

including construction, operation, reclamation, post-reclamation, and conditions during and after a one thousand (1,000) year storm event based on NOAA data for the area within the DCI Overlay Zoning District, using geological, meteorological, hydrological, geochemical, and mineralogical modeling for each baseline described in Section 11.14.4.7, including:

1. the characteristics of each material to be extracted, processed, stored, deposited, exposed, or disposed, including waste rock, raw and spent ore, tailings, pits, walls, and underground workings;
2. the potential and nature of geochemical alteration of each material to be extracted, processed, stored, deposited, exposed, or disposed that could result in the leaching, acid generation, emission, or release of an air or water contaminant;
3. the nature and extent of sulfide mineralization, potential for acid generation, and any other geochemical alteration related to each material to be extracted, processed, stored, deposited, exposed, or disposed; and
4. the hydrologic effect, including any geochemical alteration, sulfide mineralization, and acid generation, related to construction, operation, reclamation, and post-reclamation, as demonstrated by cross sections and 3D models showing the location of pads, stockpiles, ponds, pits, walls, and underground workings, and other related features, potential fracturing in the geologic subsurface and their relation to the water table, hydrology, and mineralization.

11.14.4.10. Stormwater. A description of the proposed method for the management and disposal of stormwater runoff from disturbed and undisturbed ground to prevent clean water from entering any area containing a material that has been extracted, processed, stored, deposited, exposed, or disposed, and that captures any water that contacts a material that has been extracted, processed, stored, deposited, exposed, or disposed.

11.14.4.11. Sediment. A description of the proposed method for reduction and control of sediment transport.

11.14.4.12. Wastewater. A description of the proposed method for disposal of domestic waste, including the location and design of septic tanks and leachfields.

11.14.4.13. Solid Waste. A description of the proposed method for management and disposal of domestic and industrial solid waste, including the implementation of best practices for minimization and recycling.

11.14.4.14. Extraction and Processing. A description and map showing the proposed mining method, milling method, disposal of waste rock and tailings, and existing and proposed facilities, including:

1. open pit and underground mining facilities, including location, depth, size, acreage, and geology;
2. material handling and processing facilities, including crushing, milling, concentrating, smelting and solvent extraction and electrowinning;
3. ancillary facilities, including sumps, tanks, pipelines, transportation, and offices. The description shall include the location, purpose, construction material,

and dimensions and capacity;

4. storage and disposal facilities, including tailing, process water, and stormwater impoundments, drainage channels, leach pads, waste rock stockpiles, and slag and residue piles. The description shall include the location, purpose, liner material, and storage or disposal capacity; and

5. process and domestic water, including the location, construction method and material, dimension and capacity of wells, meters and pipes.

6. A mass balance table describing the quantity of each type of material mined or disturbed each year, including but not limited to soil, overburden, barren waste (less than 0.1% sulfur), waste, ore, tailings, and quantities of material disturbed for roads and site grading into and out of stockpiles.

11.14.4.15. Storage, Disposal, and Maintenance of Ore, Tailings, Waste Rock, and High Walls. A plan for handling each material extracted, processed, stored, deposited, exposed, or disposed, and each facility proposed for such use, in a manner that will not cause or contribute to the contamination of surface or ground water in perpetuity, signed and sealed by a Professional Engineer, taking into consideration the amount, intensity, duration, frequency of precipitation, and the watershed area, including the topography, geomorphology, soils, and vegetation.

11.14.4.16. Operating Plan. A plan describing the procedures for operating the facilities for Mineral Resources Extraction and Processing, including:

1. a schedule of anticipated periods of temporary cessation, including holidays or anticipated regular maintenance;

2. notification of appropriate regulatory authorities of temporary cessations, both scheduled and unscheduled;

3. a description of processes for containing leachate and runoff from materials that have been extracted, processed, stored, deposited, exposed, or disposed;

4. a description of processes and protocols for managing all fluids in the operation, including routine inspections of each facility;

5. a protocol for managing the facilities and fluids during emergencies and non-routine operations, temporary cessation, and closing, including:

a. emergency by-pass and containment procedures for each facility, including treatment facilities damaged or unable to keep up with demand;

b. procedures to cease operations during emergencies and non-routine operations;

c. labor requirements, including management and security, to cease operations and manage facilities during emergency and non-routine operations;

d. identification of potential hazards, including the generation and release of Hazardous Materials, during emergency and non-routine operations

e. monitoring plan to identify and characterize Hazardous Materials generated or released during emergency and non-routine operations;

f. pump energy usage;

g. estimated cost to cease operations and manage facilities during emergencies or non-routine operations;

h. Health and Safety Plan complying with Mine Safety and Health Administration requirements; and

i. procedures to stabilize facilities and return to regular operations.

11.14.4.17. Blasting Plan. A plan created by a qualified blasting firm or engineer which is knowledgeable of State of New Mexico requirements and National Fire Protection Association NFPA 495 (Explosive Materials Code), which identifies the maximum weight of explosives to be detonated on each occurrence, the type of explosive agent, maximum pounds per delay, method of packing, type of initiation device to be used for each hole, blasting schedule and noise and vibration limits not exceeding the standards set in Table 11.2.

11.14.4.18. Monitoring Plan. In addition to the requirements of Section 11.8.11, the Applicant shall submit a Monitoring Plan, including Quality Assurance/Quality Control ("QA/QC") procedures, describing the collection and evaluation of data to ensure compliance with the standards of this Chapter and the SLDC, including:

1. representative samples of each material extracted, processed, stored, deposited, exposed, or disposed;
2. representative samples of ground and surface water, including each point of potential contact with a material that could leach, generate, or release a water contaminant;
3. hydrological tests to evaluate changes in flow, gradient, and water table; and
4. monitoring of operations to detect leaks and ensure proper function of facilities.

11.14.4.19. Wildlife Impact Mitigation Plan. The Applicant shall submit a Wildlife Impact Mitigation Plan developed by a professional biologist with expertise in wildlife impact mitigation and approved by the Administrator. The plan shall describe how wildlife impacts attributable to the proposed DCI will be eliminated or mitigated to the greatest extent possible.

11.14.4.20. Closure and Post-Closure Plans. The Applicant shall submit Closure and Post-Closure Plans, and shall update the plans annually. The plans shall be certified by a Professional Engineer approved by the Administrator. Following closure, a Professional Engineer shall prepare a final report describing the actions taken by the Permittee, the results of closure and post-closure monitoring, and a certification that the DCI Overlay Zoning District will comply with all applicable standards in perpetuity. The plans shall

demonstrate compliance with the following standards:

1. Removal. All facilities not required to ensure compliance with the standards and requirements of the SLDC, this Chapter, and the DCI Conditional Use Permit shall be removed.

2. Secondary Containment Systems. Liner systems shall be tested for any potentially contaminating materials, remediated to comply with Section 11.14.3, and removed.

3. Leach (Spent Ore and Lean Ore) Facilities. Materials in leach facilities shall be detoxified using rinse/rest cycles and chemical oxidation. Following detoxification, leach facilities shall be closed by covering the materials as specified in Section 11.14.9.4, ponds associated with a heap-leach facility shall be closed by folding in the synthetic liners and filling and contouring the pits with inert material, residual sludge, spent ore, and lean ore shall be removed and disposed in an approved facility, and piping shall be removed.

4. Cover Systems. Cover systems shall be installed on waste rock piles, leach and spent ore facilities, tailing impoundments, and any other unit that has the potential to yield a contaminant, which is capable of containing the contaminant in perpetuity:

a. the cover system shall be constructed of thirty-six (36) inches of earthen materials that are capable of sustaining plant growth without perpetual care and have erosion resistant characteristics. The pile shall be shaped to be geomorphologically stable. Erosion rates shall be equal to or less than stable slopes in the surrounding area after the vegetation has reached near-equilibrium cover levels;

b. the cover system shall have the capacity to store within the fine fraction at least ninety-five (95) percent of the long-term average winter precipitation (December, January and February) or at least thirty-five (35) percent of the long-term average summer precipitation (July, August and September), whichever is greater. The water holding capacity shall be determined by multiplying the thickness of the cover by the incremental water holding capacity of the fine fraction of the cover. The incremental water holding capacity of the fine fraction of the cover shall be determined by field or laboratory tests or published estimates;

c. these design criteria may be modified only upon a demonstration that an alternate cover system, including a composite or layered cover incorporating a liner, will provide an equal or greater level of protection for surface and ground water standards; and

d. the cover system shall include monitoring and reporting for surface and ground water under and adjacent to the unit.

11.14.4.21. Reclamation.

1. a detailed description of the proposed post-mining land use within the DCI Overlay Zoning District, including the written approval of each surface owner for the proposed use;

2. a plan and cost estimate certified by a Professional Engineer with expertise in reclamation and approved by the Administrator, to reclaim the DCI Overlay Zoning District, including:

a. a description of the methods to be used;

b. a description and map showing the schedule and acres to be reclaimed;

c. a topographic map of the anticipated surface configuration after the completion of reclamation including cross sections on one hundred (100) foot centers showing the existing ground and the proposed reclaimed surface;

d. a description of the potential for the generation of water contaminants after reclamation and how contaminants will be eliminated;

e. a description of the measures for siting, designing, constructing, and managing facilities to ensure the success of reclamation;

f. a mass balance table showing for each phase and year of operation, the quantity of topsoil salvaged and replaced, quantity of topsoil estimated to remain, the quantity of ore mined, and quantity of waste generated and placed in each storage facility; and

g. a plan for salvaging and storing topsoil for use in reclamation.

11.14.4.22. Additional Information. Any additional information which the Administrator and the Board deems necessary to review the application.

11.14.5. Application Review. The Administrator may contract with, and the Applicant shall pay for, any consultant retained by the County to provide assistance in its review of the application.

11.14.6. Performance Standards and Conditions. The following performance standards shall apply to both operation and closure of a Mineral Resource Extraction and Processing operation to the extent applicable:

11.14.6.1. Hours of Operation. Hours of operation are limited to the period between sunrise or 7:00 a.m. whichever is latest, and sunset or 6:00 p.m., whichever is earliest, Monday through Saturday unless the Administrator recommends, and the Board determines that other hours of operation are more appropriate to meet the standards of this chapter and the SLDC.

11.14.6.2. Setbacks. Mineral Resource Extraction and Processing, and all related equipment, structures, and facilities:

1. shall be no closer than three hundred (300) feet to the boundaries of the DCI Overlay Zoning District and five hundred (500) feet from all public road rights-of-way, public recreational easements, and one hundred (100) year flood zones;

2. shall be no closer than one thousand (1,000) feet to the seasonal high water mark of any water body or seasonal watercourse, including a minimum one hundred (100) foot buffer zone of natural vegetation measured from the annual high water mark of a surface water, including a perennial, ephemeral, and intermittent body; and

3. shall be no closer than one half (1/2) mile to any Traditional Community Zoning District, Planned Development District Zoning District, or single-or multi-family dwelling, park, recreational use, or institutional structure, including churches, public buildings, and schools not within the DCI Overlay Zoning District.

11.14.6.3. Compliance with Design Criteria. Mineral Resource Extraction and Processing shall comply with Section 11.14.3 during all phases of construction, operation, closure, post-closure, and reclamation.

11.14.6.4. Hazardous Materials. All facilities containing a Hazardous Material, including ponds tanks, pits, and piles, shall be covered and fenced to prevent contact with wildlife. The handling, storage, use, and disposal of Hazardous Materials shall conform to the highest standards of care, industry best practices, and applicable law.

11.14.6.5. Remediation of Contaminated Baseline and Legacy Uses. In the event that baseline conditions do not meet the standards of this Chapter and the SLDC or if any part of the DCI Overlay Zoning District contain a legacy mine or historic mining site, the Permittee shall comply with the plan approved by the Board.

11.14.6.6. Terrain Management. Mineral Resource Extraction and Processing shall comply with the following standards:

1. open pits shall be backfilled unless the Administrator recommends and the Board determines that another method of open pit closure will be more effective to comply with Section 11.14.3;
2. surface water run-on and run-off from undisturbed areas shall be controlled to prevent contact with and contamination by disturbed areas and process and waste materials;
3. surface water run-on and run-off from disturbed areas and process and waste materials off shall be controlled to prevent contact with undisturbed areas using the most effective techniques identified in the best available science; and
4. land surfaces in the DCI Overlay Zoning District shall be managed to minimize erosion, including the construction of sedimentation ponds; and
5. all reclaimed landforms shall be geomorphologically stable and blend into the surrounding terrain.

11.14.6.7. Facilities for Storage, Processing, and Disposal of Ore, Spent Ore, Waste Rock, Tailings, and Other Geological Materials. Facilities for the storage, processing, and disposal of ore, spent ore, waste rock, tailings, and other geological materials that have the potential to generate water contamination, except for clean soil stored for the purpose of reclamation, shall be designed, constructed and managed by a Professional Engineer with expertise in liner systems and approved by the Administrator, and shall comply with Section 11.14.3 and the following guidelines, unless the Board determines that the guidelines should be modified to ensure compliance with Section 11.14.3:

1. a process solution collection system designed to: (1) be removed after the operational life of the facility; (2) integrate with an overliner protection structure that protects the primary liner from damage during loading and minimizes the potential for penetration of the primary liner; (3) transmits

fluids out of the drainage layer of the facility, and (4) maintains a hydraulic head less than the thickness of the drainage layer, provided that the drainage layer shall not exceed five (5) feet in thickness. Any penetration of the primary liner by the collection system through which a pipe or other fixture protrudes shall be constructed in accordance with the liner manufacturer's requirements, and shall be disclosed in the construction plans and as-built drawings;

2. a primary liner consisting of a continuous flexible-membrane of suitable synthetic material or other impermeable substance that provides the same or greater level of containment, including permeability, as a sixty (60) millimeter HDPE geomembrane liner system. The liner system's tensile strength, tear and puncture resistance and resistance to degradation by ultraviolet light shall be compatible with the maximum expected design loads, exposures and conditions. The design of the liner shall be based on the following factors:

a. type, slope and stability of the foundation;

b. overliner protection and provisions for hydraulic relief within the liner system;

c. load, and the means of applying the load on the liner system;

d. the compatibility of the liner material with any process solution to which it may be exposed; and

e. the liner's ability to remain functional in perpetuity;

3. a liner system sub-base placed upon a stable foundation. The prepared sub-base shall consist of a minimum of twelve (12) inches of soil that has a minimum re-compacted in-place coefficient of permeability of 1×10^{-7} cm/sec. The top surface of the sub-base shall be smooth and free of sharp rocks or any other material that could penetrate the overlying synthetic liner;

4. an electronic grid leak detection system installed between the primary and secondary liners for the purpose of detecting the loss of process solution;

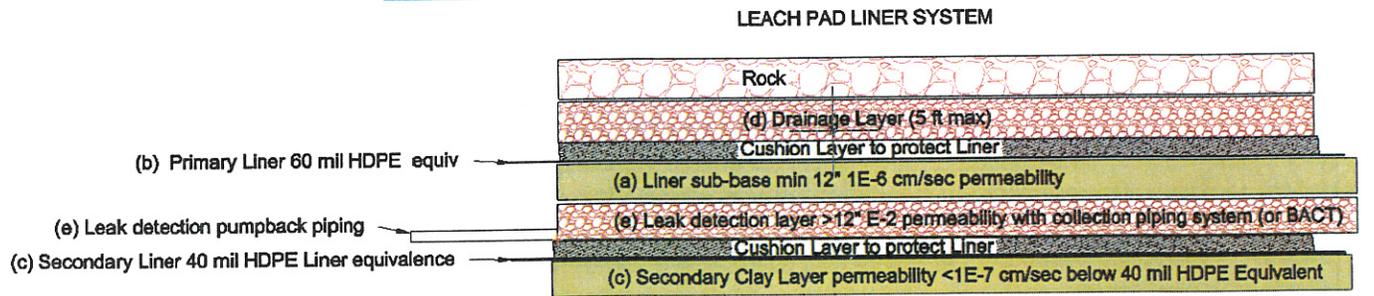
5. a pump back system installed between the primary and secondary liners for the purpose of keeping the secondary liner dry in the event of a leak. Pumped fluids shall be managed in a manner that is protective of human health and the environment and that satisfies Section 11.14.3 (Design Criteria);

6. tailings shall be dry stacked unless the Administrator recommends, and the Board determines that another method is more effective to ensure compliance with Section 11.14.3;

7. a stockpile and its foundation shall be designed with a minimum static factor of safety of 1.5 and seismic factor of safety of 1.1; and

8. if a leak is discovered in the liner system, the Permittee shall cease operations notify the Administrator, remove the material from the liner, and repair the leak. The Permittee shall not recommence operations until a Professional Engineer certifies that the leak has been identified and repaired, and the release, if any, has been remediated, and the Administrator concurs after review of the certification.

Figure 11.1 Liner System Example. The following figure provides a graphic illustration of a potential liner system based on the standards described above.



11.14.6.8. Maintenance of Highwalls. Highwalls shall not be allowed unless the Administrator recommends, and the Board determines that highwalls are the most effective method to ensure compliance with Sections 11.14.3 and 11.14.4.20.

11.14.6.9. Monitoring Plan. The Applicant shall retain a Professional Engineer or other qualified professional with expertise in site monitoring and approved by the Administrator to implement the Monitoring Plan. The Administrator shall specify the frequency of data collection and reporting for each element of the plan, including a procedure for emergency notification if contamination is detected.

11.14.6.10. Blasting.

1. all blasting shall comply with the approved blasting plan;
2. blasting shall be conducted only during specified hours;
3. the Permittee shall provide the Administrator and all residents within five (5) miles of the property boundaries of the DCI Overlay Zoning District with the name of the blasting firm, or the blasting manager for the Permittee, and the blasting schedule;
4. the blasting shall be conducted by a person trained, examined, and certified by the Director of the Mining and Minerals Division of the Energy, Minerals and Natural Resources Department;
5. the Permittee shall submit a pre-blast survey to the Administrator no less than five (5) working days prior to a blasting event;
6. the blasting firm, or the Permittee, if applicable, shall have liability insurance of no less than five million dollars (\$5,000,000) for each blasting event;
7. the Permittee shall monitor each blasting event, record the noise and vibration levels, and report this information to the Administrator no later than five (5) working days after the blasting event;

8. ground vibration during a blasting event shall not exceed 0.50 inches per second Peak Particle Velocity at any boundary of the DCI Overlay Zoning District, unless the adjoining property is owned by the Permittee and not leased to or occupied by another person; and

9. the noise level during a blasting event shall not exceed the following values:

Table 11-2. Maximum Allowable Noise Levels.

<u>Lower frequency limit of measuring system, Hz + 3dB</u>	<u>Maximum level in dB</u>
<u>0.1 Hz or lower—flat response</u>	<u>134 peak</u>
<u>2.0 Hz or lower—flat response</u>	<u>133 peak</u>
<u>6.0 Hz or lower—flat response</u>	<u>129 peak</u>

11.14.6.11. Additional Conditions.

1. the Administrator may take any action that she deems necessary, in her discretion, including the cessation of Mineral Resource Extraction and Processing, imposing further conditions or requirements, or suspending or revoking the DCI Conditional Use Permit, if, based on the available information, she determines that the operation has caused or is causing water contamination or failed or is failing to comply with the SLDC, this Chapter, the Permit, or any law, regulation, or ordinance; and

2. if the Board determines that baseline conditions do not meet the standards and requirements of this Chapter and the SLDC, the Board shall require the Permittee to remediate those conditions to the condition existing before anthropogenic activity prior to commencement of the Mineral Resource Extraction and Processing, provided however that the reclamation of a legacy mines and historic mining site may be conducted concurrent with the commencement of the Mineral Resource Extraction and Processing on the schedule specified in the DCI Conditional Use Permit.

11.14.7. Financial Guarantee. The County shall require the Applicant, prior to issuance of the DCI Conditional Use Permit, to provide Financial Guarantees in an amount and manner that complies with and fulfills the intent of the SLDC and this Chapter, including Section 11.5.6, and the following provisions. The Administrator shall determine the amount and manner of Financial Guarantee under this section by conducting the appropriate study, and any additional investigation, and shall conduct an annual review, and may change the manner or amount of the Financial Guarantees. The Applicant, or Permittee if applicable, shall pay the cost of any such study and investigation, including the cost for the annual review. If the Permittee fails to maintain the Financial Guarantees required by the County, the DCI Conditional Use Permit shall be automatically suspended until the deficiency has been cured. The Administrator shall issue an annual report describing the status of the Financial Guarantees, including the claims filed and distributions made.

11.14.7.1 Performance Financial Guarantee. The Applicant shall post an irrevocable Financial Guarantee in an amount determined by the Administrator, but no less than one hundred twenty five (125) percent of the cost to manage and close the facility, conduct monitoring during operation and for one hundred (100) years after closure, to remediate contamination, damage, and impacts arising from or related to Mineral Resource Extraction

and Processing, and to remediate baseline conditions and reclaim legacy mines or historic mine sites. The Financial Guarantee shall include the cost associated with hiring one or more local contractors to conduct remediation, reclamation, and closure. The Administrator may consider historical evidence in determining the required amount of the Financial Guarantee.

11.14.7.2. Cash Deposit to Trust for Roadway Damage Compensation. The Applicant shall fund an irrevocable road damage trust in an amount determined by the Administrator equal to or greater than the cost to construct, improve, expand, and maintain all public roads affected by the Mineral Resource Extraction and Processing. The County shall be the sole beneficiary of the trust, and shall name the trust administrator who shall receive the initial deposit.

11.14.8. Closure. The closure of the Mining Resource Extraction and Processing shall comply with the approved Closure Plan.

11.14.9. Reclamation. Reclamation shall begin as soon as practicable after the commencement of mineral resource extraction and processing, and shall continue concurrently with such operation until reclamation is completed. Reclamation of a phase shall begin prior to the initiation of a subsequent phase.

11.14.10. Temporary Cessation. The Permittee shall comply with this section if it temporarily ceases the Mineral Resource Extraction and Processing for an unplanned period greater than five (5) calendar days, provided that the Permittee shall comply with Section 11.11 if the Administrator determines that the Permittee does not intend to continue the operation within a reasonable period of time.

11.14.10.1. The Permittee shall meet the following standards in the event of temporary cessation:

- 1.** no later than twenty-four (24) hours after the cessation, the Permittee shall notify the Administrator in writing, including the reason for cessation, estimated duration of cessation, and actions taken to comply with the standards of this section. The Permittee shall post the notice at the main entrance to the operation, and shall mail the notice by certified mail to all residents, land owners and lessees, owners and lessees of non-residential structures, and Registered Organizations and Community Organizations that are registered for notification of applications for DCI Overlay Zoning Districts or DCIs under sections 2.2.2 and 2.2.3 of the SLDC, that are located within one (1) mile of the property boundaries of the DCI Overlay Zoning District;
- 2.** maintain all structures and facilities;
- 3.** comply with all conditions of the DCI Conditional Use Permit, including monitoring and reporting;
- 4.** comply with all applicable standards and requirements of the DCI Conditional Use Permit; and
- 5.** secure the operation to prevent unauthorized access.

11.14.10.2. A Permittee that recommences Mineral Resource Excavation and Processing after a temporary cessation shall give written notice of such action in the same manner as specified in Section 11.14.10.1.

11.14.10.3. A Permittee who ceases Mineral Resource Excavation and Processing for a continuous period of more than three (3) years or more than twice in a three (3) year period shall not recommence such operation until it obtains a new DCI Conditional Use Permit.

11.14.11. Termination. If the Administrator determines that Mineral Resource Extraction and Processing has terminated, the Permittee shall comply with the closure and reclamation requirements of the DCI Conditional Use Permit.

11.13 REGULATIONS FOR MINING AND RESOURCE EXTRACTION.

~~Reserved (but see Section 11.7, and Chapter 10, generally and County Ordinance 1996-10, Article 41, Section 5 "Mineral Exploration and Extraction").~~

~~Intent of this section 11.13 is to establish operational, location, and general standards for Mineral Resource Extraction And Processing, in addition to those requirements in sections 11.1 through 11.7, order to 234 as applicable described in section 11.7.2.2. (Environmental Impact Report), occurrence one thousand 1,0 surfacing Districting District The handling, storage, use, and disposal of Hazardous Materials shall conform to the highest standards of care, industry best practices, and the applicable law, using the most effective techniques identified in the best available science~~

~~The following figure provides a graphic illustration of a potential liner system based on the standards described above. Highwalls shall be maintained using the most effective techniques identified in the best available science.~~

~~Reclamation of a phase shall begin at a minimum prior to the initiation of the subsequent phase. abed~~

