

# EXHIBIT D – MINING PLAN

Meeker Sand & Gravel: M-1976-038

*Letters in ( ) correspond to locations depicted in attached Mining Plan Map*

The bulk of the gravel has been mined from the current-permitted pit. The mine currently has 49.85 acres disturbed/affected. At this time mining is occurring along the pit floor in the middle section to extract additional aggregate before re-grading and reclaiming (A). Reserves above the base level have been previously been mined from the remaining section, so no overburden exists where mining will be taking place. This material has been previously moved to stockpiled locations. The aggregate seam in this area varies from 3-5' deep. The pit in this area has a naturally-occurring hard pan layer that limits extraction beyond what we are currently mining. These reserves are being extracted by utilizing dozers to rip the current floor, followed by trackhoes and hydraulic breakers to further break the existing floor down to the hard pan level. No blasting is taking place. The material will then be moved via front-end loaders and haul trucks approximately 800' to stationary crusher location. It is estimated that this extraction will continue to occur in 2-3 acre sections per year. As we move north and westerly, the mined out area will be re-graded using overburden stockpiles located to the immediate east and northwest, which are approximately 75-100' from the mined area. Dozers will be utilized to move the overburden, regrading the area. Topsoil will be replaced and these sections will then be reseeded. We expect this current mining of the floor down to the hard pan section to continue over the next 5-6 years, during which time we will be concurrently regrading and reclaiming behind our track of travel. Topsoil is currently stored in stockpiles at multiple locations in the pit (Aa).

Since the bulk of the aggregate reserves from the mid-sections of the pit have been extracted, some additional mining has been pushed out closer to the boundaries where the gravel formation begins to decrease in height as part of the formation's natural characteristics. Part of this amendment seeks to request permission to mine up to the current mine boundaries, without keeping the buffer zone that has been required in the past (B). This will allow us to extract all possible reserves that remain in those areas prior to regrading and reclaiming. It is estimated that sections of 25-100' will be worked at a time. The face height of the high wall will vary from 15-18' in its highest sections, tapering downward with the natural curve of the gravel deposit down to floor level (0'). Overburden of approximately 10-12" exists in these areas of the highwall, with overburden historically increasing as the gravel face decreases in height. Mining of these lowered areas will be via front end loader and trackhoe to feed crusher located in immediate area at approximately 200-300'. We expect this phase of cleaning up the edges of the pit to take approximately 1-2 additional years. The pit banks in this area will be sloped and graded immediately after gravel has been extracted. Dozers and haul trucks will be utilized to reslope these edges as soon as possible and are very close to the mining activity that will have occurred, approximately 150-200'. After these deposits have been mined, along with the pit floor mining that will be occurring, nearly all of the aggregate deposits will have been extracted that are possible without utilizing any additional means (such as explosives). It is estimated that the maximum affected acreage will be 50 acres as we finish mining the floor and edges and begin moving to the west toward the proposed expansion area.

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Mining Plan – Current Pit

The current mining area also has two water impoundments to serve as stormwater basins and recycle ponds. These ponds are located near the current boundary on the west in our wash plant area (C).

<b>TIMELINE: CURRENT MINING OPERATION</b>	<b>ESTIMATED TIME TO COMPLETE</b>
Continued mining of pit floor at estimated rate of movement of 2-3 acres/year.	5-6 years
Re-grading of floor area following mining	Happening concurrently, as mining moves north-westerly across remainder of pit
Replacement of topsoil and reseeding	Happening concurrently, but estimated to happen within 6 mos – 1 year of final grading being completed.
Mining of edges of pit to extract remaining resources	1-2 years
Re-sloping walls as soon as feasibly possible following mining	As soon as possible following mining
Replacement of topsoil and reseeding	Within 6 mos -1 year of final grading being completed.

\*This table is subject to the demand in area for gravel and rock products, and will fluctuate accordingly

In the pit exist stationary crusher with ancillary conveyor belts, control van, generator and jaw which will be utilized to crush and classify aggregates (D). There also exist mobile/portable screening plants, crusher and stationary wash plant (E) to produce and classify aggregates as well. Concrete mixer wash-out pit is located at (F) and will provide inert fill in that area.

Fueling stations exist near shop area, at wash plant and at stationary crusher. All tanks are placed in secondary containment areas so no fuel spillage or leakage will occur. Mobile mining equipment may be serviced as necessary from a mobile fuel truck making short visits into the mine site.

Current mining area is fenced and signs clearly depict the entire permit boundary.

Following the depletion of the remaining gravel resources in the current mine, mining will progress into the new, proposed section located directly to the west of the current mine. Mining operations will continue westerly of the current permitted area in M-1976-038. The pit banks in this area will be sloped and graded immediately after gravel has been extracted. The gravel face will continuously be mined so safe high walls are expected.

Access into new proposed section will be via extending current haul road which accesses wash plant area in current mine (G). Current road is approximately 20' wide and will be continued at this same width into the new mine area (H). Road will be graded and graveled to assist with

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#### **Mining Plan – Expansion Area**

dust suppression. Road will be bermed for safety in any instances where hazards exist beyond the road.

The mining plan in the proposed expansion area will include 47.18 acres bordering the current mine. The mining activity will continue on the same gravel formation elevation at approximately 6585'. Existing "Borrow Area" in the current mining permit will be actively mined as we work toward the proposed new mining area to the west. A two-phase plan will include taking out the west gravel slope, that is currently along the west boundary of the current mining permit going south to north (I).

Phase 1 (J) will include approximately 33 acres of area to be disturbed. It is estimated that 700,000 tons of gravel reserves are available to be mined during this phase. During this time, the active mining will move westerly. As movement proceeds at an expected rate of 250' west by 720' north and south per year, the north highwall will be graded to a 2:1 slope. Topsoil will be moved ahead of the mining operation and will be bermed 10-15' high all along the north boundary for sight, sound and wind protection (K). The topsoil on the north side will be bermed along permit boundary. Topsoil piles will be situated in a manner that prevents erosion due to wind or weather. After that point, topsoil generated by stripping operations will be stockpiled in the active mining area on the pit floor as part of our reclamation plan. Topsoil stockpiles will be placed where there will be minimal further disturbance. Proper signage will identify these topsoil piles. The gravel on the south boundary will be daylighted out and overburden berms (L) will be placed for pit protection and stormwater containment along the length from pit access road, easterly. Dozers, front end loaders, scrapers, haul trucks and excavators will be utilized to move material.

The stockpile areas on the north and south side of the mining area will be stripped of approximately 6" of topsoil. Topsoil will be placed in piles to the north for storage and will be reseeded to prevent wind and weather erosion (K). The overburden (1' – 4') will be moved into a naturally-occurring low area to create an earthen embankment approximately 50-100' south of the property line. The overburden, utilized as an embankment, will create a natural catch basin for any and all run-off that could occur in this area (L). The natural topography also allows for additional, graduated containments to be created to catch additional water if necessary in the future.

As mining proceeds west far enough, all overburden and topsoil will be brought down to the eastern portion of the pit floor starting at the east boundary moving west. A 400' x 400' area will not be reclaimed as it will be the area designated for material washing along with pit access roads, stockpiles and roads leading to them, along with a neighbor's access road which is currently present (M). The northeast 400' x 400' area will be reserved for washing operations in the future, if needed (N). Water will be obtained from rights from the owners and will be recycled in ponds adjoining the wash plant. Ponds will serve a dual purpose and are situated to collect any and all stormwater discharge that might be present, no discharges will be allowed.

## **EXHIBIT D (Cont.)**

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#### **Mining Plan – Expansion Area**

Phase 2 consists of approximately 14 acres to the west of Phase 1. Phase 2 (O) of the mining plan will be the continuation of mining moving westerly. It is estimated that 625,000 tons of gravel reserves lie in this phase. The 6"-12" of topsoil and 2' of overburden will be stripped off the top of the gravel and placed in separate piles on the west pit boundaries (P). Topsoil storage piles will be reseeded to protect from wind and weather erosion. As mining moves westerly, the faces will be sloped to 2.0H:1.0V while mining, with 3.0H:1.0V slopes at the time of reclamation.

After Phase 2 has been exhausted, all of Phase 1 will be sloped to no steeper than 3.0H:1.0V using overburden from the west side. Front end loaders, haul trucks and/or scrapers will move the overburden approximately 700-900'. At this time, all roads and wash plant areas will be reclaimed with the exception of the neighbor's access road and roads necessary for the future agricultural operations.

Loaders, excavators, dozers, scrapers and haul trucks will be utilized during the stripping, mining and reclamation operations.

When necessary for dust control or washing operations, water will be supplied by Joe Conrado (Property Owner) from an existing water right on the Highland ditch and an existing onsite well. Recycle pits will be located in the northeast corner of the pit and will serve to contain all stormwater discharge. All water within the pit will be contained with the overburden berms on the south side.

Mining in the newly permitted area will begin as soon mining continues far enough beyond the wash plant area to the west. It is expected this could still be 4-6 years out. Mining in the new area could be occurring concurrently with the final mining of the floor areas in the current mine area. Quantities to be mined and removed from the site will be determined by the local market, which has varied historically from year to year. Once mining commences in the proposed new section, we anticipate approximately 40,000 tons per year to be removed. With approximately 700,000 tons of gravel available, the life span of Phase 1 can be estimated to be approximately 17-20 years, depending on the market. The life span of Phase 2 is estimated to be approximately 10 years.

This proposed new section is made up of gravel seams similar to the current mine, made up of sedimentary and gravel deposits. The depth varies from 10-14' thick with a layer of Mancos shale beneath the gravel reserves, below which is expected to run a hard pan layer prohibiting further mining without the use of explosives, such as is the case in the current mine. Six to twelve (6" – 12") of topsoil lies on overburden deposits which range from 1-3' in depth. In some areas of the proposed area, topsoil depth appears to be very shallow.

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Mining Plan – Expansion Area

<b>TIMELINE: PROPOSED / NEW MINING OPERATION</b>	<b>ESTIMATED TIME TO COMPLETE</b>
Strip overburden and topsoil, moving to berms in stated locations	Ongoing ahead of mining operation as it moves westerly
Extracting gravel from gravel face working westerly through Phase 1	17-20 years
Re-grading mined out areas as mining moves westerly	Ongoing as mining moves westerly
Replacement of Topsoil and reseeding	Within 6 mos – 1 year of final grading being completed.
Strip overburden and topsoil, moving to berms in stated locations in Phase 2	Ongoing ahead of mining operation as it moves westerly
Extracting gravel from gravel face working westerly through Phase 2	10 years
Replacement of topsoil and reseeding	Within 6 mos -1 year of final grading being completed.

\*This table is subject to the demand in area for gravel and rock products, and will fluctuate accordingly

It is expected that a stationary crusher with ancillary conveyor belts, control van, generator and jaw which will be utilized in the proposed new mine section to crush and classify aggregates. Wash plant will remain on current mine permit until sufficient room/area has been mined which could allow us to move it onto the west side of the recycle ponds to make it more efficient to wash the material that is being produced in the new section. Wash plant would continue to use the recycle ponds in their current location. Additionally, portable screening/crushing equipment may be utilized to produce/classify material in the new section as well. It is possible that a hot mix plant could be mobilized in the pit in the future.

It is expected that a fuel tank with secondary containment will be moved to supply the stationary crusher when it is mobilized into the new mine section. No fuel spills or leaks will occur.

Phase 1 of the new mine section is currently fenced on the north, south and west. Once mining proceeds into the final leg of Phase I, Phase 2 will be fenced as well. Mine permit boundary signs will be clearly posted along the perimeter of the entire boundary.

The maximum disturbed/affected acres at any one time will be 50 acres.

There exist some areas that have been previously mined/disturbed by prior operator(s). These areas are noted on the map as (zz). One area is completely within proposed mine boundary, the other extends beyond the proposed mine boundary. The portion outside of our proposed mine boundary will not be reclaimed by Meeker Sand & Gravel, but will be left in its current condition.

**EXHIBIT D - MINING PLAN MAP**

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