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Michael Cunningham
Division of Reclamation, Mining and Safety
Department of Natural Resources
1313 Sherman St., Room 215
Denver, Colorado 80203

DIVISION OF RECLAMATION
MINING AND SAFETY

M-2014-071
Is It Mining

RE: Need for a Mined Land Reclamation Board Permit, Gross Reservoir Expansion Borrow

Dear Mr. Cunningham:

Denver Water is seeking a determination regarding the need for a Mined Land Reclamation Board Permit. Denver Water previously submitted an "Is it Mining" determination request last December 21, 2014 about a borrow quarry within the FERC Project Boundary, located on United States Forest Service lands, that would be used for the expansion of Gross Reservoir. Denver Water is also exploring the feasibility of an alternative borrow quarry location, referred to in this letter as the "alternative quarry". Denver Water seeks your determination on whether a Mined Land Reclamation Board Permit would be required for the alternative quarry. Denver Water believes the alternative quarry would not require a permit based on the following considerations: the alternative quarry is located entirely on Denver Water property; the extracted material will also be used on Denver Water property for the sole purpose of constructing the Gross Reservoir Expansion Project; and the alternative quarry is within the expanded reservoir footprint and will be submerged by the new reservoir. This letter provides information regarding the expansion of Gross Reservoir and addresses the questions from the DRMS "Is It Mining" form.

Project Background and Description

Gross Reservoir is owned and operated by Denver Water for water supply storage. Denver Water generates power as an ancillary benefit to water supply operations at Gross Reservoir. The Federal Energy Regulatory Commission (FERC) authorizes the Gross Reservoir Hydroelectric Project under License No. 2035-006. The license authorizes operation and maintenance of the hydroelectric project, which includes the dam, reservoir, powerhouse, and all structures, fixtures, equipment and facilities used to operate or maintain the project. The project and the lands for the project are included by the FERC license "Project Boundary", including U.S. Forest Service Lands. Expansion of the dam, for purposes of increasing water supply storage requires an amendment to Denver Water's FERC license. The amended license would authorize the expanded and new facilities and construction associated with the project within the expanded Project Boundary. The Gross Dam Raise borrow quarry, which is the subject of this letter, is within the Project Boundary, on Denver Water property, and will be authorized and regulated as part of the amended FERC license. In addition, Denver Water is awaiting a 404 permit

from the U.S. Army Corps of Engineering's. As part of the permit process an EIS was developed for the project, which specifically includes impacts from an onsite quarry.

The existing Gross Dam is a 340 foot tall concrete gravity dam located on South Boulder Creek in Boulder County, Colorado. The Gross Reservoir Expansion project proposes to raise Gross Dam by 131 feet to a final height of 471 feet. A downstream roller compacted concrete (RCC) buttress raise matching the existing curvature of the dam is planned. The raise will require about 860,000 cubic yards of concrete, and the aggregate for the concrete (about 1,500,000 tons) is expected to be borrowed from an onsite quarry. The alternative quarry is located about 1 mile south of the dam and is comprised of South Boulder Creek Granite, a fine to medium grained granite which is particularly hard and resistant to erosion. The borrow quarry and the dam are both located on Denver Water property within the FERC Project Boundary. All material removed from the quarry will be used onsite and within the FERC Project Boundary for the sole purpose of constructing the dam raise. Material will not be exported from the site. When the project is complete the quarry will be submerged by the new reservoir.

Answers to "Is It Mining" Form

1. Legal Description – Gross Dam Raise Borrow Quarry: Section 19; Township 1S, Range 71; Boulder County; Located about 5 miles east of Pinecliff, Colorado.
2. The extraction area is located on Denver Water property within the new reservoir footprint and will be inundated by the expanded reservoir. Extracted material will be used to make concrete for the dam raise. The dam is located on Denver Water property and within the FERC Project Boundary.
3. The operations will primarily extract granodirite and quartz monzonite material from rock outcroppings and/or excavated areas.
4. The material will be extracted with common drilling and blasting techniques supported by typical construction equipment such as drilling rigs, excavators, front end loaders, and haul trucks.
5. Extracted material will be processed into aggregate, batched into concrete and only used onsite for the dam raise construction approximately 1 of a mile from the extraction site. The extraction site is located on Denver Water property and within the new reservoir inundation area.
6. The extracted material will be processed onsite into concrete aggregate and batched into concrete which will be used for the dam raise construction.
7. The material will remain onsite and within the FERC Project Boundary.
8. The proposed extraction area is approximately 15 acres.
9. The extraction excavation could reach depths of up to 180 feet.
10. The dam raise requires approximately 860,000 cubic yards of concrete. Denver Water anticipates extracting up to 1,700,000 cubic yards (including overburden waste) to create the required quantity of aggregate.
11. The material extraction will require the use of explosives.

12. Based on available data, the extraction excavation will not expose tributary groundwater.
13. The sole purpose of the borrow quarry is to create concrete aggregate for the onsite Gross Dam Raise project. No compensation will be received by Denver Water in relationship to the development of the borrow quarry.
14. The entire project, including the borrow quarry will be regulated through two federal actions, the U.S. Army Corps of Engineers (Corps) 404 permit process and the FERC License Amendment process. The Corps' Final Environmental Impact Statement (FEIS) was released in April, 2014, and details proposed practices and techniques to restore the site after completion of the project. The practices and techniques presented as reclamation options include regrading, revegetation, rock sculpting, and rock staining for exposed areas above the high water line. The FERC License Amendment will also govern how the quarry area is reclaimed and restored.
 - a. The FEIS can be found at:
<http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/Colorado/EISMoffat.aspx>
 - b. The Draft FERC License Amendment can be found at:
http://www.denverwater.org/docs/assets/A35EC2AA-DB3B-34AB-14E46EBA132C6324/draft_ferc_hydro_license_application1.pdf
15. As discussed, Denver Water is in the process of obtaining permits from the Corps and the FERC for the proposed activities.
16. The City of Arvada is participating in the funding of this project. Denver Water is providing or managing the planning, design, and construction of the project.
17. Post construction land use activities will change as the area will be inundated by the new reservoir. The new land use activities will be authorized through the federal actions described in item 14.
18. Equipment used to extract and process the borrow quarry material include hydraulic rock drills, pneumatic rock drills, compressors, excavators, dozers, loaders, off highway haul trucks, water trucks, primary crushers, secondary crushers, screens, washers, and conveyors.

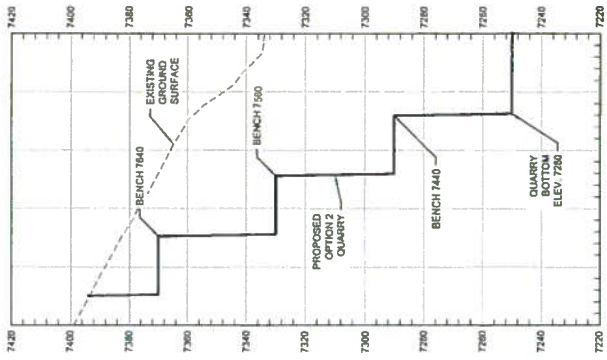
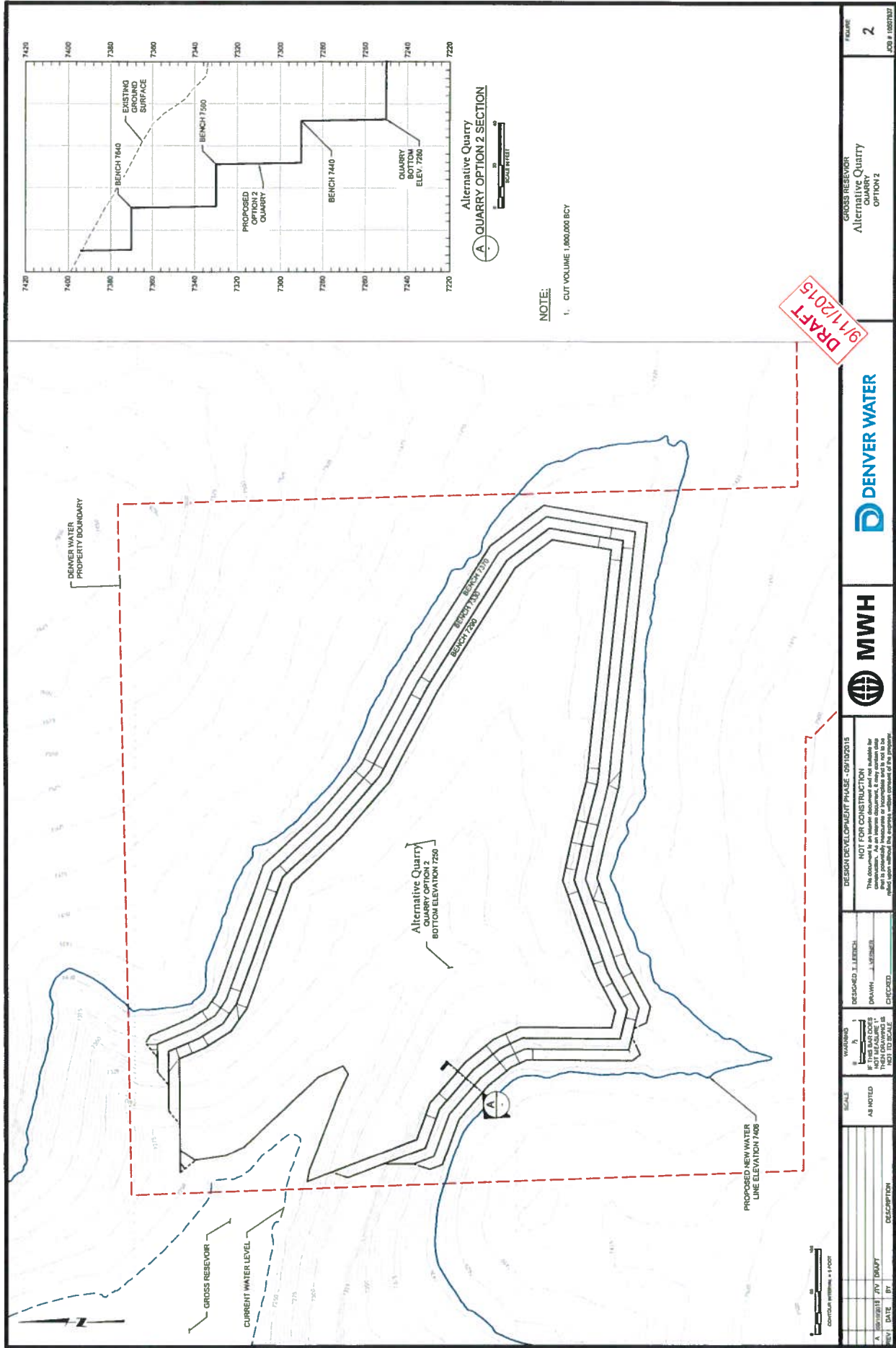
Based on our understanding of the rules and regulations, our planned activities are exempt and do not require a Mined Land Reclamation Permit based on the fact that all material extracted from the site will be used onsite for the construction of the dam raise, no material will be exported from the site, and the reservoir borrow quarry will be located within the new reservoir inundation area, thus requiring minimal to no reclamation. Denver Water appreciates the Divisions willingness to discuss the project and provide a determination as to our planned activities. Please contact me at 720-979-9579, or jeff.martin@denverwater.org, with any questions or comments.

Sincerely,



Jeff Martin, P.E.

Gross Reservoir Expansion - Project Manager
Denver Water Department



Alternative Quarry
A QUARRY OPTION 2 SECTION

NOTE:

1. CUT VOLUME 1,800,000 BCY

DRAFT
9/11/2015

				GROSS RESERVOIR Alternative Quarry QUARRY OPTION 2	FIGURE 2
DESIGN DEVELOPMENT PHASE - 09/10/2015 NOT FOR CONSTRUCTION This document is for informational purposes only and is not to be used for construction. It is not a contract and does not represent a commitment by the City of Denver. It is subject to change without notice.	DESIGNED: J. LERCH DRAWN: J. STENGER CHECKED:	SCALE: AS NOTED 1" = 100'	REVISIONS: NO. 1 DATE: 09/11/2015 BY: JVS DESCRIPTION: DRAFT	DATE: 09/11/2015 BY: JVS DESCRIPTION: DRAFT	JOB # 0825737