamkeag River.

The various lakes and ponds have the approximate following acreages:

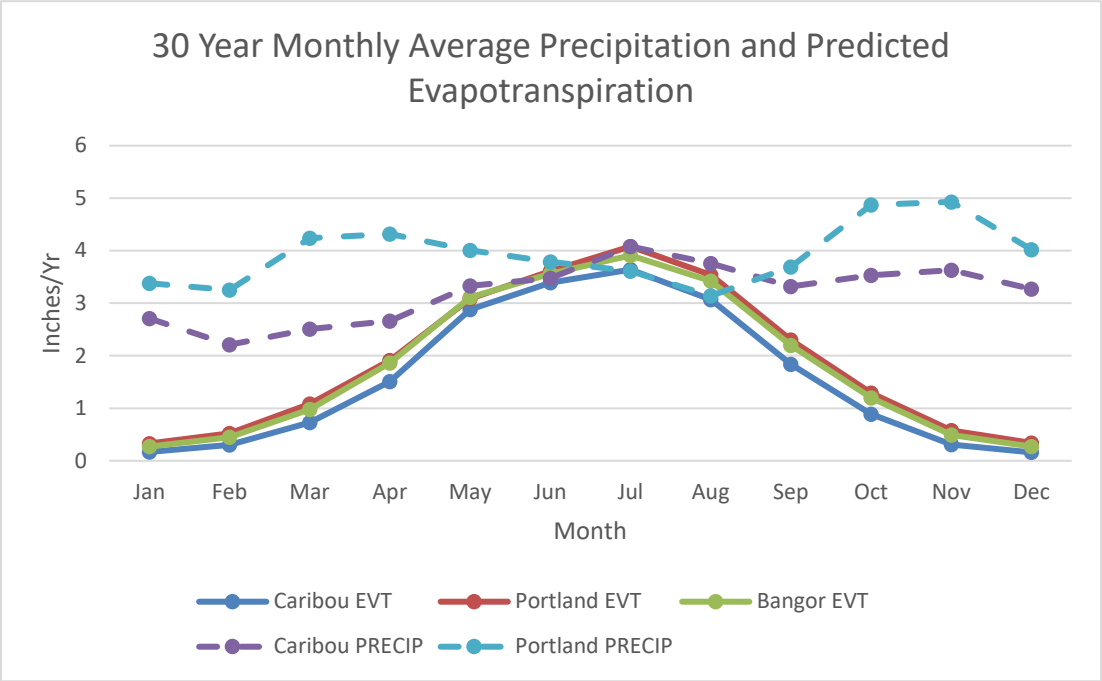
Pickett Pond	173 acres
Grass Pond	42 acres
Pleasant Lake	310 acres

Mud Lake	188 acres
Tote Road Pond	28 acres

The ridge occupying the Pickett Mountain Deposit is bordered by higher elevations to the south including Mount Chase, Long Mountain and Pickett Mountain and to the north by Hay Brook Mountain, Roberts Mountain and Green Mountain. Another intervening ridge of similar elevation is present north of the West Branch of the Mattawamkeag River, where it enters the west side of Pleasant Lake. Surface water drainage and shallow groundwater discharge from the southern slope of this intervening ridge and Green Mountain contribute groundwater and surface water flows along the north side of both Pleasant and Mud Lakes. Prior field observations including surface water temperature measurements indicate the presence of groundwater seeps that flow into Pickett Mountain Pond and the stream flowing from it. Long and Pickett Mountain to the south, also contribute to groundwater and surface water inflows to Pickett Mountain Pond.

Groundwater Hydrogeology

Based on subsurface drilling conducted during mineral exploration activities, the site is characterized by relatively thin glacial deposits which mantle bedrock with moderate to steep slopes. Within margins of intervening valleys stratified glacial deposits are potentially present. Groundwater and surface water divides are expected to be controlled by topography and groundwater flow direction should mimic topography. **Attachment I** provides a depiction of the anticipated groundwater and surface water divides, and indicates anticipated groundwater flow directions. Based on studies of similar geologic and geographic settings (Gerber and Hebson, 1996) and historically averaged precipitation data (http://www.nrcc.cornell.edu/wxstation/pet/pet.html), the site is anticipated to receive approximately 45 inches of total annual precipitation (see figure below). Recharge to groundwater (Net precipitation minus evapotranspiration) will result in overburden groundwater and shallow bedrock groundwater recharge and groundwater flow toward surface water bodies including lakes, ponds and streams.



Average Precipitation and Evapotranspiration Rates Across Maine

The majority of shallow groundwater recharge is in spring and fall when temperatures are above freezing and evapotranspiration rates are lowest, and precipitation highest as depicted in Exhibit 1. The majority of recharge will be too shallow (possibly perched) and deeper overburden groundwater with a smaller amount of recharge to bedrock groundwater, typically in the range of 2-10% (Gerber and Hebson, 1996). The amount of recharge typically increases toward the top of the topographic highs due to increased vertical gradients, with lower recharge rates down slope toward groundwater discharge areas. This shallow groundwater will form the base flow of groundwater recharge to surface water.

The hydraulic conductivity of silty glacial tills is typically low (< 1ft/day). Therefore, the movement of overburden groundwater at the site is expected to be slow (< 0.2 ft/day) given anticipated hydraulic gradients, which should approximate the slope of the hill slope from the site to Pickett Mountain Pond (0.05 ft/ft). The slow groundwater migration rates and large distances to surface water bodies from the site (3,500 feet to Pickett Pond and 6,500 feet to Pleasant Lake afford a high degree of protection to surface water resources.

Significant Sand and Gravel Deposits

A surficial deposit with good to moderate potential yields is mapped along the northern side of portions of Pleasant and Mud Lakes (**Attachment I**). Based on topography and subsurface drainage basin boundaries indicated on the Significant Sand and Gravel Aquifers Map of the Green Mountain Quadrangle (MGS Open File No. 01-75 2001) surface water divides are generally coincident with groundwater divides. This significant sand and gravel deposits therefore do not receive recharge or run-off from site (i.e., the north facing portion of the ridge that contains the Pickett Mountain Deposit) and would not be affected by the proposed project.

Hydrologic Water Budget - Overburden and Bedrock Groundwater Resources

A surface water and groundwater divide occur along the ridge separating surface water and groundwater flow to Picket Mountain Pond and Pleasant Lake (Attachment I). The drainage sub-basin occupied by this portion of the ridge occupies approximately 3,330 acres (830 acres south of the divide and 2500 acres north of the divide). On average it is expected that 42% of precipitation is lost to evapotranspiration and run-off, with the remaining water budget resulting in recharge to overburden and bedrock groundwater (Gerber and Hebson, 1996). Approximately 5% of precipitation is assumed be to bedrock. This results in the following estimated water balance for the sub-basin provided in the following table. Most of the overburden groundwater would be expected to discharge locally within the local drainage basin (>95%), with the exclusion of recharge to bedrock. Some shallow bedrock groundwater would also be expected to discharge locally to streams in upland mountain areas and deeper sections of ponds, where present.

Estimated Hydrologic Budget

Area	Size (acres)	Net Precipitation (acre/feet/yr)	Evapotranspiration (acre/feet/yr)	Overburden Recharge (acre/feet/yr)	Bedrock Recharge (acre/feet/yr)	Overburden Recharge gallons/year	Bedrock Recharge gallons/year
Total Sub-Basin	3330	11933	5012	6575	346	2,142,548,037	112,765,686
North of Divide	2500	8958	3763	4936	260	1,608,519,547	84,658,924
South of Divide	830	2974	1249	1639	86	534,028,490	28,106,763
Developed Mine Area	49	176	0	-88	-8	(28,608,878)	(2,574,799)
Percent Excluded During Mine Operation	1%	0%	0%	1%	2%	1%	2%

Total Annual Precipitatio	45	
Interception	2	
Net Annual Precipitation	43	inches
Bedrock Net Recharge	5	%
EVT Rate & Run-off	0.42	%

Developed Mine Area = area where precipitation/ runoff is collected.

The total area of land disturbance for mine development (excluding roads) is approximately 105 acres and includes the foot-print of buildings, mine portal, a surface water management facility and a dry TMF (approximately 92 acres). Precipitation over much of this area (approximately 49 acres) will be managed to control run-off of non-contact waters, and water that potentially contact waste materials (waste rock and tailings). Collected waters will be treated as discussed later in this section.

The area of mine development during operations is intentionally limited in size. When the water budget within this area is compared to the drainage basin, it becomes clear that impacts to recharge of groundwater (overburden and bedrock) and run-off of surface water to surface water bodies is negligible, and as a percentage (1-2 %) is within the range of annual variations in precipitation. Even if average annual precipitation varied by as much as 10 % (+/- 5 inches), the percent reduction in recharge remains essentially the same. The immediate reduction in recharge is replaced by re-infiltration of clear treated effluent from the water management system.

Forest Resources

Wolfden currently owns 7,148 acres located in the southeastern corner of Township 6, Range 6 (T6R6). The property is entirely undeveloped and forested, except for six privately owned camps (seasonal residences) and logging/woods roads. The property generates approximately $300k in revenue annually from timber revenue. The timber industry is the primary industry in the area and is the driver of the local economy. The area proposed for rezoning is approximately 528.2 acres which includes approximately 105 acres of land that would be constructed upon or disturbed by construction. The mine is planned to operate for 10 years after which the impacted area would be restored. The mine operations area would be restored as forest and would eventually again be logged/harvested. The dry stacked tailings would be contoured, capped and restored/revegetated. The cap concepts will be developed during the final feasibility designs. The cap is required to achieve the same permeability as the liner system. Several concepts will be evaluated from a dry cap that promotes run-off in a course armored infiltration layer that would discourage large tree growth and protect the underlying low permeability barrier from root damage and wind throw, to a wet cap that mimics local hydrology and is able to sustain a wetland like condition where large tree growth is naturally discouraged. Other alternatives include long term management of vegetative growth on the cap, similar to a conventional landfill cap. There would be no restrictions on current and future timber operations on the remaining 6,947.5 acres of the property while the mine is in operation and being restored. The development associated with the proposed mine would affect less than 3% of the property currently in forest production. Therefore, impacts to the forest resources and timber industry would be negligible.

Wetland Resources

The U.S. Fish and Wildlife Service has mapped wetlands in T6R6 as a part of the National Wetland Inventory (NWI). The NWI mapped wetlands have been promulgated into LUPC Land Use Guidance Maps. There are NWI mapped wetlands on the property. The mapped wetlands are primarily palustrine forested and palustrine scrub/shrub wetlands, associated with Pleasant Lake and Pickett Mountain Pond. In addition, the West Branch of the Mattawamkeag River flows across the south part of the property. There are no NWI mapped wetlands in the area of the proposed mine development, however due to the scale of NWI mapping, it can't be concluded that there are no wetlands on the site.

A reconnaissance of the area proposed for development was conducted in October 2019. The purpose of this reconnaissance was to preliminarily identify wetland resources including wetlands and potential vernal pools, and the possible presence of small or intermittent streams. During the reconnaissance wetlands, potential vernal pools, and intermittent streams were observed. The results of the reconnaissance suggest that a detailed wetland and vernal pool survey of the proposed development area during the growing season is warranted. In addition, in order to verify the significance of the potential vernal pools, the survey would need to be conducted during the spring amphibian breeding season; for northern Maine, that period typically falls between May 5th and June 5th. Wetlands, streams and potential vernal pools located within the area proposed for development will be avoided to the extent practicable. Wolfden plans to conduct the survey, in consultation with the IF&W, during the Spring of 2020. Any impacts to these areas would be mitigated to the extent practical during the design and permitting phase of the project. With the exception of the planned dry TMF, current depicted locations of proposed facilities have been placed outside of the area anticipated to contain wetlands. An approximately 4.5 acre area is present within the area of the planned dry TMF that may contain some wetlands, however this area is heavily rutted from prior logging (skidder ruts) and the surface expression of groundwater here is likely due largely to these former ground disturbances rather than natural wetland hydrology. The areas of potential wetlands in addition to potential intermittent streams are depicted in Attachment F1.

Wolfden's goal is to conserve and protect the wetlands and their ecological functions by avoiding impacts to the extent practical, minimizing impacts where they cannot be avoided, and compensating impacts that are not avoidable.

At the completion of the mining project, the site will be reclaimed removing all buildings and structures except the dry TMF. The final grading plan for this final phase of the project can be designed in a manner to enhance and create forested wetlands and associated vernal pool habitats in areas with appropriate hydrology within the footprint of the mine operational area.

Based on our current understanding of wetlands present at the site, the project will meet the goal of protecting the ecological functions of wetland resources, including vernal pools.

Correspondence with the Maine Department of Inland Fisheries and Wildlife is presented in Exhibit N.

Other Water Resources (surface water, streams, shallow groundwater)

The property includes lakes, ponds, and streams, including Pleasant Lake, Pickett Mountain Pond, Mud Pond, west branch of the Mattawamkeag River. The area proposed for development however does not include any mapped streams or surface water bodies based on the USGS topographic map (i.e., Green Mountain, Maine). Although there are no USGS mapped streams within the area proposed for development, the area may include intermittent streams, too small to be picked up at the scale of the USGS maps. As noted in the Wetlands section, intermittent streams and shallow groundwater were observed during the October 2019 reconnaissance of the property and therefore a detailed delineation of intermittent streams is warranted and would be required as a part of the rezoning process. Impacts to water resources would be avoided to the extent practicable and any impacts would be mitigated through restoration activities. In general impacts to water resources would be negligible based on the proposed treatment and discharge of water generated during mine operations, as discussed in the preceding sections. The water generated by mine operations will be treated and released back into the environment following all rules and best management practices.

Wildlife Resources and Habitats

The property contains a mix of terrestrial and aquatic habitats, including forested uplands, forested and scrub shrub wetlands, rivers, streams, ponds and lakes. The majority of the property is forested composed of a mix of deciduous and evergreen trees. Wildlife common to the Northwoods include deer, moose, bobcats, fishers, as well as a number of small mammal species. Avian species including passerine birds, accipiters and buteos, and piscivorous birds such as kingfishers and herons are also common, as are waterfowl including ducks, geese, and loons. The area proposed for development is primarily upland forested habitat, co-dominated by deciduous trees (i.e., beech, birch, and red maple trees) and coniferous trees (i.e., spruce, fir, cedar and hemlock). The area has been logged in the past and is currently in re-growth. Evidence of past logging operations in the form of skidder trails and logging roads are common throughout the area proposed for rezoning and development. The forest understory is relatively open and lacks dense growth commonly found in recently cut forest. Wildlife are accustomed to logging activities in the Northwoods and based on the current mine plan the mine operation would have less impacts to wildlife than common logging operations.

Correspondence has been sent to the Inland Fish and Wildlife Service (November 6, 2019) to obtain a list of Rare, Threatened, or Endangered species that could potentially be found in the area. The IF&W provided a preliminary response to this request on November 25, 2019 which indicated there were no known occurrences of endangered, threatened of special concern

species within the project area (Exhibit N). The IF&W also has not mapped any significant wildlife habitats within the project area. The IF&W did identify Great Blue Heron colonies as species of concern and noted the special protection afforded to eight species of bats and concern for habitat protection. The preliminary screening survey conducted to date did not identify habitat that would support Great Blue Heron colonies or bats, the latter due principally to very limited and small exposures of bedrock outcrop and lack of any talus slopes. When the detailed mapping of wetlands, intermittent streams and vernal pools is conducted in the spring it will include a final species assessment encompassing a survey of the area proposed for development individual species and or suitable habitat for the species identified. Impacts to rare, threatened or endangered wildlife are not known or expected and if identified will be avoided and minimized.

Plant Habitats

The area proposed for development includes upland forested habitat and as noted has been logged in the past. The forest habitat includes a relatively open understory dominated by saplings of the dominant tree species. Shrubs are also present in the forested. The herbaceous growth in the forest habitat includes moss, ferns, grasses, and sedges.

Correspondence with the MNAP was submitted to request a list of known or suspect rare, threatened or endangered plants occurring in the area. Exhibit N contains the MNAP response which indicates that there are no rare botanical features documented specifically within the project area. Impacts to rare, threatened or endangered plants are therefore unlikely but if such botanical features are identified they will be avoided and minimized. Unavoidable impacts will be mitigated through moving/transplanting rare, threatened or endangered species when impacts are unavoidable. Based on discussions on MNAP correspondence lakeside graminoid/shrub fen is located between Pleasant and Mud Lakes. These would not be affected by proposed activities and are outside the area to be re-zoned. The MNAP did indicate this as a priority area on the Wolfden property for a botanical survey.

Historical Sites

The Maine State Historic Preservation Office has been consulted to identify any known or suspected historical sites on the property. A stone tool archeological habitation site is known near the headwater of Pickett Pond. A Phase 0 archeological survey will be conducted within the area proposed for rezoning and development to verify that there are no historical resources present. The scope of the survey has been developed in consultation with Maine State Historic Preservation Office and discussed previously in Exhibit M. The survey will be conducted by a State certified archeologist following an approved work plan. If historical sites are identified within the proposed development the area will be investigated, cataloged and mapped. Any pre-historic or other artifacts discovered will be recovered in consultation with Maine State Historic Preservation Office.

Scenic Resources

The project has been designed to limit impacts to scenic resources. The "below ground" mine operation limits the footprint of mine requiring a relatively small area for mine operations (approximately 16 acres) and dry stack tailings pile (approximately 42 acres), thus impacting approximately 58 acres). In addition, the dry stacked tailings will match base line contours, to not protrude from the surrounding topography. The overall elevation increase in the footprint of the tailings is expected to be approximately 10 feet higher than the original ground surface. Once the mine operations end the impacted area will be restored and will be allowed to reestablish as forest.

Recreational Resources

The area proposed for development does not include any snowmobile trails, hiking trails, or camping areas nor does it include any aquatic resources suitable for fishing. The area proposed for rezoning makes up only 2.8% of the total property. It is unlikely that the proposed mine would impact recreation resources. Once the mine is closed there would be no impacts to recreational resources.

Mine Development, Operation and Closure Strategy

The following section provides a general overview of how mine and process waters will be managed. The strategy for mine development, processing of mineralized rock, and management of tailings is discussed. Each of these processes have a water management component. Additional Information is provided in **Appendix M**.

Overview - Management of Mine Waters, Process Waters and Septic Waters

Proper planning, management and treatment of site impacted waters can avert impacts to natural water resources including groundwater, run-off, and surface water. Elements of water management designed to alleviate the potential for adverse impacts are described in the following subsections.

Development of the Pickett Mountain mineral deposit will require collection of groundwater seepage for subsurface dewatering during underground mining operations and collection of surface water run-off from within the footprint of the developed property. These waters will be used in the beneficiation of the economically valuable minerals which includes milling and flotation to separate valuable from non-valuable minerals and create a concentrate that will be shipped off-site for further refinement (smelting) as well as tailings that will be stored on a lined tailings facility located onsite. Waters impacted by these processes will be treated and re-used to the maximum extent possible. It will be the intention of the concentrator/tailings design to have a net negative water balance that will require makeup water.

Water from the mine (seepage and process water) will be collected and treated to within water discharge guidelines and rules that include at or better than background quality. A portion of the treated water will be reused at mining process water and concentrator process water make up. Sewage from the mine will be contained to Portable Toilets (Porta Potties). These will be on contract basis and managed through replacement of filled facilities with clean facilities by the supplier. Sewage from all surface structures will drain to a septic system located on the site down gradient of the building infrastructure and potable water supply. Any excess treated water will be returned to the environment as recharge via system of underground diffusers, similar to a septic system leach field. Water from the TMF will be managed separately. As a result of the water management strategy and the water balance required to sustainably operate the mine, impacts to water resources are expected to be negligible.

The estimated water balance from the milling/tailings facility is as follows resulting in a process water make up requirement of 68.4 cubic meters per day or 12.3 USgpm.

Overall Water Balance				
Water Product	**Solids**		**Water t/d or m^3/d**	**Comments**
	%	**t/d**		
Plant Feed (flotation feed)	30	1000	2333.3	Need per day
Cu Conc.	80	15.5	3.87	Lost in concentrate
Pb Conc.	80	10.6	2.65	Lost in concentrate
Zn Conc.	80	49.5	12.4	Lost in concentrate
Tailing	80	807.4	49.5	Lost in concentrate
Process Water Recycle	-	-	2264.88	Amount recovered
Need Process water	-	-	68.42	

Mine Development Strategy

The strategy for mine development is to conduct underground mining using a long hole stoping method with a decline, to allow underground haulage trucks to carry mineralize rock (mill feed) to a surface staging pad, where waste rock will be segregated from Mineralize Rock. Waste rock would be staged until it can be returned underground for backfill. Waste rock that is placed underground as backfill is not treated or neutralized, rather is simply placed as broken rock. Typically, waste rock outside of the Pickett Mountain deposit is non-acid generating and in fact carries significant neutralizing potential. In addition, after waste rock is deposited underground, it is in a low oxygen environment and therefore will not react with ground water if portions of the rock do contain acid generating potential. Seepage of bedrock water as well as injection of mine process water into the underground workings, necessitates a program of mine dewatering. Although engineering/hydrologic studies have not been conducted to quantify flow rates required to keep the working areas of the mine in a dewatered state, it is currently estimated based on similar site experience and the likelihood of low transmissivity bedrock at depth, that these “seepage” flows are likely to be on the order of 30 gallons per minute (gpm) long term.

Initial dewatering is usually conducted through use of bedrock extraction wells (dewatering wells) to reduce the bedrock potentiometric surface prior to and during development of the decline. This water will be used for storage and recycled for underground diamond drilling for blastholes. As underground workings are advanced, and seepage into these openings will occur, and that seepage will be pumped out eventually replacing the dewatering wells and establishing a network of water conveyance pipes within the developing mine infrastructure During mine operation, seepage waters will continue to be collected underground through a series of temporary sumps and pumps and treated at the water management facility prior to being re-used for underground process water with excess discharged to the environment. Waters used underground for drilling and wetting down rock surfaces to eliminate dust when mucking rock outwill be pumped through a connected network of pipes that can be modified and extended as the underground workings are developed.

When sulfide mineralized rock is mined and processed, the surface area of exposed sulfides increases along with the potential for acid generation. Exposure of these sulfide minerals to oxygen and water results in weathering and oxidation producing acidity (hydrogen ions), dissolved sulfate, dissolved metals and soluble acid-sulfate minerals. Undisturbed sulfide mineral deposits have limited exposed surfaces, and therefore pose little threat to groundwater under natural, oxygen-limited conditions. Since this weathering process requires presence of both oxygen and water, as well as time, effective strategies to prevent acid generation are incorporated into the design and operation of the mine. In the short term, these strategies rely on limiting exposure of these materials to water in the presence of oxygen as well as water collection and treatment. In the long term, strategies rely on isolating materials from water (infiltration), intrusion of atmospheric oxygen.

The waste rock will be mined separately and segregated from the mill feed, temporarily staged and then returned underground as backfill on an on-going basis. This manages and mitigates potential leaching and environmental release of metals from this waste rock material.

Mineralized Rock Milling and Flotation Strategy

Mineralized Rock (mill feed) will be crushed on-site and finely ground to a powder utilizing a comminution (Grinding) circuit. The finely ground rock is the feed stock for the flotation circuits, where the valuable sulfide minerals (Zn, Cu, Pb, and associated precious metals Au and Ag) are sequentially segregated from gangue minerals of no economic value and into a series of Copper, Lead and Zinc concentrates. This flotation process is done with a series of chemicals and reagents that are used to treat the minerals to optimize recoveries. Chemicals that are used within the process typically remain in the process water and are broken down over time. However, since majority of the water is reclaimed into the process, this material is reused. Any potential waste chemicals or spillage, are collected and pumped to the TMF. These are then broken down over time or gathered through precipitation and ultimately gathered back into the process. Any stored chemicals that are expired or unusable for other reasons are repackaged and shipped back to the supplier or to a qualified management facility for appropriate disposal during operations and mine closure. The non-valuable or gangue minerals which will constitute approximately 80% of the mill feed result in the production of tailings requiring management. A conceptual flow diagram of the milling process is shown below.

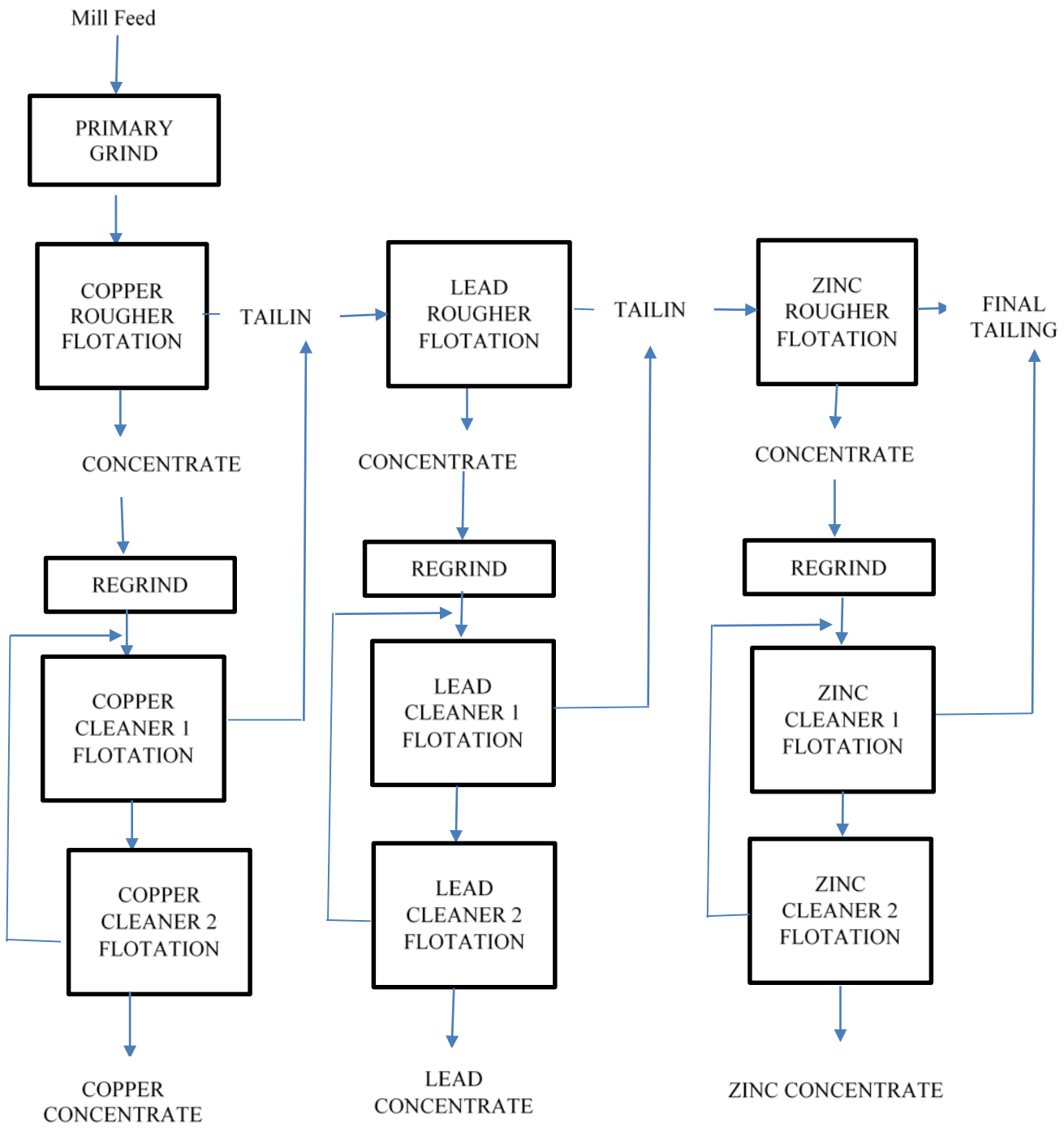


FIGURE: CONCEPTUAL PROCESS FLOWSHEET

Tailings Treatment and Management Strategy

The tailings, will contain some iron sulfides as well as other metallic sulfide minerals and are managed accordingly to mitigate acid generation and leaching. When tailings are first produced, they are oversaturated with respect to water content and are pumped in a slurry.

All tailings will be deposited on a dry stack tailings management facility (TMF). The cleaned and filtered tailings will be dewatered and transported by truck or conveyor belt to the TMF where they are spread, stacked and compacted by a dozer. All water generated by the dewatering process is recycled and pumped back to the concentrator for reuse in the process circuit. The dewatered tailings have a low moisture content and is expected that no supernatant pond will form as they are compacted in the TMF. Rainfall on the TMF is expected and run-off collection is required. All water will be collected from the TMF in a lined collection pond at the south edge of the TMF. Water from the lined TMF collection pond will be pumped back to the concentrator for reuse in the processing circuit. The dewatered tailings will exit the concentrator plant via conveyor onto a storage pad with 24 hours of capacity. The tailings will be loaded and hauled via 35 or 40 tonne articulated trucks to the TMF. With an expected 800 tonnes per day of tailings, this will result in 1.5 or 1.0 trucks per hour depending on the size of the truck. Once or twice per shift, the truck operator will spent up to one hour with a dozer and roller compactor to grade and compact the tailings. The expected cycle time to the farthest area of the TMF is under 7 hours while the closest will be 4 hours. This allows more than sufficient time for haulage, grading and compacting in a 10-hour work shift.

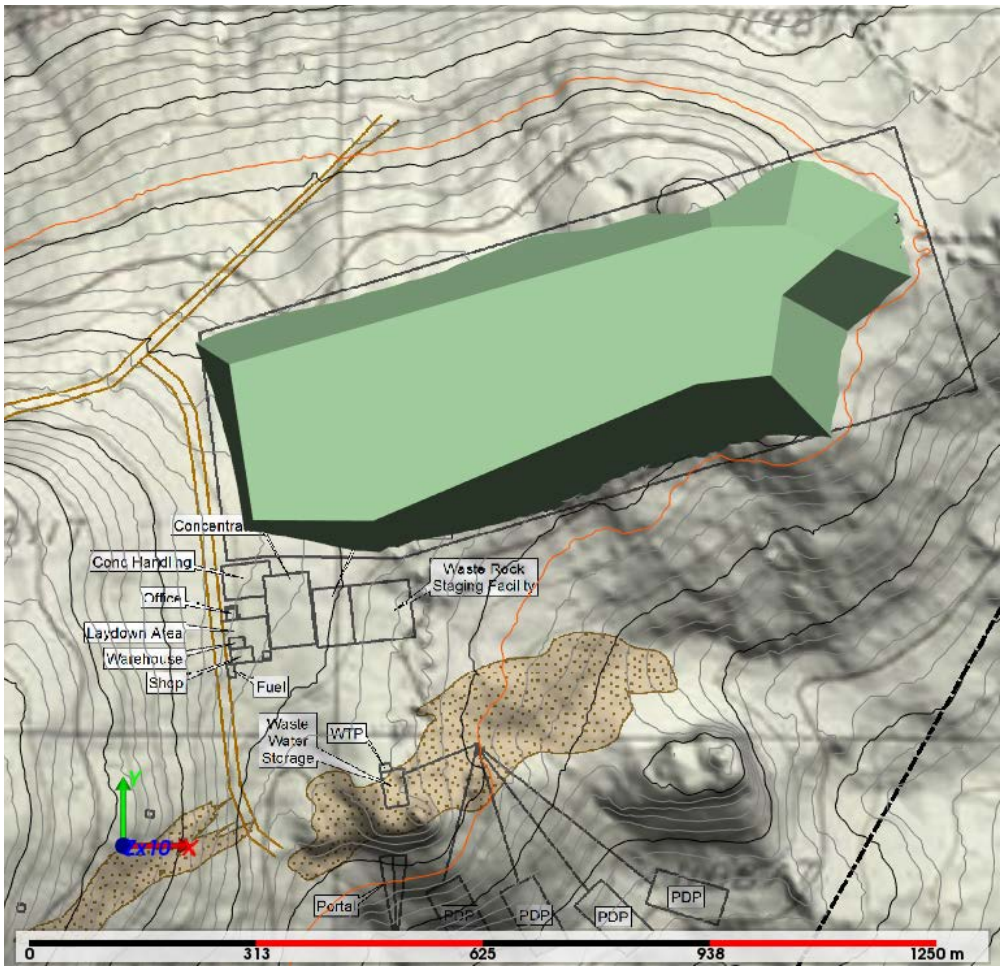
Sub-aerial (dry stacked) tailings are the only above ground tailings management method allowed under the DEP Chapter 200 rules for Group A and Group B mine waste. The sub-aerial TMF will be designed in accordance with requirements (including a composite liner and leachate collection) of Chapter 200 Subchapter 5 Section 21 Mine Waste Unit Design Standards. Leachate ponds that collect water that encounters tailings are also governed by these standards. TMF ground slopes of 20% to 30% may be used for dry stack tailings. The maximum height of the TMF cells when completed at Pickett Mt. are not expected to exceed 20 feet and may average less than 15 feet.

Once compacted, these tailings will not be subject to infiltration of water and intrusion of atmospheric oxygen which will mitigate the oxidation of sulfide minerals. Management of dry stacked tailings placed within a lined containment facility, that is progressively closed during mine operation will control leaching of metals and provide long-term protection to water resources (groundwater and surface water). The TMF would be designed with run-on controls to prevent contact with surface water run-off. During the operating period of the dry stacked tailings facility, contact water (precipitation) is actively managed.

An example of similar tailings deposition is Cerro Lindo (Peru) show in the following collection of images. Although the climate in Peru is drier than in Maine, the concept is the same. Sub-aerial tailings are currently used in other cold regions including Alaska, Minnesota and Canada.

In most cases in cold weather climates, the tailings are progressively covered to optimize water treatment and reduce the remaining area requiring closure during final reclamation. The DEP regulations require a cover system of permeability equal to the liner system which has specific maximum permeability requirements.

Cerro Lindo Moist Cake Disposal (1:2 Slope)



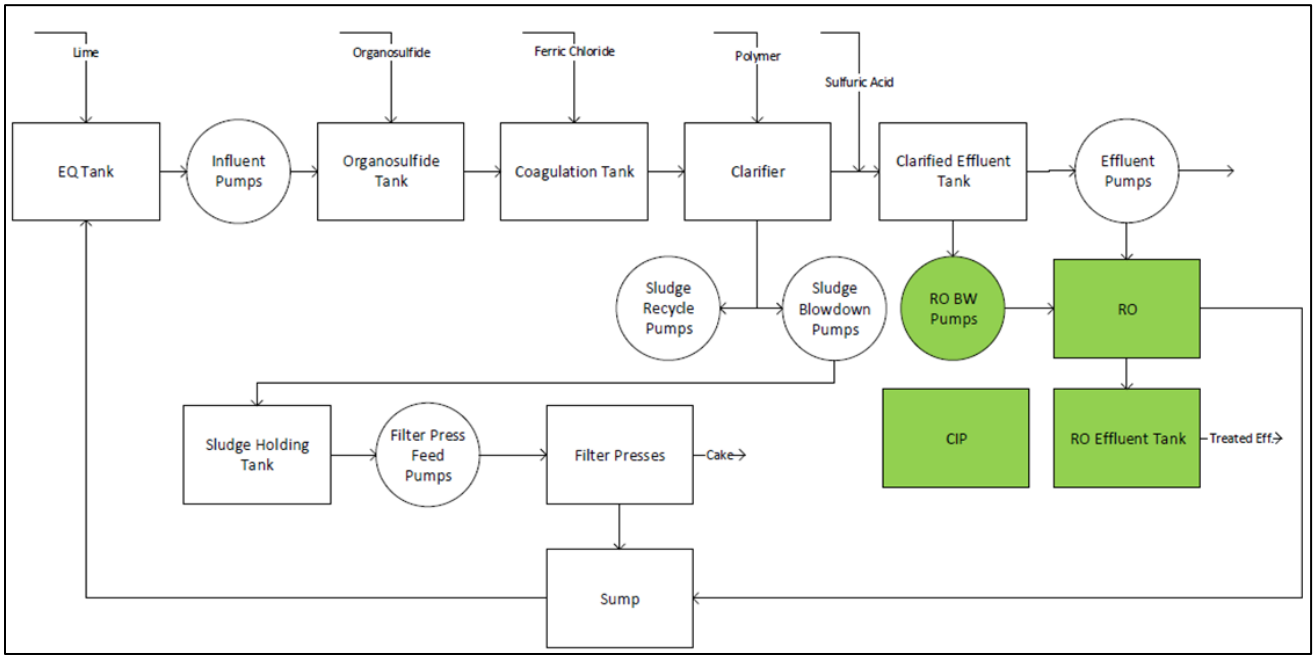
Conceptual Tailings Facility at Pickett Mountain

The figure above illustrates a dry stack tailings facility. The tailings stack features an outer side slope of 20% raised to a maximum height of about 22ft (7 m). The volume of tailings in this model is approximately (1,400,000 m3), equivalent to about 2.6 Mt when fully consolidated or compacted to 88 wt% solids.

Mine Water Management and Treatment

All process and seepage water into the mine as well as precipitation landing outside of the tailings facility footprint are collected via run off ditching and routed to the south eastern (down gradient) corner of the project site into a lined raw water pond in order to contain all water collected on the project site. Seepage water from tailings as well as precipitation water onto the TMF are collected separately and pumped into the mill as recycled water. A series of berms will be designed to re-route precipitation water outside of project footprint in order to reduce contact with site and minimize potential impact. Once the water is collected in the raw water pond, it is pumped to the water treatment facility. The technological state of mine water treatment is very advanced as a form of waste water treatment with processes designed to

adjust pH, remove sulfates and metals producing a high quality effluent and a high density solids waste stream (sludge) the latter of which is thickened by a conventional filter press to produce a sulfate filter cake. The solid filter cake will be placed underground in the mine. Excess water from the filter press is returned to the influent equalization tank for treatment. The conceptual treatment train is show in the following figure. The treated effluent may then be recharged to groundwater with no chemical impacts via underground infiltration structures. Recharge of treated water to groundwater is also protective of surface water that eventually receives groundwater.



Mine Water Treatment Process Flow Diagram

Notes:

EQ= Equalization (Tank); RO= Reverse Osmosis, BW= Backwash, CIP=Clean in Place (Tank)

The treatment plant will be operated in accordance with an operations and maintenance plan that will specify storage and management of chemical reagents and actions to be taken to prevent spills and accidental releases and to address spill clean-up and reporting should an accidental spill occur.

The groundwater quality will be monitored quarterly during the life of the mine and for a period of time post-closure that is specified in the mining permit issued by the DEP. Monitoring will occur at locations where mining activities have a reasonable potential for impact to groundwater and surface water. In general, these parameters will be based on baseline background water quality data and consideration of parameters related to mining operations (metals, pH, specific conductance and inorganic parameters such as sulfate). Surface water and sediment quality will also be monitored under an approved program during mine

operations and for a post-closure period specified in the mining permit. The department may require additional sampling of aquatic biological resources and monitoring of specific parameters at certain structures including water storage ponds, leachate collection systems and underdrains.

The following tables summarize of ground water variances for a full list of elements and characteristics in ground water surrounding the Halfmile Mine owned by Trevali Mining Corporation located West of Miramichi, NB. It can be noted that certain non-targeted and non-harmful minerals are higher than background. This is the driving factor behind the addition of a reverse osmosis system down stream of the chemical treatment facility proposed for Pickett Mountain. The mechanical type of filtration is able to draw these final minerals from the water and ensure the final treated quality is back to or better than background quality.

Halfmile Mine Analysis of Metals in Water		**Ground Water Well**											
Sample Identification		327776-1	327776-2	327776-3	327776-4	125083-1	125083-3	125083-4	125083-2	Variance	Variance	Variance	Variance
Well Identification		MB-1	MB-3	HB-1	MB-2	MB1	MB3	HB1	MB2	MB1	MB3	HB1	MB2
Date Sampled:		28-Aug-19	28-Aug-19	28-Aug-19	28-Aug-19	7-Sep-11	7-Sep-11	7-Sep-11	7-Sep-11	NA	NA	NA	NA
Analytes	**Units**												
Aluminum	µg/L	3	17	24	27	8	43	56	44	-5	-26	-32	-17
Antimony	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Arsenic	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Barium	µg/L	2	3	3	3	2	2	3	2	0	1	0	1
Beryllium	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Bismuth	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Boron	µg/L	2	0	0	1	1	1	2	1	1	-1	-2	0
Cadmium	µg/L	0.02	0	0	0	0	0	0	0	0.02	0	0	0
Calcium	µg/L	6250	8620	8230	8490	4910	6900	6770	6780	1340	1720	1460	1710
Chromium	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Cobalt	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Copper	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Iron	µg/L	0	20	30	30	0	60	90	60	0	-40	-60	-30
Lead	µg/L	0	0	0	0	0	0.1	0.1	0	0	-0.1	-0.1	0
Lithium	µg/L	0.1	0	0	0	0	0	0	0	0.1	0	0	0
Magnesium	µg/L	840	900	1040	900	630	790	910	780	210	110	130	120
Manganese	µg/L	0	4	10	9	0	5	9	6	0	-1	1	3
Mercury	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Molybdenum	µg/L	0	0.2	0.1	0.1	0.1	0	0	0.1	-0.1	0.2	0.1	0
Nickel	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Potassium	µg/L	430	380	430	380	370	320	350	320	60	60	80	60
Rubidium	µg/L	0.2	0.5	0.4	0.5	0.2	0.3	0.3	0.3	0	0.2	0.1	0.2
Selenium	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Silver	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Sodium	µg/L	2190	1610	1750	1680	1730	1400	1380	1400	460	210	370	280
Strontium	µg/L	22	25	24	25	15	18	18	18	7	7	6	7
Tellurium	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Thallium	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Tin	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Uranium	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Vanadium	µg/L	0	0	0	0	0	0	0	0	0	0	0	0
Zinc	µg/L	3	1	2	1	0	2	0	2	3	-1	2	-1

Halfmile Mine Groundwater Metals Variance September 2011 – August 2019

Halfmile Mine Water Chemistry Analysis		Ground Water Well											
Sample Identification		327776-1	327776-2	327776-3	327776-4	125083-1	125083-3	125083-4	125083-2	na	na	na	na
Well Identification		MB-1	MB-3	HB-1	MB-2	MB1	MB3	HB1	MB2	MB-1	MB-3	HB-1	MB-2
Date Sampled:		28-Aug-19	28-Aug-19	28-Aug-19	28-Aug-19	7-Sep-11	7-Sep-11	7-Sep-11	7-Sep-11	NA	NA	NA	NA
Analytes	**Units**												
Ammonia (as N)	mg/L	0	0	0	0	0	0	0	0	0	0	0	0
pH	units	7.5	7.5	7.5	7.5	7	7.1	7.1	7.1	0.5	0.4	0.4	0.4
Acidity (as $CaCO_3$)	mg/L	0	0	0	0	0	0	0	0	0	0	0	0
Sulfate	mg/L	4	0	0	0	0	0	0	0	4	0	0	0
Solids - Total Suspended	mg/L	0	0	0	0	0	0	0	0	0	0	0	0
Conductivity	µS/cm	54	62	60	60					54	62	60	60
Hardness (as $CaCO_3$)	mg/L	19.1	25.2	24.8	24.9	14.9	20.5	20.6	20.2	4.2	4.7	4.2	4.7

Halfmile Mine Groundwater Chemistry Variance September 2011 – August 2019

The mine water balance will be carefully managed to take advantage of recycling of mine waste contact waters including precipitation run-off and seepage water. These anticipated water streams volumes are evaluated to determine the design capacity of the water treatment system. These water sources will be used in the beneficiation of the mineralize rock (milling and flotation) are compared to those design flows to determine the extent of water recycling and excess treated water requiring recharge back to groundwater.

A preliminary mine water balance has been developed. This preliminary estimate assumes all infiltration /run-off within the footprint of the developed facility will be collected and treated in addition to approximately 30 gpm of seepage water. The annual average precipitation over the facility footprint is equivalent to an average flow of 175 gpm. This results in an average flow of approximately 205 gpm for use by the treatment facility.

The concentrator water balance indicates, after recycle, approximately 68.4 metric tons of make water (or approximately 13 gpm) such that the daily water balance of available water is greater than the water required. Therefore, net recharge of treated effluent back to ground, will be close to the natural recharge that is excluded within the developed facility footprint. Operation of the envisioned facility will therefore not require additional sources of water supply (groundwater or surface water) and the operation of the facility is sustainable with respect to water needs, water use and management.

Attachment A

Narrative Description of the Nature and Basis for the Requested Subdistrict Change

Consistency with D-PD Development Subdistrict Standards

This narrative addresses the nature and basis for the requested subdistrict change and describes how the project will be consistent with the D-PD development standards applicable to the project. This narrative summarizes why the project is realistic, the applicant's technical capacity to complete the project, the anticipated project schedule, the relationship of the proposed D-PD subdistrict to other existing subdistricts and uses, and how the project will avoid and minimize impacts to water quality and other natural resources.

The area proposed for the project is currently zoned as a general management subdistrict. The proposed project is a major planned development that must be conducted within a D-PD Development subdistrict as required by the LUPC for metallic mineral mine projects consistent with standards for said subdistricts and within the intent and provisions of 12 M.R.S.A. Chapter 206A. Under Chapter 685-B, Development Review and Approval, a permit is not required for metallic minerals mining projects that are reviewed under the Maine Metallic Mineral Mining Act. This project will require review and permitting by the DEP under its Chapter 200 rules for Metallic Mineral Exploration, Advanced Exploration and Mining since all metallic mineral mining activity within a D-PD district is permitted through the DEP. The LUPC must certify to the DEP that the proposed development is an allowed use and that the proposed development meets applicable land use standards established by the LUPC and not otherwise considered as part of the DEP's review.

The mineralized rock at the Pickett Mountain Deposit contains high grade zinc, and lesser copper, lead, gold and silver at tonnages indicating the project is economically realistic, and can be financed and completed. Financial capacity and project financing are discussed in **Exhibit H**. Wolfden, through its own engineering staff, its current specialized consultants in metallurgy and tailings management, supported by the mining engineering capabilities of Wood, has the technical capacity and expertise to design, construct and operate the project through final reclamation.

The project schedule is dependent on the LUPC's approval of this Petition. Wolfden anticipates this process could take up to a year. Wolfden will conduct any additional required natural resource studies in the Spring and Summer of 2020 (wetland, flora, wildlife habitat, and archeological resources). Wolfden also will work with the DEP to establish a baseline environmental characterization program that will require two years of data collection to complete. Once completed, the mine permit application will be submitted for DEP review. It is anticipated that review and public comment could take up to one year. This could conceivably

allow the construction phase of the project to commence in 2023-2024. The duration of mining would be 10 years from that point.

Based on correspondence with the MDIF&W and MNAP and current information from preliminary site surveys, potential impacts to protected wildlife, habitat and flora within and adjacent to areas proposed for development should be limited to areas containing forested wetland and associated intermittent streams within upland areas. Wolfden is committed to working with the regulatory agencies to avoid impacts to the extent possible, to minimize impacts and compensate where unavoidable. In this manner, the functions and values of upland wetlands and streams within the local Pickett Pond / Pleasant Lake watershed that are important to wildlife habitat and surface water quality can be maintained during the active life of the project. Upon reclamation, impacts that were initially unavoidable will be mitigated.

The project location is approximately 6 radial miles from Patten, the closest town. The project location is entirely dependent on the presence and location of a potentially economic mineral deposit. The project location is exempt by definition from adjacency. The proposed rezoning includes 197.5 contiguous acres which meets the minimum requirements under Chapter 10 (10.21,H (D-PD)) of 50 acres for metallic mineral extraction projects. Of this, approximately 57 acres will result in surface disturbance to construct necessary mining facilities. Wolfden has evaluated project mining requirements to minimize the footprint of the proposed project and to place above ground facilities adjacent to each other to construct a compact and efficient operations area. The remaining area to be rezoned encompasses the subsurface areas of mineralized rock and subsurface treated water infiltration galleries, and buffers around surface facilities. The rezoning will occur entirely within a General Management subdistrict and is not adjacent to and will not impact Protection subdistricts in affect at this time. Within a three-mile radius of the site, the protection subdistricts present include forested and scrub-shrub wetlands adjacent to great ponds (Pickett Pond, Pleasant Lake and Mud Lake) and associated stream drainages, and wetlands of special significance between Mud Lake and Pleasant Lake. Fish and wildlife subdistricts are located to the northwest. A recreation subdistrict is designated surrounding Green Mountain Pond and Lane Brook Pond, located greater than 3 miles from the site. The location map showing the existing conditions, proposed structures and existing and proposed subdistrict boundaries is provided in **Exhibit D-1.**

As discussed in **Section B (3)(d)** and **Appendix A-Attachment Q** the project operations will include comprehensive engineered facilities to collect and treat waters that come in contact with rock and earthen materials that are mined in the subsurface and brought to the land surface for beneficiation or long term management. These water collection, treatment and treated water recharge facilities will substantially protect groundwater and surface water quality during and after active mining. The plan for mine reclamation outlined in **Attachment Q** describes how the affected areas will be restored and returned to pre-existing or comparable conditions including forested habitat at the end of the project.

As described in this Petition, the project is located at distances greater than 400 feet from any property line, is reasonably self-sufficient and self-contained, provides for its own water and domestic sewage services, maintenance of roads, solid waste disposal and to the extent possible, fire protection and security.

This Petition contains discussion of other required criteria under Chapter 12 of the LUPC's rules for Mining and Level C Mineral Exploration Activities (**Appendix A Appendices and Narratives**). Based on these considerations, the proposed rezoning is consistent with the D-PD subdistrict standards.

Attachment P
Explanation of How This Proposal is Consistent with the Standards and Purpose of the D-PD Development Subdistrict

Consistency with D-PD Development Subdistrict Standards

The proposed project will be conducted within a D-PD Development subdistrict consistent with standards for said subdistrict and within the intent and provisions of 12 M.R.S.A. Chapter 206A. Under Chapter 685-B, Development Review and Approval, a permit is not required for mining of metallic minerals that is reviewed under the Maine Metallic Mineral Mining Act. This project will require review and permitting under the DEP Chapter 200 Metallic Mineral Exploration, Advanced Exploration and Mining since all metallic mineral mining activity within a D-PD district is permitted through the DEP. The LUPC must certify to the DEP that the proposed development is an allowed use and that the proposed development meets applicable land use standards established by the LUPC, not otherwise considered by the DEP review.

The mineralized rock at the Pickett Mountain Deposit contains high grade zinc, and lesser copper, lead, gold and silver at tonnages indicating the project is economically feasible, and can be financed and completed. Financial capacity and project financing are discussed in Exhibit H. Wolfden, through its own engineering staff, its current specialized consultants in metallurgy and tailings management, supported by the mining engineering capabilities of Wood, has the technical capacity and expertise to design, construct and operate the project through final reclamation.

The project schedule is dependent on the issuance the LUPC's approval of this Petition. Wolfden anticipates this process could take up to a year from the date of the Petition. Wolfden will conduct any additional required natural resource studies in spring and summer of 2020 (wetland, flora, wildlife habitat, and archeological resources). Wolfden also intends to work with the Maine DEP to establish a baseline environmental characterization program that will require two years of data collection to complete. Once completed the mine permit application will be submitted for DEP review. It is anticipated that review and public comment could take up to one year. This could potentially allow the construction phase of the project to commence in 2023-2024. The duration of mining would be 10 years from that point.

Based on preliminary correspondence with the MDIF&W and DEC Natural Areas Division and current information from preliminary site surveys, potential impacts to protected wildlife, habitat and flora within and adjacent to areas proposed for development should be limited to areas containing forested wetland and associated intermittent streams within upland area. Wolfden is committed to working with the agencies to avoid impacts to the extent possible, to minimize impacts and compensate where unavoidable. In this manner, the functions and values of upland wetlands and streams within the local Pickett Pond / Pleasant Lake watershed that are important to wildlife habitat and surface water quality can be maintained during the

active life of the project. Upon reclamation, impacts that were initially unavoidable can be restored / replaced in-kind where originally located.

The project location is approximately 6 radial miles from Patten, the closest town. The project location is entirely dependent on the presence and location of a potentially economic mineral deposit. The project location is exempt by definition from adjacency. The proposed rezoning includes 197.5 contiguous acres which meets the minimum requirements under Chapter 10 (10.21,H (D-PD)) of 50 acres for metallic mineral extraction projects. Of this, approximately 57 acres will result in surface disturbance to construct necessary mining facilities. Other areas within the contiguous 197.5 acre area potentially contain wetlands and will be avoided to the extent practical. Wolfden has evaluated project mining requirements to minimize the footprint of the proposed project and to place above ground facilities adjacent to each other to construct a compact and efficient operations area. The remaining area to be rezoned encompasses the subsurface areas of mineralized rock and subsurface treated water infiltration galleries, and buffers around surface facilities. The rezoning will occur entirely within a General Management subdistrict and is not adjacent to and will not impact Protection subdistricts in affect at this time. Within a three-mile radius of the site, the protection subdistricts present include forested and scrub-shrub wetlands adjacent to great ponds (Pickett Pond, Pleasant Lake and Mud Lake) and associated stream drainages, and wetlands of special significance between Mud Lake and Pleasant Lake. Fish and wildlife subdistricts are located to the northwest. A recreation subdistrict is designated surrounding Green Mountain Pond and Lane Brook Pond, located greater than 3 miles from the site. The location maps showing the existing conditions, proposed structures and existing and proposed subdistrict boundaries are provided in Exhibit D-1 and D-2.

Collectively, Exhibit D-2 and the project description under Section 4 constitute the preliminary development plan for the project. The Final development plan will be reflected in designs provided in the Maine DEP Chapter 200 permit application. The proposed land use activities and structures that would be allowed in the Pickett Mountain (D-PD) planned development subdistrict follow at the end of this section.

As discussed in Section B (3)(d) and Appendix A-Attachment Q, the project operations will include comprehensive engineered facilities to collect and treat waters that come in contact with rock and earthen materials that are mined in the subsurface and brought to the land surface for beneficiation or long-term management. These water collection, treatment and treated water recharge facilities will substantially protect groundwater and surface water quality during and after active mining. The plan for mine reclamation outlined in Attachment Q describes how the affected areas will be restored and returned to pre-existing or comparable conditions including forested habitat at the end of the project.

As described in this Petition, the project is located at distances greater than 400 feet from any property line, is reasonably self-sufficient and self-contained, provides for its own water and

domestic sewage services, maintenance of roads, solid waste disposal and to the extent possible, fire protection and security.

This Petition contains discussion of all the criteria under Chapter 12 of the LUPC's rules for Mining and Level C Mineral Exploration Activities (Appendix A).