



Memorandum of Understanding

DATE: **AUG 07 2008**

BETWEEN: Water Protection and Land Reclamation Programs

SUBJECT: In-stream and Open Pit Mine Site Permitting Requirements

I. Purpose:

Land Reclamation Program and Water Protection Program enter into this Memorandum of Understanding (MOU) for the purpose of recognizing permitting requirements for In-stream and Open Pit mine sites. This MOU includes acknowledgement of permitting requirements each program has with respect to the activities conducted hereunder.

II. Mine Site Definitions:

An In-stream sand and gravel mine site is defined as being located within the high banks of a stream.

An Open Pit mine site is defined as being located in a range between the floodplain and an upland area or elsewhere outside of stream environments.

III. Water Protection Program Permit Requirements:

In-stream mine site: No requirement for a general or site specific discharge permit, as long as the operator conducts sand and gravel mining (not washing) in strict adherence to Sand and Gravel Excavation Plan. The extraction of sand and gravel does not constitute a "point source" in that it does not create a "discrete conveyance" from the gravel bar. Because the gravel bars are generally not vegetated or covered with overburden, a source of sediment runoff is not normally created. These are usually short term mining operations, decreasing the potential for storm water impacts. Locations where extracted materials are stored or processed may be required to obtain a storm water permit if they are found to cause impacts to waters of the state.

Open Pit mine site: A MO-G500000 general permit is required for open pit mines. This is because 1) they involve disturbing soil and moving overburden, 2) most involve washing dirt out of the aggregate, and 3) they will discharge storm water during large rain events. This, combined with the relatively long time they are in operation, means open pit mines have the potential to impact waters of the state and must be regulated by a storm water permit. MO-G50 covers their land disturbance activities as well, so they do not have to obtain a land disturbance permit.

IV. Land Reclamation Program Permit Requirements:

In-stream mine site: A certificate to operate a surface mine is required. Permitting requirements involve conducting the mining operation in accordance with a Sand and Gravel Excavation Plan. The following rule outlines the conditions of a Sand and Gravel Excavation Plan.

10 CSR 40-10.050 Performance Requirements

(14) In-Stream Gravel Removal Requirements.

- (A) Commercial Operations that conduct sand and/or gravel removal within the stream banks must comply with the following requirements.
- (B) The following requirements are designed to protect water quality while allowing for the excavation of sand and gravel from riparian environments. Upon request of the applicant, the program may establish site specific variances to address conditions that may occur at individual locations.
1. Excavation of sand or gravel deposits shall be limited to deposits in unconsolidated areas containing primarily smaller material (at least 85 per cent of the material is less than three inches in diameter) that is loosely packed and contains no woody perennial vegetation greater than one and one-half inches in diameter, measured at breast height (4.5 feet).
 2. An undisturbed buffer zone of ten foot (10') width shall be left between the excavation area and the water's edge of the flowing stream at the time of excavation. A buffer zone of adequate width to protect bank integrity should be left between the excavation area and the base of the high bank.
 3. An undisturbed buffer of 25 feet wide shall be maintained in an undisturbed condition landward of the high bank for the length of the gravel removal site. Disturbed areas in this riparian zone shall be limited to maintained access road(s) for ingress and egress only. No clearing within this riparian area is authorized in association with work authorized by this permit.
 4. Sand or gravel shall not be excavated below water elevation at the time of removal, except:
 - a. If the stream is dry at the time of excavation, excavation shall not occur deeper than the lowest undisturbed elevation of the stream bottom adjacent to the site. Upon request of the applicant, excavation depth restriction may be modified if the staff director determines that a variance would not significantly impact the stream resource.
 - b. For wet stream reaches, excavation depth restrictions may be modified if it is determined by the staff director that a variance would not significantly impact the stream resource based on the presence of bedrock to prevent head cutting, excessive bedload, gravel rich areas or any other appropriate reason.
 5. Stream channels shall not be relocated, straightened, cut-off, shortened, widened, or otherwise modified. A stream channel is defined as that area between the high banks of the creek where water is flowing, or in the case of a dry stream, where water would flow after a rain event.

6. Within 30 days of the removal of excavation equipment from the site, streambank areas disturbed by the removal operation or support features shall be revegetated or otherwise protected from erosion. For long-term operations (longer than 30 days) or for sites that will be periodically revisited as gravel is deposited, access points shall be appropriately constructed and maintained such that stream banks and access roads are designed and constructed to minimize erosion.
7. Any aggregate, fines, or oversized material removed from the site shall be placed beyond the high bank, on a non-wetland site that has been approved by the landowner. No material, including oversized material, that results from excavation activity may be stockpiled or otherwise placed into flowing water or placed against streambanks as bank stabilization unless specifically authorized by a state or federal permit.
8. All sand or gravel washing, gravel crushing, and gravel sorting shall be conducted beyond the high bank, in a non-wetland area and away from areas that frequently flood, such that gravel, silt, and wash water that is warm, stagnant, or contains silty material cannot enter the stream or any wetland.
9. Vehicles and other equipment shall be limited to removal sites and existing crossings. Water shall be crossed as perpendicular to the direction of the stream flow as possible.
10. Fuel, oil and other wastes and equipment containing such wastes shall not be stored or released at any location between the high banks or in a manner that would enter the stream channel. Such materials shall be disposed of at authorized locations.

(15) Outstanding Resource Waters (10 CSR 20-7.031)

- (A) Instream sand and gravel operations are prohibited from those waters listed as "Outstanding National Resource Waters."
- (B) Instream sand and gravel operations are prohibited from those segments of "Outstanding State Resource Waters" that are owned or managed by a state or federal agency.
- (C) All other applications for in-stream sand and gravel operations on "Outstanding State Resource Waters" shall be reviewed individually to determine if specific conditions are necessary to preserve these stream reaches during mining activity. These individual reviews would assist the applicant in focusing on issues of specific concern. The individual review shall include a site visit by DNR staff prior to permit issuance, and annual site inspections by DNR staff during the life of the permit.

(16) The Land Reclamation Program shall consult with the appropriate agencies as to the presence of state and federal threatened and endangered species in the stream reach in order to avoid jeopardizing the species' continued existence or destroying or adversely modifying the habitat of such species.

Outstanding Resource Watersheds

Sites in the watershed of an Outstanding State or National Resource Waters have the following six conditions applied to their permit. Some are duplicates of the rule above, but are listed on outstanding resource water sites to preclude the possibility of variances on these issues:

- 1) Gravel removal is done only by skimming dry, unconsolidated gravel from unvegetated portions of gravel bars.
- 2) The extraction does not lower the gravel bar surface to a point below the existing saturated level.
- 3) Extraction does not create any discernable, confined or discrete conveyance, meaning that the gravel bar is left flat (or nearly flat) whereby no trenches, holes, channels, swales or other discernable features exist that would concentrate runoff from the bar.
- 4) No equipment contacts or causes any material to contact the water in the stream.
- 5) No stockpiling at the gravel bar occurs (gravel must be hauled from the mining site to a processing or job site).
- 6) No discharge is created from such things as slurry "decant" water from freshly extracted gravel (this is prohibited by condition #2).

These In-stream permitting requirements are in place for protecting the stream.

Open Pit mine site: A certificate to operate a surface mine is required. Permitting requirements involve conducting the mining operation in accordance with a Mine Plan which is site specific. Open Pit mining is done by removing overburden and then extracting the mineral with heavy equipment. After completion of mining, areas where soil is replaced are shaped, seeded and stabilized with vegetation.

V. Reservation of Rights.

Water Protection and Land Reclamation Programs reserve any and all rights and authority that they respectfully have. Notwithstanding any other provision of this MOU, nothing herein affects or limits each program's ability to take any enforcement action authorized by law.

This Memorandum of Understanding has been developed by mutual cooperation and consent.

For the Missouri Department of Natural Resources, Water Protection Program:

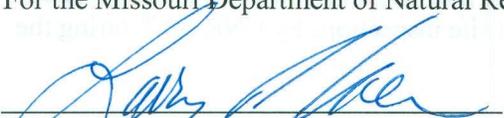


Ed Galbraith
Staff Director

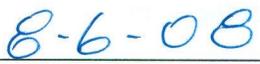


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For the Missouri Department of Natural Resources, Land Reclamation Program:

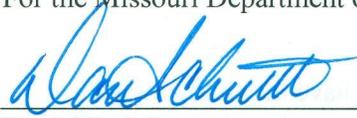


Larry P. Coen, R.G.
Staff Director



Date

For the Missouri Department of Natural Resources, Division of Environmental Quality:



Daniel R. Schuette
Division Director



Date