



Arizona State Mine Inspector
Reclamation Department
1700 West Washington Street, Suite 403
Phoenix, AZ 85007

November 1, 2023

RE: Southern Avenue Aggregate Operation (Plan Approval: 11-29-2021)
Substantial Reclamation Plan Change

To Whom It May Concern:

Vulcan Materials Company (Vulcan) submitted a Notice of a Proposed Change to the Reclamation and Closure Plan for the Southern Avenue Site (Site) dated September 6, 2023. An adjacent and attached farm field, at 51.5 or approximately 52 acres, has been added to the Site. Per the letter dated September 21, 2023 the Notice of a Proposed Change was accepted as a substantial change.

Per the Arizona Administrative Code R11-3-210 Fees the cost for the Substantial Change are \$1565 for 20 acres of disturbance, plus \$20/acre when the change is greater than 10% or 20 acres, whichever is less. The Fees for the substantial change will be = $\$1565/20 \text{ acres} + (\$20/\text{acre})(32 \text{ acres}) = \2205 .

A check for the required fees and three hard copies of the revised Reclamation Plan are attached. Electronic files will be emailed as well.

The Self-Assurance package for all Arizona mine sites including the revision for the Southern Ave Cost estimate increased from \$410,159 to \$427,409. Vulcan has modified the Certificate of Self-Insurance for the 2022 Financial Year and the Self-Insurance package was submitted to ASMI for review in October 2023. The package include the revision for Southern Ave.

If you have any questions, please contact Michael Hunt at 602-342-0064.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Hunt".

Michael Hunt
Project Engineer VI
huntm@vmcmail.com



**RECLAMATION AND CLOSURE PLAN
VULCAN MATERIALS COMPANY
SOUTHERN AVE MINE SITE- REVISION 2023**

**SUBMITTED TO THE STATE MINE INSPECTOR'S OFFICE FOR
REVIEW AND APPROVAL IN ACCORDANCE WITH
ARIZONA REVISED STATUTE
TITLE 27 - CHAPTER 6
STATE MINE INSPECTOR AGGREGATE MINED LAND
RECLAMATION**

NOVEMBER 1, 2023

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1.0 ADMINISTRATIVE INFORMATION

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**Landowner &
Operator:** Vulcan Materials Company
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2.0 INTRODUCTION

2.1 PURPOSE AND SCOPE

Vulcan Materials Company (Vulcan) is the owner and future operator of the proposed Southern Avenue open pit mining operation. Mining is proposed to commence on or after October 1, 2023. The purpose of this Mine Reclamation and Closure Plan (MRCP) is to present details of reclamation of the Southern Avenue site in Maricopa County, Arizona concurrent with or after proposed mining operations have ceased in accordance with the Arizona Aggregate Mined Lands Act (AAMLRA) (Arizona Revised Statutes[A.R.S.] § 27-1201 as authorized by A.R.S. § 27-1204. This plan has been developed pursuant to the format and content prescribed in the Arizona Aggregate Mined Lands Reclamation Rules (Arizona Administrative Code {A.A.C}, R11-3-101, et seq.) to account for all requirements associated with an environmental assessment and the mining operation MRCP submitted to the State Mine Inspector. Consequently, the MRCP addresses environmental, technical and operational issues that are identified in those documents.

A Reclamation and Closure Plan was approved for our Southern Avenue site on November 29, 2021, and is being amended here to include additional property directly adjacent to the original MCRP.

2.2 RECLAMATION APPROACH

Vulcan will reclaim the pit(s) and areas surrounding the pit(s), and will remove above grade structures, except for structures needed for or consistent with postmining land use. Both concurrent and postmining reclamation methods may be utilized at the Southern Ave mine site.

2.3 CURRENT OWNERSHIP AND LAND USE INCLUDED IN THE AGGREGATE MINING UNIT

The Southern Avenue property, originally 94 acres, would expand to 145.5 acres. An additional 51.5 acres of open farmland has been purchased by Vulcan directly west of the originally approved reclamation plan footprint. Southern Avenue is a proposed new construction aggregate mine that is owned and will be operated by Vulcan. To date mining and processing operations have not yet commenced. Currently the property is an active commercial agriculture operation consisting of cultivated fields and associated irrigation infrastructure and a caretaker's residence. It is anticipated that mining will begin on or after October 1, 2023. Southern Avenue will be a significant source of construction materials to the greater Phoenix market in the future.

Map 1 is a Site Location Map, on a USGS quad base map, with the approximate location of the Southern Ave mine site in relation to features in the area. The Southern Ave mine

site is located on Section 31, T 1N, R 1E. (See Map 1) Parcels owned by Vulcan are shown on Map 2 (See Map 2).

The Southern Ave site is bordered by Southern Avenue to the north, 107th Avenue to the east, the confluence of the Salt and Gila Rivers to the south, and additional farmland to the west. A levee along the southern property boundary protects the property from flooding (and removes it from designated floodplain/floodway zones) of the Salt and Gila River confluence. East and west of the property are additional cultivated fields with sparse residential development. North of the property, across Southern Avenue, are medium density residential properties. The property is relatively flat with very a slight 0.25% gradient to the west-southwest.

Southern Avenue has a shallow groundwater table (approximately ± 20 feet bgs). As a result, mining operations will occur above and below groundwater. As mining advances across the property open ponds will be formed. Shown on Map 3 is the existing site topography taken from the Tolleson USGS 24K Quad Map. (See Map 3)

Sand and gravel mining operations will occur in pit(s) across the Southern Avenue Site. Located in the Possible Plant Location Area will be material processing and washing plants, as well as ready mix concrete (RMC), and hot mix asphalt (HMA) plants for the manufacture of materials for construction and other industries. Material will also be stockpiled at various locations on site for sales.

The current property boundary is shown on Maps 1, 3 and 4, with areas to be disturbed on site as necessary as the mining operation expands. (See Maps 1, 3, and 4)

The extraction/processing operation will consist of removing earthen material for aggregate mining as described in A.R.S. § 27-441. The process includes, but is not limited to the following: crushers; screens; conveyors; mobile equipment for the support of production; RMC plants; and HMA plants. Other possible activities include the following: core drilling; overburden stripping; loading; hauling; and dredging.

Water for processing may be derived from groundwater exposed in mined pits by pumping. Locations will be set aside for recycling and water storage. A settling pond location will be chosen in a portion of the mined pit convenient to the processing plant. Process water will be deposited where area becomes available in the mined out portions of the pit.

It is important to note that as electrical needs change it may be necessary to update power delivery in terms of generator sets or ultimately commercial power service. On site fuel storage will also be necessary to accommodate heavy equipment.

Elements for the mining operation, such as material processing plants and offices may be relocated from time to time as the mining operation expands. Berms and fences may be placed for environmental, safety, and visual and sound buffers.

All necessary permits for the proposed Southern Ave mining operation have and/or will be obtained by Vulcan to comply with all local, state and federal regulations.

2.4 PROPOSED POSTAGGREGATE MINING LAND USE

Depending on the economics of the area, several possible postmining land uses are available. Some of the options are as follows:

- Reclaimed Plant Area and/or natural open pond area for commercial use;
- Reclaimed Plant Area and/or Groundwater recharge basin;
- And an inert Landfill.

No parts of the mine site will be designated as grazing, fish or wildlife habitat, and forestry or recreation areas once the deposit is depleted and the site has been reclaimed.

2.5 DESCRIPTION OF THE AGGREGATE MINING UNIT CURRENT AS WELL AS PROPOSED SURFACE DISTURBANCES

See Section 2.3, 2.6 and 2.8

2.6 EXISTING AND PROPOSED FINAL TOPOGRAPHY INCLUDING WASTE ROCK, STOCKPILES AND FINES AREAS

Map 3 shows existing topography. (See Map 3)

Map 4 shows the proposed final topography as an open pond, and reclaimed plant area with location and area to be determined. (See Map 4) The pit configurations shown on Map 4 are only approximations, the final depth and area of pits may vary based on market conditions and geologic conditions encountered.

2.7 A NARRATIVE DESCRIPTION OF ROADS

Haul and access roads throughout the site will be created, maintained, and changed as needed. Parking areas may also change locations as needed.

3.0 RECLAMATION

3.1 THE PROPOSED RECLAMATION MEASURES TO ACHIEVE POST MINE LAND USE AND PUBLIC SAFETY

A. What measures will restrict public access to pits or other hazardous surface features?

Public access will be restricted by berms or fences installed around all open pits, or on or near the property boundary. Where hazards to public safety cannot be reduced by reclamation, weather resistant warning signs, to avoid the areas, will be posted. Further, removal of all scrap metal, wood, trash, and other debris that pose a threat to public safety or create a public nuisance will be reviewed.

B. What measures will be taken to address erosion control and stability?

Roads and other disturbed or compacted areas of the property will be allowed to naturally re-vegetate to control erosion and aid in drainage.

Site specific grading, natural revegetation, or other proposed control measures may be conducted, as necessary, to address erosion. No permanent piles of mined material or overburden will be left to restrict drainage.

C. What measures will be taken to address revegetation, conservation, and the care and monitoring of revegetated areas?

At this time no deliberate revegetation of the site is planned. Onsite soils are sufficiently fine grained and will provide a suitable soil substrate for establishment of natural vegetation.

Care and monitoring of the reclaimed property will involve annual inspections to monitor slope performance (erosion and stability) and natural vegetation growth. Inspections will continue until the site is released by the ASMI.

3.2 EQUIPMENT AND STRUCTURE REMOVAL

Equipment used for the mining operation (i.e.: conveyor belts, and material processing plants) will be removed from the site once the deposit has been depleted and reclamation has commenced. Buildings and structures associated with mining operations located on the property (office, shop, lab, etc.) will be removed during reclamation once the deposit has been depleted. If the site continues to produce ready mixed concrete or asphalt concrete after the deposit is depleted, structures, foundations and equipment associated with these operations would remain until they are not economically viable and would ultimately be

removed. Costs for removal of all equipment, foundations and structures associated with mining have been estimated and are included in Appendix B.

3.3 SITE INFRASTRUCTURE

Haul roads, plant roads, and access roads may be left graded and in usable condition for the proposed postmining land use other than natural open space. If roads are not required, they will be ripped, plowed, scarified and allowed to naturally revegetate. The location of the final pit haul road(s) will vary depending on mine progression, and are not shown on the proposed final topography map. (See Map 4)

Power lines and water lines installed on the property for the mining operation will be removed upon completion of activity. Existing and proposed water wells and power infrastructure will likely be retained for future use in redevelopment and or sale of the property. However, if onsite wells are ultimately required to be abandoned they will be abandoned in accordance with Arizona Department of Water of Resources regulations.

Fences installed on the property, and not necessary to maintain public safety, will be removed.

Costs associated with the removal of planned roads, fencing, water and power lines and wells have been estimated and are included in Appendix B.

3.4 AREA PREPARATION

Grading may take place in order to create contoured slopes around the edges of the pit. If topsoil addition is desired, salvaged soil, import material, or settling pond fines may be utilized as topsoil material.

3.5 SITE STABILITY

Pit slopes will be mined to final depth at a slope gradient of 2H:1V (Horizontal:Vertical) or shallower which will minimize erosion and result in geotechnical stability for the area.

Regrading may be utilized in some areas to maintain slope integrity; otherwise no stabilization activities are anticipated beyond the proposed slope configuration. Located in Appendix A is the Engineers Certificate. (See Appendix A)

3.6 SOIL CONSERVATION

Topsoil and overburden will be removed from mining areas and used in perimeter berms at the site. Alternatively, soil and overburden may be removed from the site to be used as

fill in the local construction market. If topsoil at the site is not salvaged, and topsoil addition is needed, then either import material, or settling pond fines will be utilized.

Before redistribution of soil, the regraded land will be treated, if necessary, to reduce the potential for slippage of the redistributed material or to enhance root penetration, or both. Soil and other materials shall be redistributed in a manner that prevents excess compaction and achieves a thickness consistent with the approved postaggregate mining land use as identified in Section 2.4.

3.7 REVEGITATION

Deliberate revegetation through seeding and irrigation is not anticipated at the site as the planned post-mining land use is naturalized open space. Natural revegetation is expected to be successful as onsite soils are sufficiently fine grained to be able to support regrowth. Any natural revegetation will be allowed to establish local plant species that will support the approved postmining land use as identified in Section 2.4.

3.8 TIMELINE

A combination of concurrent and postmining reclamation activities may be utilized for the Southern Ave mine site. Ultimately, final reclamation will commence within one year of the deposit being depleted and will be completed within one year from the commencement of reclamation activities. Reclamation activities shall be designed to minimize hazards to public safety to the extent technically and economically practicable. The reclamation timeline may follow the phasing detailed in Section 3.9.

3.9 PHASING OF RECLAMATION

Phasing of Reclamation activities may vary depending on mine progression. With the possible use of concurrent reclamation activities, some areas may be reclaimed well before the end of mine life. Portions of the site that are not reclaimed concurrently will ultimately be reclaimed once the deposit has been depleted.

Shown on Map 3 is the potential reclamation phasing (Phases 1, 2, and 3), with Phase 1 being the east pit, Phase 2 being the middle pit, Phase 3 being the west pit, and the potential plant area being the last area to be reclaimed. (See Map 3) Reclamation sequencing and extent of the phases may vary depending on market conditions and geologic continuity. Phases shown on Map 3 are only approximate.

4.0 MINE CLOSURE

4.1 MINING AREAS

Where concurrent reclamation activities have not been utilized, in accordance with A.R.S. § 27-926 reclamation will commence within one year of depletion of the deposit. Once initiated, reclamation will be performed to achieve the proposed postmining land use and will be completed within one year of the commencement of reclamation activities.

4.2 PROCESSING AND OTHER AREAS

Reclamation of the material processing and other related areas will commence within one year of depletion of the deposit and will be completed within one year of the commencement of reclamation activities.

As mentioned in Section 3.2, it is possible that ready mix concrete and asphalt concrete operations will still be active after the deposit has been depleted. While they will likely continue to operate after the deposit has been depleted costs for removal have been estimated and are included in Appendix B of the Revised Reclamation Plan.

4.3 MONITORING

Following final closure of operations and completion of reclamation the site will be monitored annually to ensure that all reclaimed portions of the site are performing as anticipated (slope stability, natural vegetation establishment, erosion and drainage control, access control, trash removal, etc.). Monitoring will be conducted in keeping with the approved conditions of this plan in accordance with the ASMI's Office. Annual inspections will continue until the site is deemed reclaimed and released from the ASMI. Costs associated with annual monitoring have been estimated and are presented in Appendix B.

5.0 RECLAMATION COSTS AND FINANCIAL ASSURANCE

5.1 RECLAMATION COSTS

All reclamation costs will be wholly borne by Vulcan to perform the reclamation activities to achieve the final determined postmining land use.

Reclamation costs for material processing plant removal have been prepared with a contractor doing the removal. Quantities for plant removal are based on high side estimates of similar plants from other sites. Reclamation costs are as follows: for the sand and gravel plant removal and site grading is \$202,897; for the HMA Plant removal is \$141,663; for the RMC Plant removal is \$82,849; and total \$427,409. Additional exterior slope grading was added to the sand and gravel cost table to account for the additional 51.5 acres added to Southern Avenue. A cost detail breakdown is located in Appendix B. (See Appendix B)

5.2 FINANCIAL ASSURANCE

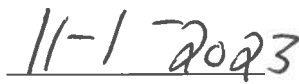
Financial surety has been obtained by a Corporate Financial Test or Gaurentee. Southern Avenue will be included in the other Arizona sites included in the Self Assuracne that was submitted and approved in April 2020.

6.0 RECLAMATION STATEMENT OF RESPONSIBILITY

Vulcan Materials Company, owner and operator, assumes responsibility for the reclamation of surface disturbances that are attributable to the aggregate mining unit consistent with A.R.S § 27-1201 and A.C.C. R11-3-501 pursuant to that chapter. Reclaimed areas that have been disturbed at the site will be reclaimed to a safe and stable condition to achieve the postmining land use. Located in Appendix A is the Engineers Certificate. (See Appendix A)



Signature



Date



Title

7.0 REFERENCES

Arizona Administrative Code, Title 11 – Mines, Chapter 3. State Mine Inspector Aggregate Mined Land Reclamation, Articles 1-8.

Arizona Revised Statutes, Title 27 – Minerals, Oil and Gas, Aggregate Mined Land Reclamation, Articles 1-6.