Environmental Alternatives, Inc.
EXPERIENCE • ACCREDITATION • INTEGRITY

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April 28, 2022

Eric Scott, Environmental Protection Specialist
CO Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

RE: M-1976-007-UG Golden Mine
Response to Second Adequacy Review of CN-001

Dear Mr. Scott,

Please accept this correspondence on behalf of Denver Brick Company in response to the Division's review of the conversion application.

Exhibit C – Pre-mining and Mining Plan Maps

1. Maps conform with 6.2.1 General map requirements regarding (a), (b) and (g). The solar farm and ownership is on Exhibit C-4.
2. The 200 ft. boundary is extended from the ends of the haul road. Structures within 200 ft. of the boundary are named and located including utilities.
3. The Keller Family is correctly identified on Exhibit C-1.
4. Exhibit C-7 was relabeled as Exhibit C-6. Exhibit C-7 is rescinded.

Exhibit D – Mine Plan Blasting Plan

5. Blasting occurs only when the clay layers are not effectively separated using an excavator or loader. The preferred method of segregating clay is without blasting. Blasting tends to comingle clays which is not beneficial to the brick manufacturing industry. At the time of this application, anticipated timing of a blasting event is unknown. The applicant commits to providing appropriate county, city, adjoining property owners and Division upon scheduling the next blasting event.
6. Blasting will occur only when the interburden layer is substantially thick to prevent segregation of clay with a loader, the preferred method of mining. The blasting plan, including pre-blasting surveys and post-blasting reports, will be followed in the event blasting is necessary. Pre-blast surveys discussion is provided in Section 2.4 of the Blasting Plan
7. Ground vibration and air blast limitations discussion is provided in Section 2.3.4 of the Blasting Plan

8. Blast plan criteria are provided in Section 2.6 of the Blasting Plan
9. Blasting Report contents is provided in Section 2.5. ANFO is the explosive that will be used if blasting is necessary.

Exhibit E – Reclamation Plan

10. The location of the historic stopes is shown on Exhibit F and Exhibit C-6.

Exhibit H – Wildlife Information

11. Exhibit H is revised to include discussion of wildlife pursuant to Rule 6.4.8.

Exhibit L – Reclamation Costs

12. The applicant awaits Division's review.

Exhibit R– Proof of Filing with County Clerk and Recorder

13. Enclosed herein is proof of filing.

Exhibit S – Permanent Man-Made Structures

14. Exhibit C-4 is revised to show all above and below ground utilities.
15. Provided herein are proof of certified mailing structure agreements to all owners of above and below ground utilities. Xcel Energy returned an executed Structure Agreement also provided herein.

Response to Topics in Timely Objections Received by DRMS

- DBC's lease with the SLB commenced in 1940, approximately 80 years ago. DBC's mining operation has been and will continue to be surface mining only. PAG rock analysis is necessary when the target deposit is in contact with groundwater. Again, DBC is a surface mine and does not intercept groundwater.
- Historic mine drainage is the result of the underground mine dating back to 1860 by an operator other than DBC. DBC has not mined underground and will not mine underground.
- Water use will be and has been limited to dust suppression. Dust mitigating water is applied with a water truck equipped with spray bars. This water will infiltrate the top one inch of the ground surface at the most; not available for subsurface fracture flow into the legacy underground mine workings and not available for chemical dissolution of mineralized subsurface rock formations.
- General Shale operated the Flintlock Mine, adjoining the Golden Mine to the north, and performed mining and successful reclamation.
- Blasting occurs only when the interburden layer is substantially thick to prevent segregation of clay with a loader, the preferred method of mining. The blasting plan, including pre-blasting surveys and post-blasting reports, will be followed in the event blasting is necessary.
- SLB requested withholding archeological findings to protect the artifacts. General Shale is privy to the archeological findings.

- The Golden Mine operates under CDPHE AQCD Permit No. 92JE940F and has for decades without a permit violation or complaint.
- Both the Dakota Mine and the Flintlock Mine are in final reclamation. These two mines are successfully reclaimed.
- Wildlife information from CODEX database is provided in Exhibit H.
- Exhibit C-6 shows stockpiles located adjacent to the current disturbance, not adjacent to the north access road or W 56th Avenue.
- DBC is proceeding with Jefferson County land use application. In December 2020, DBC held the required pre-application and submitted an initial application on August 13, 2021. DBC will continue the Jefferson County application process upon submission of this adequacy response to the Division.
- DBC relies on the Division to review the DRMS application for completeness and adequate response to meet the requirements of the regulations, including a complete and appropriate reclamation plan.

Exhibit M Other Permits and Licenses is revised to include a statement of intent to comply with county and state jurisdictional agencies. Permit applications or permit revisions will be submitted for review and approval.

In response to History Colorado's April 18, 2021 letter, the society's recommendations regarding notifications, monitoring and evaluating fossil locations are incorporated into Exhibit D Mine Plan.

In addition, please find enclosed the Proof of Notice to Adjoining Neighbors, Proof of Notification to Structure Owners within 200 ft., Affidavit of Publication and Exhibit R: Proof of Filing with Clerk.

Please feel free to contact me with any questions.

Respectfully submitted,

Angela M. Bellantoni Ph.D.

Enclosures:

- Exhibit C 1 thru 6: Mine Plan maps
- Exhibit D: Mine Plan
- Exhibit 6.4.4-1: Patriot Powder LLC's "The Impacts of Blasting Operations and Recommended Practices and Controls for Golden Clay Mine Operation"
- Exhibit F: Reclamation Plan map
- Exhibit H: Wildlife Information
- Exhibit R: Proof of Filing with Clerk
- Exhibit S: Permanent Man-made Structures
- Proof of Notice to Adjoining Neighbors and Structure Owners
- Affidavit of Publication

6.4.3 Exhibit C
Pre-mining and Mining Plan Map(s)
Of Affected Lands

Property North of W 56th Ave owned
Keller Family Limited Partnership

Xcel Gas Line and Century Link
Phone Line within W 56th Ave ROW

W 56th Ave

STATE OF COLORADO

Affected Area +200 feet

SOLAR FARM

Solar Farm Owner:
Clean Energy
Collective

Owner:
Jefferson County

NORTH ACCESS ROAD

LEASE BOUNDARY
GENERAL SHALE

No creeks, oil wells, gas wells or pipelines exist within 200 feet of the proposed Affected Area.

Owner:
Acme Brick /
Denver Brick
Company

Permit/Affected Area Boundary:
70.15 Ac
- Mine Area: 30.6 Ac
- Overburden: 5.3 Ac
- Stockpile: 7.4 Ac
- Roads: 3.49 Ac

Affected Area +200 feet

Owner:
Kenneth and
Shirley Fox

Owner:
Stephen Hawthorne

LEASE BOUNDARY
DENVER BRICK

Owner:
Rhonda Benton

Owner:
Mark and
Maribel Crespin

Affected Area +200 feet

CITY OF GOLDEN
WATER LINE

LEASE BOUNDARY
DENVER BRICK

Overhead Power:
Along West side of 93

ENTRANCE ROAD

GATE

**Excluded from Lease
per Amendment 8-16-66**

Affected Area +200 feet

Acme Mine Limit 9.9 acres

Overhead Power:
North side of entrance road
terminating at structures.

OHP

EAST ACCESS ROAD
25' WIDE

Property East of
CO93 Owned by
Jefferson County

Owner:
Wheeler Trust

Zayo Fiber Optic
Line
Xcel High
Pressure Gas Line
Century Link
Phone Line
Either under
Hwy-93 or within
the Right Of Way

Owner:
Glen and Nancy
Johnson

Owner:
Francine Evers

Affected Area +200 feet

Owner:
Jefferson County

N

100 0 50 100 200 400

Hwy-93

Owner:
David Hayner
and Kelly Hogan

**SW Quarter Section 16
Township 3 South
Range 70 West**

LEASE BOUNDARY
DENVER BRICK

LEASE BOUNDARY
DENVER BRICK

Affected Area +200 feet

Owner:
City of Golden

Drawn By: Richard Murphy, Exploration Manager	*Rule 6.4.3 Exhibit C-1: Adjoining Landowners*	*M-1976-007UG* *Golden Mine* *Conversion-01*	**Denver Brick Company** Exploration Department Denton, Texas	Date: 2-25-21 Scale: 1" = 200'	

Rev.	Date	By:
001	11-4-21	R.Murphy
002	12-20-21	R.Murphy
003	1-27-22	R.Murphy

Xcel Gas Line and Century Link
Phone Line within W 56th Ave ROW

W 56th Ave

STATE OF COLORADO

Affected Area +200 feet

SOLAR FARM

NORTH ACCESS ROAD

LEASE BOUNDARY
GENERAL SHALE

Permit/Affected Area Boundary:
70.15 Ac
- Mine Area: 30.6 Ac
- Overburden: 5.3 Ac
- Stockpile: 7.4 Ac
- Roads: 3.49 Ac

Affected Area +200 feet

LEASE BOUNDARY
DENVER BRICK

Affected Area +200 feet

CITY OF GOLDEN
WATER LINE

LEASE BOUNDARY
DENVER BRICK

ENTRANCE ROAD
GATE

Excluded from Lease
per Amendment 8-16-66

Affected Area +200 feet

Acme Mine Limit 9.9 acres

EAST ACCESS ROAD
25' WIDE

Zayo Fiber Optic
Line
Xcel High
Pressure Gas Line
Century Link
Phone Line
Either under
Hwy-93 or within
the Right Of Way

N

100 0 50 100 200 400

Hwy-93

SW Quarter Section 16
Township 3 South
Range 70 West

LEASE BOUNDARY
DENVER BRICK

LEASE BOUNDARY
DENVER BRICK

Affected Area +200 feet

Drawn By:
Richard Murphy
Exploration Manager

Rule 6.4.3
Exhibit C-2:
Current Topography

M-1976-007UG
Golden Mine
Conversion-01

Denver Brick Company
Exploration Department
Denton, Texas

Date:	*2-25-21*
Scale:	*1" = 200'*
Contour Interval:	5'

Rev.	Date	By:
001	*11-4-21*	*R.Murphy*
002	*12-20-21*	*R.Murphy*
003	*1-27-22*	*R.Murphy*

Vegetation Map Unit Legend

Map Unit Symbol	Typical vegetation
	Blue grama, needlegrass, wheatgrass, alkali sacaton, gardner saltbush, greasewood and dropseed.
	Exposed rock with little to no plant cover.

Vegetation data for area collected from USDA soilseries soil description typical vegetation data.

Xcel Gas Line and Century Link Phone Line within W 56th Ave ROW

W 56t

STATE OF COLORADO

Affected Area +200 feet

SOLAR FARM

NORTH ACCESS ROAD

Permit/Affected Area Boundary:
70.15 Ac
Mine Area: 30.6 Ac
Overburden: 5.3 Ac
Stockpile: 7.4 Ac
Roads: 3.49 Ac

Affected Area +200 feet

LEASE BOUNDARY
DENVER BRICK

Affected Area +200 feet

CITY OF GOLDEN
WATER LINE

LEASE BOUNDARY
DENVER BRICK

ENTRANCE ROAD

Excluded from Lease
per Amendment 8-16-66

Affected Area +200 feet

Acme Mine Limit 9.9 acres

EAST ACCESS ROAD
25' WIDE

Zayo Fiber Optic Line
Xcel High Pressure Gas Line
Century Link Phone Line
Either under Hwy-93 or within the Right Of Way

N

100 0 50 100 200 400

Hwy-93

SW Quarter Section 16
Township 3 South
Range 70 West

LEASE BOUNDARY
DENVER BRICK

LEASE BOUNDARY
DENVER BRICK

Affected Area +200 feet

Affected Area +200 feet

Drawn By: Richard Murphy, Exploration Manager	*Rule 6.4.3 Exhibit C-3: Vegetation Map*	*M-1976-007UG* *Golden Mine* *Conversion-01*	**Denver Brick Company** Exploration Department Denton, Texas	Date: 2-25-21 Scale: 1" = 200'	Rev. 001 002 003 / Date 11-4-21 12-20-21 1-27-22 / By: R.Murphy R.Murphy R.Murphy

Property North of W 56th Ave owned
Keller Family Limited Partnership

Xcel Gas Line and Century Link
Phone Line within W 56th Ave ROW

W 56th Ave

STATE OF COLORADO

Affected Area +200 feet

SOLAR FARM

Solar Farm Owner:
Clean Energy
Collective

Owner:
Jefferson County

NORTH ACCESS ROAD

LEASE BOUNDARY
GENERAL SHALE

No creeks, oil wells, gas wells or pipelines exist within 200 feet of the proposed Affected Area.

Owner:
Acme Brick /
Denver Brick
Company

Permit/Affected Area Boundary:
70.15 Ac
- Mine Area: 30.6 Ac
- Overburden: 5.3 Ac
- Stockpile: 7.4 Ac
- Roads: 3.49 Ac

Affected Area +200 feet

Owner:
Kenneth and
Shirley Fox

Owner:
Stephen Hawthorne

LEASE BOUNDARY
DENVER BRICK

Owner:
Rhonda Benton

Owner:
Mark and
Maribel Crespin

Affected Area +200 feet

CITY OF GOLDEN
WATER LINE

LEASE BOUNDARY
DENVER BRICK

Overhead Power:
Along West side of 93

ENTRANCE ROAD

GATE

**Excluded from Lease
per Amendment 8-16-66**

Affected Area +200 feet

Overhead Power:
North side of entrance road
terminating at structures.

Owner:
Wheeler Trust

Acme Mine Limit 9.9 acres

OHP

EAST ACCESS ROAD
25' WIDE

Property East of
CO93 Owned by
Jefferson County

HOUSE
SHED

BARN / SHED

OWNER: JEFFERSON COUNTY

BLOCKED
ADIT

STRUCTURES WITHIN 200
FEET OF AFFECTED AREA

Zayo Fiber Optic
Line
Xcel High
Pressure Gas Line
Century Link
Phone Line
Either under
Hwy-93 or within
the Right Of Way

Owner:
Glen and Nancy
Johnson

Owner:
Francine Evers

BLOCKED
ADIT

SUBSIDENCE HAZARD ZONE

Affected Area +200 feet

N

Owner:
Jefferson County

BLOCKED
ADIT

Hwy-93

Owner:
David Hayner
and Kelly Hogan

**SW Quarter Section 16
Township 3 South
Range 70 West**

100 0 50 100 200 400

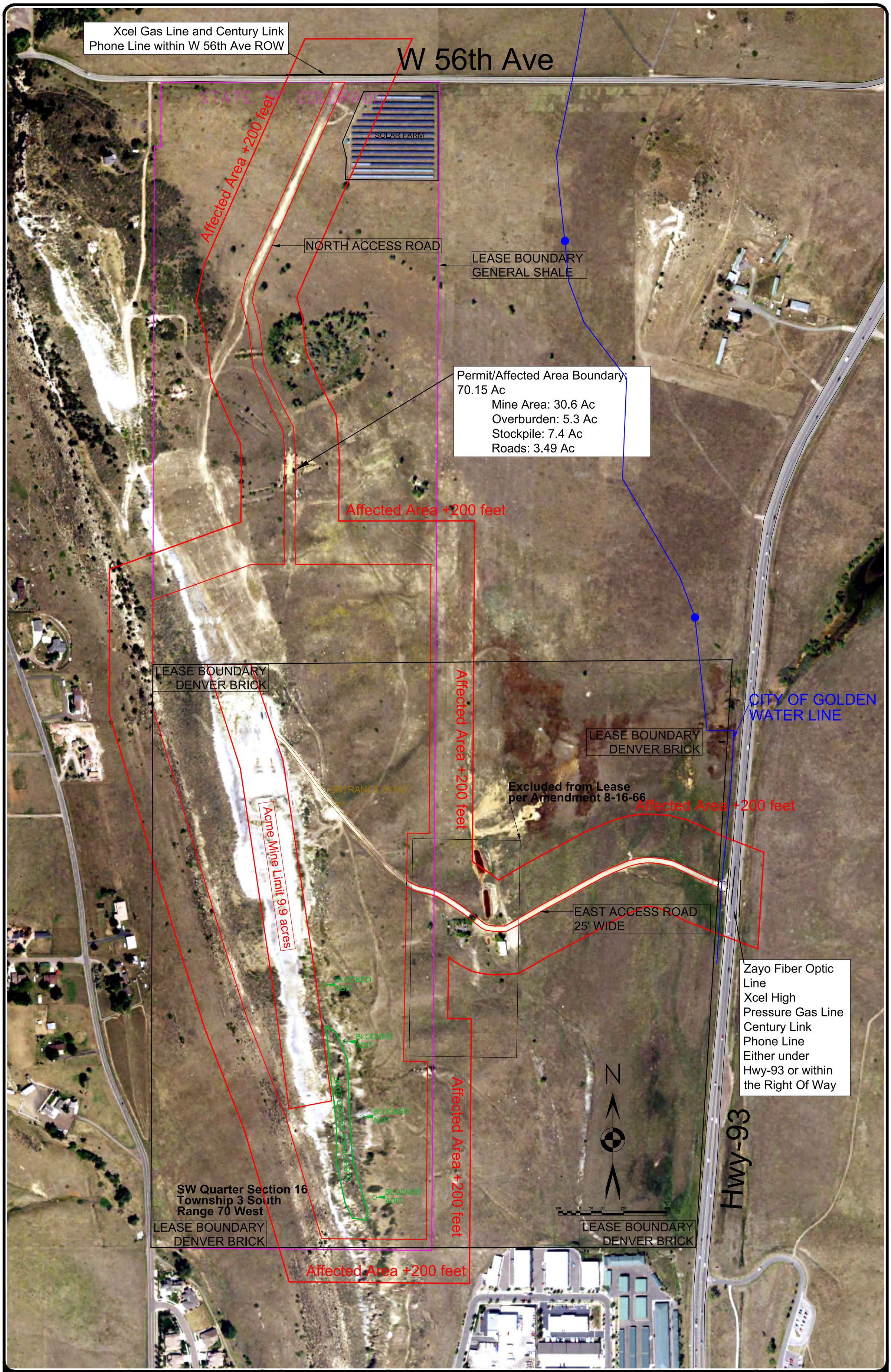
LEASE BOUNDARY
DENVER BRICK

LEASE BOUNDARY
DENVER BRICK

Affected Area +200 feet

Owner:
City of Golden

Drawn By: *Richard Murphy, Exploration Manager*	*Rule 6.4.3 Exhibit C-4: Existing Structures*	*M-1976-007UG* *Golden Mine* *Conversion-01*	Denver Brick Company Exploration Department Denton, Texas	Date: 2-25-21 Scale: 1" = 200'	Rev. / Date / By: 001 / 11-4-21 / R.Murphy 002 / 12-20-21 / R.Murphy 003 / 1-27-22 / R.Murphy



Drawn By: Richard Murphy, Exploration Manager	*Rule 6.4.3 Exhibit C-5: Aerial Photo*	*M-1976-007UG* *Golden Mine* *Conversion-01*	**Denver Brick Company** Exploration Department Denton, Texas	Image: USDA National Agricultural Imaging Program Image from 2017	Rev.	Date	By:
				Date: 2-25-21	001	11-4-21	R.Murphy
				Scale: 1" = 200'	002	12-20-21	R.Murphy
					003	1-27-22	R.Murphy

Xcel Gas Line and Century Link
Phone Line within W 56th Ave ROW

W 56t

STATE OF COLORADO

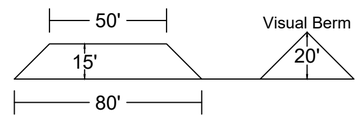
Affected Area +200 feet

SOLAR FARM

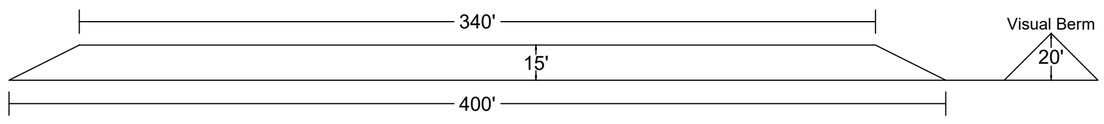
NORTH ACCESS ROAD

Stockpile Profile

Stockpile Profile - End View



Stockpile Profile - Side View



Underground workings encountered during mining operations will be filled as the work proceeds. Typically, 50-100 cubic yards of fill have been sufficient for the average opening.

Permit/Affected Area Boundary:
70.15 Ac
Mine Area: 30.6 Ac
Overburden: 5.3 Ac
Stockpile: 7.4 Ac
Roads: 3.49 Ac

Affected Area +200 feet

Stockpile Pad / Processing Area:
12.7 Ac
Room for as many as 5 stockpiles.
Typically no more than 3 stockpiles simultaneously.
Each stockpile contains as many as 13,600 cubic yards of material.
The visual berm will contain as much as 16,000 cubic yards of topsoil and fill material
see stockpile profile

Stockpile 80'x400'
Stockpile 80'x400'
Stockpile 80'x400'
Stockpile 80'x400'
Stockpile 80'x400'

LEASE BOUNDARY
DENVER BRICK

CITY OF GOLDEN
WATER LINE

LEASE BOUNDARY
DENVER BRICK

SURFACE
MINE AREA

ENTRANCE ROAD

Acme Mine Limit 9.9 acres

Excluded from Lease
per Amendment 8-16-66

Affected Area +200 feet

SURFACE
MINE AREA

EAST ACCESS ROAD
25' WIDE

BLOCKED
ADIT

BLOCKED
ADIT

BLOCKED
ADIT

SUBSURFACE MINE

SURFACE
MINE AREA

Affected Area +200 feet

Zayo Fiber Optic
Line
Xcel High
Pressure Gas Line
Century Link
Phone Line
Either under
Hwy-93 or within
the Right Of Way

N

100 0 50 100 200 400

Hwy-93

SW Quarter Section 16
Township 3 South
Range 70 West

LEASE BOUNDARY
DENVER BRICK

LEASE BOUNDARY
DENVER BRICK

Affected Area +200 feet

Drawn By: Richard Murphy, Exploration Manager	*Rule 6.4.3 Exhibit C-6: Mine Plan and Existing Conditions*	*M-1976-007UG* *Golden Mine* *Conversion-01*	**Denver Brick Company** Exploration Department Denton, Texas	Date: 2-25-21 Scale: 1" = 200'	Rev. / Date / By: 001 11-4-21 R.Murphy; 002 12-20-21 R.Murphy; 003 1-27-22 R.Murphy

6.4.4 Exhibit D
Mining Plan

The Golden Mine is a historic clay mine that has supplied the brick industry for more than 160 years. Initial mining was underground. Modern day mining, including the Flintlock Mine to the north, is surface mining only. The current 110 Permit area encompasses 9.0 acres along the east face of the ridge. This amendment will increase the permit boundary to include 70.15 acres. Approximately 70.15 acres will be affected by the mine, overburden and topsoil storage and clay stockpiles. The remaining 15.36 acres will serve as buffer areas and hogback ridgeline preservation area. It is included in the affected area boundary in case stabilization or reconstruction is required.

Geologic Description

The target deposit is siliceous clay lying between layers of steeply dipping hard sandstone faces on the east side of the Golden Hogback. This clay deposit contains five different clays. Hogbacks are geologic formations that uplifted and laid on the side exposing the oldest geologic layers to the west and youngest geologic layers to the east. The following description commences with the oldest layer and progresses eastward to the youngest layers.

Cupilo and black silica beds are located in the highwall, the western side of the hogback. The cupilo is tan sandstone that alternates with layers of black claystone called black silica. Some of the black silica is plastic meaning when tempered with water it makes mud and some of the clay is non plastic. The black silica is the reason the highwall fails or slides. The cupilo becomes pink when fired and the black silica becomes white when fired during brick manufacturing.

Ripple clay shale is an 18 feet thick layer of dark gray claystone that is non plastic. Even though it is clay it will not become plastic. This bed fires to a light gray or white color. This is the bed that was historically and extensively mined underground.

Rider beds are alternating beds of non-plastic dark gray claystone and light orange sandstone. These layers cannot be separated into sandstone and claystone so are mined as one clay material. The overall fired color is pink. Two Brothers clay is located between the rider beds and a thick bed of sandstone. This clay is plastic and becomes white during firing. The historic underground operation often made ventilation shafts in this bed.

A hard bed of white sandstone ranging between five feet and 10 feet thick in the middle of the mine requires blasting.

Alternating beds ranging in thickness from one to five feet thick are encountered next in the eastward progression. The beds vary in color including yellow, white, or orange sandstone with dark gray semi plastic claystone between the sandstone layers. This sandstone can be separated from the claystone. This clay tends to turn pink when fired.

Benton clays are the east side of the target deposit. They are dark gray in color and become more plastic as the one progresses east in the deposit. These clays start as a tan color during firing then become red and finally a gray color. Passed a

certain point during firing, they become low temperature clay meaning the clay will melt at the fired temperatures used to manufacture brick. At this point the clay is of no value. This low temperature clay will mark the edge of the mine and will be within the proposed east affected area boundary.

Existing Conditions

As previously stated, the Golden Mine has provided clay for brick manufacturing for over 160 years. The mine operated for many decades as an underground mine. Historic stopes are present and noted on Exhibit C: Existing Conditions Map. Due to natural weathering of the hogback, stopes open into the historic mine through the ground surface. This subsidence is outside the current permit boundary and will continue to erode without appropriate reclamation.

The proposed permit boundary will encompass the historic subsidence areas. This will make available backfill material and equipment to reclaim the stope when one is encountered during mining. As a safety service to the community, upon approval of the extended permit area, existing stopes will be backfilled or otherwise secured to prevent entry by trespassers.

Mining Operation

The variety of clays in the permit boundary is not only a unique resource but also an interesting mining challenge. During mining, each clay and/or sandstone layer described above is segregated and stockpiled separately. Since each brick mix is a proprietary blend of clays, sandstone and other ingredients, the specific clay needed for a brick batch is hauled to the brick factory as market demands.

Mining will begin on the east side of the deposit and will proceed towards the west in one to two benches depending on the depth desired. The depth of mining is determined by the thickness of the clay between the sandstone layer and the desired quantity of clay product stockpile for brick manufacturing. The mine develops as a north to south ramp where the south ramp area is at a higher elevation than the north ramp area. The ramp surface provides space to blend the various clays and sandstone as identified in the previous geologic description in order to produce consistent clay blends to the brick plant. Mining is proposed to a ground elevation of 6050 ft., safely above the ceiling of the historic underground clay mines.

Between 600 and 800 linear feet of the mine face is blasted (if necessary), mined, segregated and stockpiled. Using an excavator and off road trucks, the sandstone beds and claystone beds are sorted bed by bed as either waste (called interburden and is often sandstone) or clay. Blasting may be required for the thick sandstone layer in the middle of the deposit due to the hardness of the sandstone layer and other layers if encountered. The interburden will be placed in a mined out face of the mine as contemporaneous reclamation. Excess interburden will be stockpiled for use in final reclamation. The final clay blends are stockpiled by blend. As market demands, a clay blend is loaded onto a highway truck utilizing a front-end loader and hauled to the brick plant. The loader may use a grizzly, separating the large sandstone rubble from clay/sandstone and stockpile the boulders on the waste stockpile.

The proposed affected area will be bonded and mined as one operational unit. The north 5.3 acres, in the southwest corner of the northwest ¼ of Section 16, will serve as the stockpile area. The processing area will be established adjacent to the stockpile area to the south, away from the active mine area at the toe of the mine

face. The stockpile and processing area locations will be consistent during the life of the mine.

Based on market demand, the clay is hauled from the site to brick factories with annual hauling quantities ranging from 250 tons to 20,000 tons per year. The existing interior haul road and access will be used. No new roads will be constructed. The life of the mine is anticipated between 30 and 40 years. Two to ten employees will work the mine during mining operations.

Mining is campaign style mining. This means that product is mined and stockpiled once every three to five years for a duration of three to five weeks per campaign. Outside of the mining campaign there will be limited activity at the mine. Most of the activity will consist of hauling the product stockpiles to the brick plant intermittently every two to six weeks.

Contemporaneous reclamation will commence when 200 to 400 linear feet is mined to the final mine depth of 6050 ft. elevation. A 3H:1V slope will be maintained at the toe of the hogback face that blends with the reclaimed slope of the Flintlock Mine to the north. As sandstone and overburden are removed from the working face, it will be placed at the toe of the exposed mined out face to further build out the 3H:1V slope.

The Golden Mine is a surface mine. Topsoil in the stockpile and processing area does not need to be removed but may be pushed aside in order to level the area, making more surface available for operating and stockpiling. This topsoil will form a perimeter berm that will serve as a visual barrier around the stockpile area. Should topsoil or other suitable plant growth material be encountered elsewhere, it will be placed on the reconstructed 3H:1V slope. In the event excess topsoil or other suitable plant growth material is encountered, it will be stockpiled and the stockpiled stabilized by seeding with the reclamation seed mix.

Mining equipment that will be on site for three to five weeks every three to five years will include an excavator, a grizzly, off-road trucks, a loader and a bulldozer. This equipment will be seen mining at the toe of the hogback and building stockpiles behind the topsoil berm in the stockpile area. A motor grader and a water truck will be used to maintain roads and mitigate dust. The material is initially screened with a grizzly. Further processing, if necessary, is performed through a third party contractor. Outside the mining weeks, the loader will be parked near the stockpiles, out of site from passersby behind the topsoil berm. Trucks are loaded by the driver when material is hauled offsite.

The mine floor slopes toward the toe of the hogback face. Surface water as precipitation and snow melt will pool at the base of the mine face and infiltrate within 72 hours. Perimeter berms are constructed along the edge of the mine floor and around the stockpile area.

Certain paleontological resources have been identified within the permit area. As recommended by History Colorado, the applicant will notify the SLB when mechanical, blasting and other ground-disturbing activities progress to within 50 feet of any significant paleontological resources identified within the permit area. The applicant will cooperate with the SLB to allow for the monitoring and evaluation of the fossils. SLB will be allowed access and be given full cooperation should SLB choose to remove the fossils currently recorded.

Blasting Operations

When interburden is too thick for loaders to segregate the clay layers, blasting will be used to break up the interburden. Blasting is not the preferred mining method as it also comingles the clay deposit, making it more difficult to identify and segregate the various clays.

Blasting will be performed by a licensed third party contractor. "The Impacts of Blasting Operations and Recommended Practices and Controls for Golden Clay Mine Operation" is provided herein as Exhibit 6.4.4-1 was prepared by Patriot Powder LLC. PPL's plan proposes using no more than 50 pounds per delay thus keeping the ground vibration below 0.2 in/sec which is less than the 0.5/sec damage threshold limit. This charge weight will not damage structures at or beyond 800 feet or more from the charge. At distances of 1700 ft. or greater, the ground motion will not exceed 0.03 in/sec. The new nearest water well is approximately 3300 ft. from the blast. At this distance, ground vibration will not exceed 0.020 in/sec thus having no negative impacts to the water wells.

Potential damage to traffic and nearby roads manifests as flying debris. Standard precautions to prevent any chance of flying debris is to not blast within 100 ft. of a roadway and to clear traffic when blasting within 1000 ft. of a roadway. Since CO Hwy 93 is over 1900 ft. from the blasting area the chance of flying debris is very unlikely. The most likely impact may be traffic slowing to observe the post blast effects such as the clearing dust cloud and sliding of the target rock.

Access Roads

The historic access onto Hwy 93 has served the mine many decades. With infrequent mine campaigns and low production volumes, the historic access will continue to be used by the applicant. In addition, the applicant is proposing an additional and optional access north to West 56th Avenue to be developed in the event CDOT's plans for Hwy 93 improvements result in access restrictions.

IMPACTS OF BLASTING OPERATIONS AND RECOMMENDED PRACTICES AND CONTROLS FOR GOLDEN MINE OPERATION

REPORT OF INVESTIGATIONS
November 2021

Prepared for:
Denver Brick Company
Denver, Colorado 80110

Prepared by:
Neal & Paul Stanton
Stanto Group Inc.

TABLE OF CONTENTS

IMPACTS OF BLASTING OPERATIONS AND RECOMMENDED PRACTICES AND CONTROLS FOR DENVER BRICK COMPANY'S GOLDEN MINE OPERATION

SUMMARY OF GENERAL FINDINGS AND CONCLUSIONS

This report includes the Stanto Group team's findings and recommendations regarding the overall impacts of the proposed blasting parameters and excavating work at Golden Mine, North of Golden, Colorado. Conclusions and other specific aspects of the blasting and mining operation work are included in the body of the main report. The report will go into the Stanto Group Inc team's recommended blasting controls designed to minimize the effects of blasting in the mine to the surrounding neighbors and adjacent property.

1. If blasting is performed within the property limits proposed in this report, it is highly unlikely that blasting will damage any nearby property or bother or cause injury to neighboring households or people. For the proposed blasting and separation distances, the intensity of the blast-induced ground motion will not approach the threshold levels that could be damaging to structures. Stanto Group Inc has been directly involved in many projects where rock blasting was performed without incidents, despite the existence of much greater technical and operational challenges than those presented at the Golden Mine. In conclusion, Stanto Group Inc is confident that the proposed blasting can be performed without incident.

2. Stanto Group Inc has found no evidence indicating or suggesting that blasting will have any significant long-term impacts on the land that will be mined within the permitted mining area of the Golden Mine. Impacts like blast noise and vibration would exist only temporarily during each blast and they are not expected to cause any lasting damage.

1.0 Introduction

The Denver Brick Company currently maintains a clay mining operation on land adjacent to Pine Ridge Road, located on the west end of the property, located approximately 0.14 miles west of the general proposed blast area. The mine operation is located 0.41 miles west of Colorado Highway 93. This mine (Golden Mine) near Golden, Colorado is operated under terms of a minerals lease with the State of Colorado - owner of the mineral rights. Historically, various minerals have been mined at this site location over many years along the East Dakota Hogback which has the Golden Fault running near it.

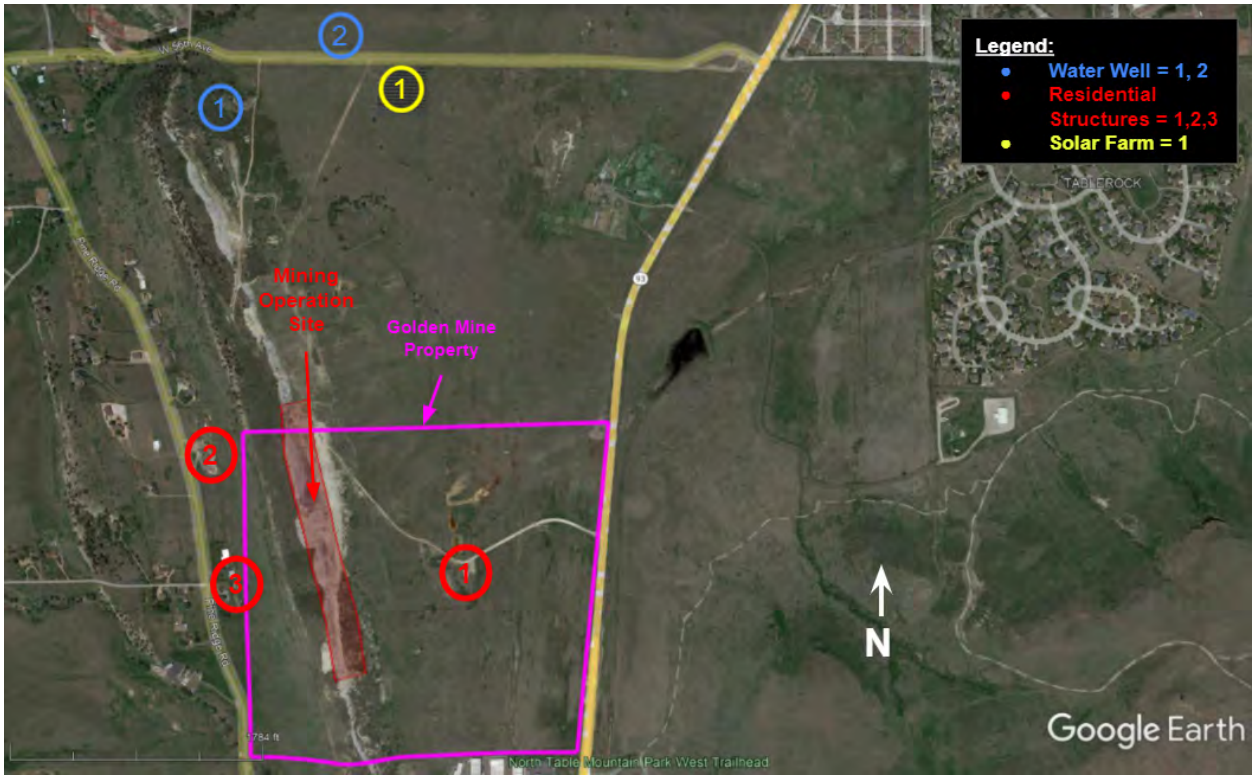
The overlying Dakota Sandstone is sedimentary rock formed millions of years ago when layers of deposited marine sand and sediment were transformed and hardened into rock. Since the sandstone covers the clay deposit, it must be removed before the clay can be excavated. In most cases, blasting is required to facilitate the excavation of sandstone during the mining process. After observing the condition of the sandstone at the Golden Mine Site, Stanto Group Inc agrees that removal of the Dakota Sandstone would indeed be impractical without the use of blasting.

Like many other mining operations and quarry sites where blasting might occur, neighbors and others have expressed concern about the potential effects of blasting. In response to these concerns, Denver Brick Company retained Stanto Group Inc to evaluate the impacts that blasting at the Golden Mine might have on nearby homes and environment in general. Stanto Group Inc is an independent company, specializing in blasting and engineering services.

In September 2021, Neal Stanton of Stanto Group Inc, the report's senior author, visited the Golden Mine and studied the nature of the site and surrounding property. During the site pre-blast audit survey, the physical conditions of the mine were studied and information regarding site geology, topography, facilities, neighboring property and known concerns about blasting aspects of the project were collected. The site map of the area showing various structures and facilities of concerns and the locations with respect to the proposed blasting area is shown in Figure 1.1 on the following page.

In this report, the various analyses that Stanto Group Inc has used to determine the relative impacts of blasting are presented along with Stanto Group's findings and recommendations regarding specific controls and safety procedures for the proposed blasting work.

Google Earth Image Showing Property and Mine Site



Scaling Distance 1 inch = 1000 ft - Distances to wells and private property are rounded to the nearest 50 feet.

ITEM OF CONCERN	DISTANCE FROM PROPOSED BLAST ZONE
Water Well #1	3300 ft
Water Well #2	3700 ft
Area 1 (Abandoned Neighboring Home)	1200 ft
Area 2 (Neighborhood Houses)	800 ft
Area 3 (Neighborhood House)	800 ft
Colorado Highway 93	2200 ft
Solar Farm	3400 ft

Figure 1.1 - Mine Site Map and Distances to Nearby Known Structures

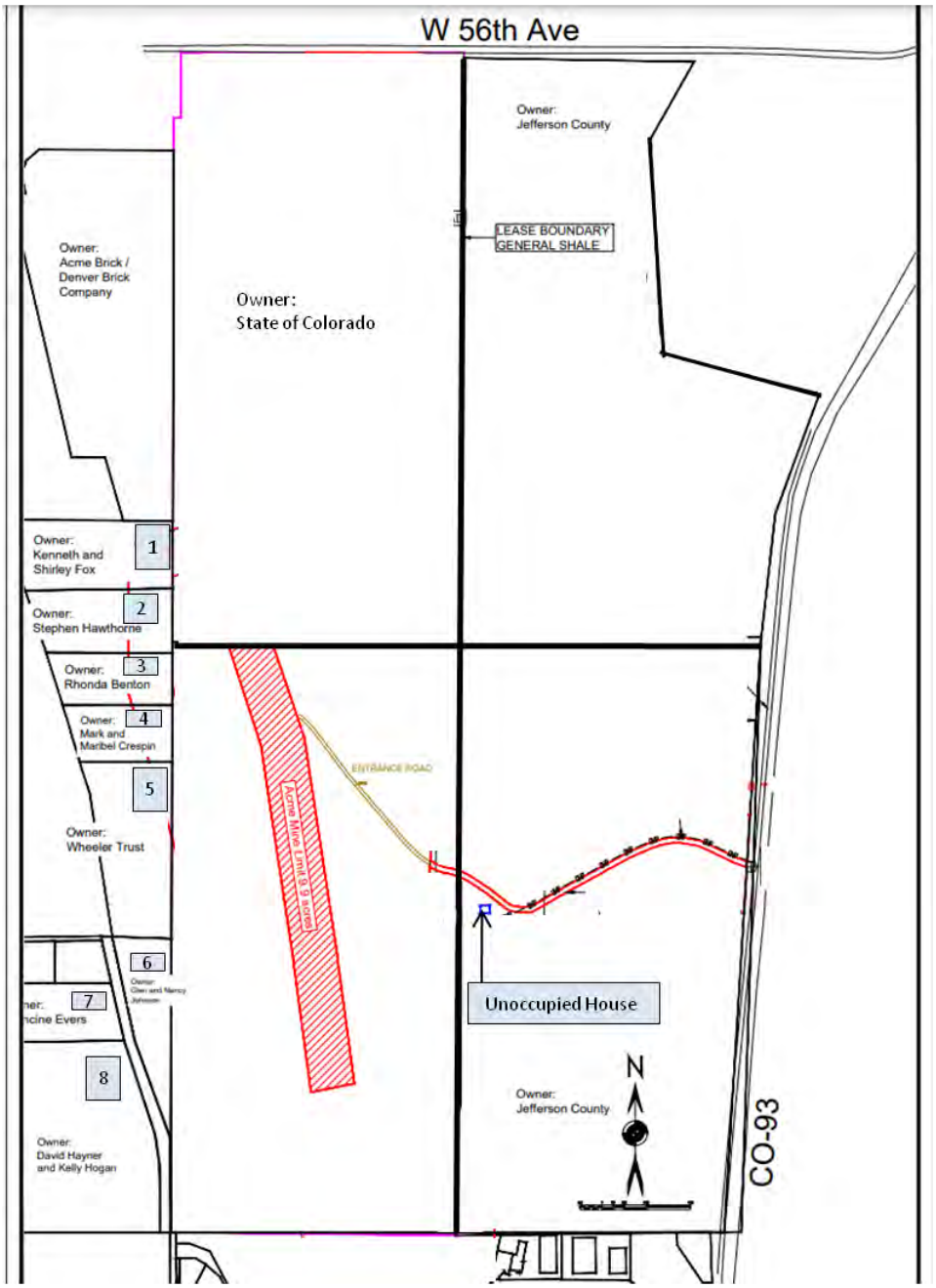


Figure 1.2 - Mine Site Map and Nearby Property Owners

2.0 Blasting Impacts Analyses

When explosive charges detonate in the rock, most of the available chemical kinetic energy is used in breaking and dissipating into the rock mass. However, some of the energy is kinetically released in the form of vibration causing strain waves, airborne noise, concussion and flying rock. If not controlled properly, these forms of blast energy can cause injury and damage nearby property.

In this section, Stanto Group Inc evaluates all the potentially damaging effects that blasting might have on people and nearby property on and near Golden Mine. Stanto Group Inc also recommends specific measures that can be employed to mitigate the reviewed blasting impacts and risks.

2.1 Impacts of Blast Induced Ground Motion and Fracturing:

The purpose of this section is to evaluate the relative potential for all forms of possible damage that might occur due to blast-induced ground motion or radial cracking. This section examines their effects on neighboring property and water wells near the mine site. This section is dedicated to explaining in detail the potential damage concerns by giving the reader an adequate understanding of how blast-induced ground motion and fracturing can impact nearby structures.

The following blast motion impacts are analyzed in the indicated subsections:

Stanto Group Inc also reviews and comments on the appropriateness of currently proposed blast control measures and in some areas, Stanto Group Inc recommends additional controls.

2.1.1 Review of Blasting Vibration Phenomena:

When an explosive charge detonates in a rock mass, the energy distributes rapidly by kinetically displacing the sudden energy into the rock mass. Some waves pass through the "body" of the rock mass. The primary compression waves (P) and shear waves (SH, SV) are noted in Figure 2.1, below. Other surface vibration waves travel along the ground surface like the way waves travel along the surface of water. Wave energy will be reflected, refracted, and attenuated by various geological and topographical conditions. When seismic waves pass through the ground, the ground particles will oscillate within the rock mass, soon after blasting has stopped or the energy has finally distributed into the rock mass, the vibration energy dissipates and the ground particles become still.

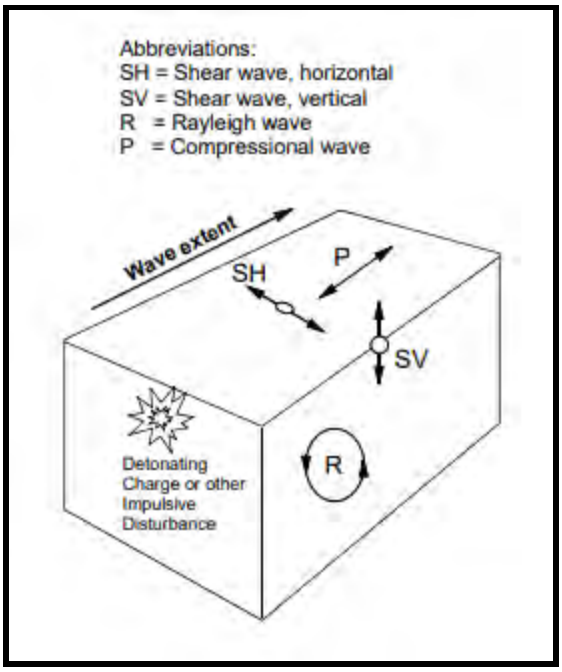


Figure 2.1 - Standard Vibration Waves

The characteristics of ground motion can be measured in several ways:

- Particle displacement
- Particle velocity
- Particle acceleration
- Vibration frequency

Displacement is a measurement of ground particle travel distance or location with respect to time. Particle velocity measures the speed of movement and acceleration of the rate of velocity changes. Vibration frequency is a measure of ground particle oscillations occurring per second of time. Frequency is reported in standard units of Hertz (Hz), which is equivalent to cycles per second.

Standard industry damage criteria and "safe levels" of ground motion are strictly based on particle velocity and frequency of motion. This response of ground motion to humans or structures is primarily influenced by ground motion velocity and duration of the motion. Vibration intensity is expressed as Peak Particle Velocity (PPV). These ground motion (shaking) speeds are measured in inches per second, because of their speeds being generally low.

Frequency of motion is important because, unlike earthquakes where frequency of motion is quite low, cycles of ground particle shaking (frequency) caused by blasting usually occurs at 10 to 50 Hz. Since ground particles are shaking so quickly (oscillating) they do not move very far. As shown in Figure 2.2, the intensity and frequency of vibrating ground particles or changes in air-pressure can be determined when these events are measured and plotted with respect to time.

These ground vibrations are elastic waves, meaning that the ground particles move as the wave passes and quickly come to rest exactly as they were before the waves arrived. The average person is quite sensitive to ground motion and can feel vibration at levels several orders of magnitude lower than motion at damage threshold levels. Ground particle motion occurring at velocities as low as 0.50 mm/s (0.02 in/s) can be detected by the human body. So people will "feel" blasting during almost every shot, but their homes and structures will not be damaged.

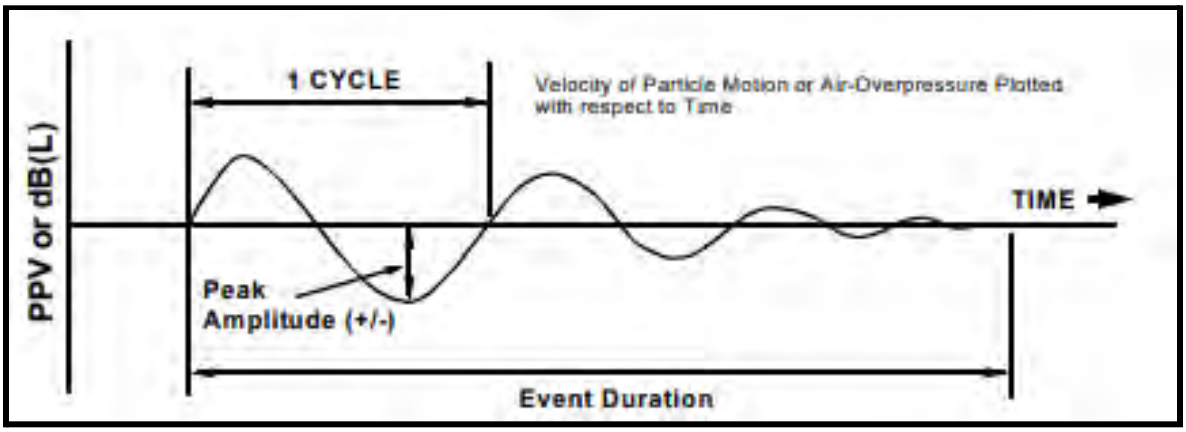


Figure 2.2 - Vibration or Air Overpressure Time - Intensity History Plot

The residential structures located 800 feet or more away from the Golden Mine will not be damaged using a conservative particle velocity limit of 0.5 in/s and keeping a charge weight per delay to 50 pounds, it will keep vibration below 0.2 in/s.

For instance, from the U.S. Bureau of Mines studies (Bulletin 656, 1979 and RI 8507, 1980) researchers have recommended conservative criteria that most government agencies, including Colorado, have adopted in commercial blasting regulations. To prevent blast-induced ground motion from even approaching damage thresholds, these regulations establish extremely cautious limits on peak particle velocity (PPV). Some damage prevention regulations also consider the frequency of ground motion. Other researchers have evaluated the effects of ground motion on people, buried pipelines, water wells, and residential/commercial structures. In this investigation, Stanto Group Inchas analyzed the potential risk of blast-induced vibration damage or disturbances to structures and persons located near the Golden Mine.

2.1.2 Potential for Damage to Structures from Blast Induced Ground Motion:

The U.S. Bureau of Mines, in RI 8507 (1980) made the following conclusions regarding the potential for damage caused by blast-induced ground motion.

> *"Practical safe criteria for blasts that generate low-frequency ground vibrations are 19 mm/s (0.75 in/s) for modern gypsum board houses and 12.7 mm/s (0.50 in/s) for plaster on lath interiors. For frequencies above*

> *40 Hz, a safe particle velocity maximum of 51 mm/s (2.0 in/s) is recommended for all houses."*

It should be noted that the USBM RI 8507 recommendations are designed to prevent even threshold damage in residences of lower-quality construction. Threshold damage was defined as:

> *"Threshold damage was defined as the occurrence of cosmetic damage; that is the most superficial interior cracking of the type that develops in all homes independent of blasting."*

In an earlier USBM study (Bulletin 656, Nichols et al., 1971), it was concluded that if at least 8 milliseconds of delay time separates charges, their effect on ground motion is not cumulative. The "8-millisecond rule" remains an industry and regulatory standard for defining "separate" delays with respect to charge weight per delay..

Blasting researchers, over many years, have developed and verified the validity of using scaled relationships to predict vibration intensity at various distances. These relationships use scaling theory to define the relationship between ground vibration particle velocity, charge weight, and distance, Distance is scaled by the square root of charge weight to create a single dependent variable called scaled distance (SD). Various forms of this relationship are shown in Equation 2.1.

Equation 2.1:

$$PPV = K\left(D/\sqrt{W}\right)^{m} \quad or \quad PPV = K\left(D_s\right)^{m}$$

Where: PPV = Peak Particle Velocity (in/s)
D = Distance (ft)
W = Maximum Charge-weight-per-delay (lb)
K = Rock Energy Transfer Constant (K-Factor)
m = Decay Constant
D_s = Scaled Distance ($ft\text{-}lb^{-0.5}$)

When plotted on log-log paper, data points defined by scaled distance and measured particle velocity generally fall between boundaries defined by Oriard (1972), as shown in Figure 2.3. The slope of plotted data (m) is usually around - 1.6 and the K factor for predicting particle velocity in the upper limit of the normally confined charge is 242. For cautious predictions, Stanto Group Inc used a K factor of 300 in all calculations for estimating particle velocities in the various analyses done in this report.

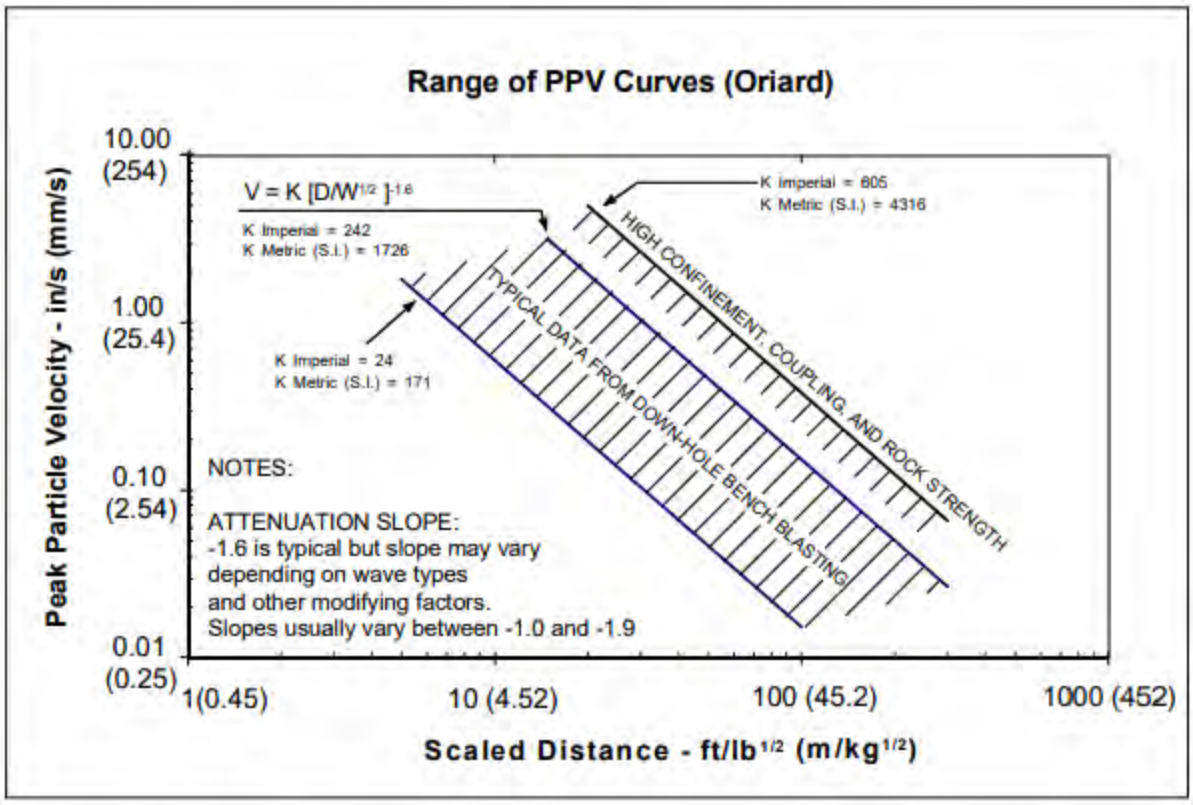


Figure 2.3 - Oriard Blast Vibration Prediction Curves

The Colorado Division of Labor blasting regulations require blasters to use a minimum scaled distance (SD) of 55 ft/lb$^{1/2}$ when calculating maximum charge weights. Charges determined with this formula are designed to ensure that ground motion does not approach levels that might cause even cosmetic damage (0.5 in/sec in homes with plaster walls). The intensity of vibration is reduced when scaled distance is increased.

For Blasting at the Golden Mine, the maximum charge per delay could be limited to 50 pounds per delay. At this limit, the scaled distance to the nearest occupied residential structure 800 feet from the blasting area, is 113 ft/lb$^{1/2}$.

$$SD = \left(\frac{800}{\sqrt{50}}\right) = 113 \text{ ft/lb}^{1/2}$$

At this scaled distance, using conservative response constants in the vibration prediction formula shown in equation 2.1, the ground motion at the nearest structure would be around 0.15 in/sec.

$$PPV = 300(113)^{-1.6} = 0.15 \text{ in / sec}$$

The intensity of this motion is 3 times lower than the 0.5 in/sec damage threshold limit. The intensity of ground motion at the areas of concern at 1700 feet or farther would not likely exceed 0.03 in/sec. Since this is the closest structure, it is clear that blast-induced ground motion at nearby structures will be orders of magnitude lower than the threshold of damage. With this result, if charge weight per delay is limited to 50 pounds per delay, Stanto Group Inc concludes that blast-induced ground vibration will cause no damage to adjacent property.

2.1.3 Potential for Blast Damage to Area Water Wells

Based on the surveyed water wells in the general area of the mine site, water well #1 and #2, the nearest water well is approximately 3300 feet. It is unknown the state of the water wells near the property and proposed general blast area. Information about water wells, from the Colorado Department of Water Resources, stated that the depth of water wells ranges from 355 to 703 feet and the minimum water depth is 170 feet. With overall distance considered, the wells are topographically separated from the proposed rock blasting and extraction areas, ground fracturing and excavations at Golden Mine will not interfere with the recharging capability of these water wells.

Since the maximum charge per delay of 50 pounds per delay, the particle velocity of ground motion at the nearest water well (Water well #1 3300 feet) it would likely not exceed the 0.020 in/sec threshold. With these conditions, the proposed blasting location at Golden Mine will have no negative impacts on the neighboring water wells in the general area.

2.2 Potential For Damage to Traffic on Nearby Roads

The area map indicates that the permitted Mining area is near Colorado Highway 93 and bounded to the North of Golden. There are no overhead power lines in the designated blasting area of the proposed mining area. The only conceivable way that the proposed blasting could impact this road is if flying rock from a blast hit them. In order to prevent any chance of this occurrence, Stanto Group Inc recommends the following control measures:

1. No blasting within 100 feet of Colorado Highway 93 road.
2. The height of the inert charge stemming material will be equal to or greater than the minimum blast hole spacing dimension.
3. When blasting occurs within 1,000 feet of any public road, traffic should be cleared from the road, and guards - wearing orange vests and using traffic flags should block further traffic entry at a distance of ¼ mile in all directions from the blast site.

By employing these cautious measures, the blasting and other mining activities at Golden Mine should have no negative impacts on adjacent roads. Colorado Highway 93 is over 1900 feet from the proposed mining area so the only real impact on the traffic would be individual cars slowing down to observe the post-blast effects such as the clearing of a dust cloud or the sliding of any residual rock after a blast.

2.3 Blast Noise Impacts

The largest blast-induced noise occurs at frequencies below the threshold of hearing for humans (16 to 20 Hz). The common industry term for blast-induced noise is "air-overpressure." It is the measurement of the transient pressure changes. These low intensity pulsating pressure changes, above and below ambient atmospheric pressure, are manifested in the form of acoustic waves traveling through the air. The speed of sound varies in different materials, depending on the density of the medium. For instance, pressure waves typically travel at the speed of 4,920 ft/s in water, whereas, air density is at only 1,100 ft/s because air has a lower density.

When calculating maximum air overpressure values, the absolute value of the greatest pressure change is used, regardless of whether it is a positive or negative change. The frequency of air overpressure (noise) is determined by measuring how pressure changes occur in one second of time. Blast noise occurs at a broad range of frequencies and the highest energy blast noise usually occurs at frequencies below that of human hearing (less than 20 Hz).

2.3.1 Air Overpressure Measurement Scales:

Regular acoustical noise measurements taken for the purpose of monitoring compliance with local noise ordinances almost always use A-weighted (dBA) and C-weighted (dBC) scales. Instruments used for these A and C-scale measurements filter out most of the air overpressure occurring below a frequency of 20 Hz because humans cannot hear it and are generally not annoyed by it. Much of the air overpressure frequency spectrum created by rock blasting occurs at frequencies below 20 Hz. Accordingly, seismographs used for blasting measurements are equipped with microphones and recording equipment that captures all air overpressure fluctuations occurring from 2 to 200 Hz. These blasting measurements are called linear scale measurements and the unit is dBL.

A significant amount of the energy in blast-induced air pressure waves occurs at frequencies below 20 Hz. When A-weighted and C-weighted scales are used to record blast-induced noise, much of the event is filtered out and the reported intensity or decibel values are significantly less than what would be recorded by a linear scale 2 Hz response microphone reporting results in dBL scale. Differences between decibel scale measurements for individual blasts will vary depending on their unique frequency intensity spectrums. The full range recording of blast-induced noise can only be done with linear 2 Hz response instruments.

In a study by the U.S. Bureau of Mines (RI 8485 - Siskin et al, 1980), researchers measured blast-induced noise at a common location using A-weighted, C-weighted, and linear microphones. Comparable measurements taken about 800 feet from a blast, as shown in Figure 2.5, show that a linear peak noise of 120 dB-L equates to only 112 dBC and 85 dBA.

Note that differences for individual blasts will vary depending on their unique frequency intensity spectrums. Since full range recording of blast-induced noise can only be done with linear scale instruments, it is imperative that all compliance specifications be expressed in linear scale (dB-L).

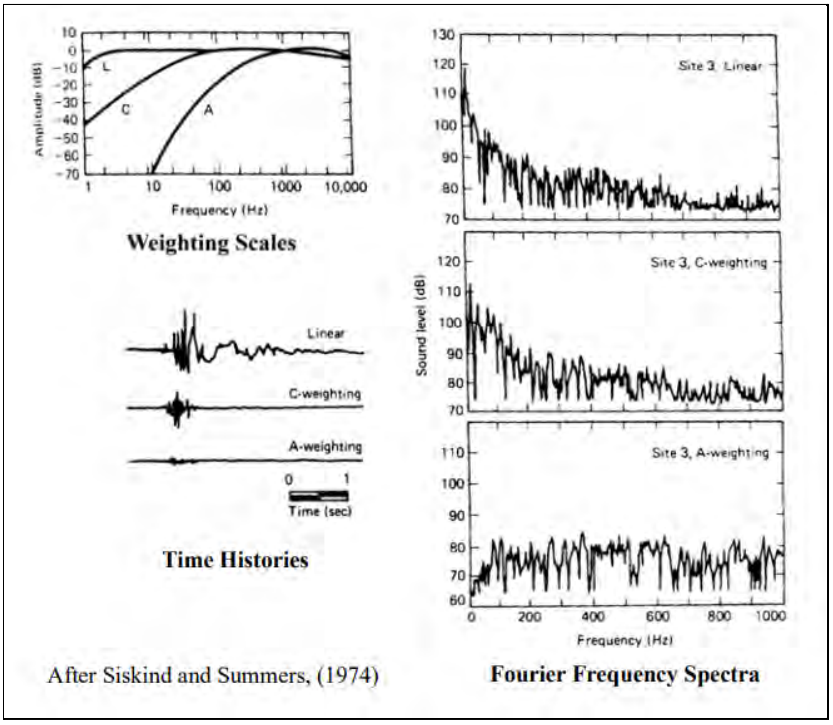


Figure 2.5 - Effects of Weighted Filtering on Air-overpressure Records

USBM RECOMMENDATION from RI 8485[7]		
Lower Frequency Limit of Measuring System		**Maximum Level**
0.1 Hertz high pass system	Flat Response	134 Peak
2 Hertz high pass system	Flat Response	133 Peak
5 or 6 Hertz high pass system	Flat Response	129 Peak
C- weighted system for events with duration less than 2.0 sec.	Slow Response	105 Peak

Figure 2.6 - USBM Recommended Blasting Air Overpressure Limits

2.3.2 Air Overpressure Limitations:

The regulatory limit defined by USBM and promulgated by Colorado State Department of Labor Regulations, for airblast measured with 2-Hz response seismographs is 133 dB-L. As indicated in figure 2.7, the logarithmic ratio decibel scale defines 150 dB-L overpressure at 0.092 psi,

which is very different from the 133 dB-L overpressure level at 0.013 psi. The relationships between actual overpressure expressed in psi and decibel scale measurements are shown in the following forms of the Equation below.

$$dB = 20\ Log_{10}(P / P_o) \text{ or } P = 10^{(dB/20)} \times P_o$$

Where: dB = decibels, P = overpressure (psi), P_o = Reference Pressure (2.9×10^{-9} psi)

Overpressure Effects and Equivalent Units

dB	psi	kPa	Effect
180	2.90000	20.0000	Structural Damage
170	0.91706	6.3246	Most Windows break
160	0.29000	2.0000	
150	0.09171	0.6325	Some Windows Break
140	0.02900	0.2000	OSHA Maximum for Impulsive Sound
130	0.00917	0.0632	
120	0.00290	0.0200	Pressure produced by 20 mph wind
110	0.00092	0.0063	
100	0.00029	0.0020	
90	0.00009	0.0006	OSHA Maximum for 8 Hours
80	0.00003	0.0002	

Figure 2.7 - Overpressure Effects and Scale Comparisons

2.3.3 Recommended Vibration and Air Overpressure Limits

Based on prevailing blast vibration control practices used throughout the United States, regulators and blasting engineers develop vibration and noise limits within the Colorado State Regulation limit of 133 dB-L which research has proven to prevent damage to structures and utilities and minimize annoyance to neighboring properties.

In the following equation developed in a U.S. Bureau of Mines Study (RI 8485), airblast can be used to estimate overpressure, based on charge weight and distance.

$$Overpressure\ (psi) = 52.7(D/W^{0.333})^{-1.467}$$

Using this formula, the overpressure at the nearest structure (Area of Concern Neighboring House #3) at a distance (D) of 800 feet the maximum empirical charge per delay allowed would be 21 lbs. This charge per delay will be the starting point for the blasting contractor to conduct a trial blast and then modify as allowed using the collected field overpressure data to adjust if possible the charge per delay.

On quiet days, blasting at this level will potentially be heard, however, no structural damage will occur. Also due to the location of House #3, the geology creates a natural barrier between the blasting operation and the home which will reduce the overpressure impact on the home.

Residential Buildings:

Despite studies from RI 8507 (Siskind, et al, 1980) and State of Colorado Rules allowing vibration levels from 0.5 to 2.0 in/s. Denver Brick Company plans to limit blast charge weights so PPV at all offsite structures does not exceed 0.2 in/s.

With existing residential buildings located at 800 feet, the blasting contractor has several levers that can be managed to facilitate meeting the State of Colorado regulations for both vibration and air overpressure. Here are just a few:

1. Decking - separation of one explosive column with inert material in order to reduce the weight of the explosive per delay.
2. Increase/Reduce the borehole diameter to better spread the explosives column throughout the bench height
3. Request mine design changes to allow a shorter bench height so less weight of explosives are required per hole

2.3.4 Summary Vibration and Air Overpressure Limits

In summary through empirical calculations, the blasting contractor will be able to use a 21 lbs per 8-millisecond delay design to facilitate the blast design and stay within the State of Colorado rules for being in compliance with the vibration and the air overpressure limits. No physical damage will occur to the nearest structures.

Due to the unique geological structure between the operational mining area and the nearest home, the blasting contractor should conduct a trial shot and determine the charge per delay design flexibility available to optimize the vibration and air overpressure. If the air overpressure limits during trials, maintain a recorded limit below the State of Colorado's preset overpressure limit, then from our empirical formula calculations, the charge per delay trials can be adjusted up to 50 lbs per delay without any structural damage occurring to the surrounding structures.

2.4 Pre-Blast Activities

Prior to blasting a variety of non-explosives related, but regulatory-related activities will need to occur:

1. Pre-Blast Home Survey - Pre-blast home survey will be conducted by an independent 3rd party contractor. The occupied structures nearest the operational blast area (currently 2-8 properties (Fig 1.2) with potentially occupied structures are within 800ft from blast area depending on the location of the blast in the mine) will be contacted either in person or by mail and be offered the opportunity to have a pre-blast home survey. Notified residents that would like to have a pre-blast home survey completed can

either email or call the number on the notification letter or inform the individual who is personally notifying the homeowner. The pre-blast home survey will consist of photo documentation of exterior foundation existing cracks and interior walls and corners photos.

2. Blast Schedule - After the pre-blast home surveys are completed, then a blasting schedule is developed. The blasting schedule is agreed upon between the mine operator and the blasting contractor. The blasting schedule is shared with the homeowner during the Home-owner Notification step on the day of the blast. Blasting activities will generally occur between 9 am - 6 pm Monday through Friday in an attempt to minimize the impact on the homeowners.
3. Home-owner Notifications - Each homeowner with a reasonable concern or potentially affected by the blasting activities shall be notified, preferably in writing, but verbal notification is acceptable about blasting occurring within the mining operational area. The home-owner notification will contain the address or known location of the blasting activity and an estimated timeframe the blast will occur (ie. 10 am to 12 pm, or 3 pm to 5 pm, etc.). Generally, blasting will occur in the afternoon due to the explosives loading process as it will take all day to load a shot generally. Per the State Blasting regulations, blasting must occur before dusk.
4. Seismograph service coordination - From the blasting contractor's experience with respect to distance from occupied structures and the weight of explosives being used per detonator, a seismograph service may be required to be used during a blasting event. If a seismograph service is required then the seismograph service provider has 24 hours to notify the contracted blaster and the mine owner a seismograph report.
5. Blast site security - the blast area is the area that the blasting contractor's experience would dictate to be potentially dangerous for personnel and equipment to be in. The blaster-in-charge is responsible for all roads to be blocked if potential access into the blast area is determined. Personnel are commonly used to block traffic and other personnel from entering the blast area. Blast site security is only required 10-15 minutes before the blaster in charge is ready to fire the shot.
6. Blasting signals - The blasting contractor will use a horn or another device to notify those in the blast area at the time of the shot. Commonly, a 5-minute pre-blast warning will be sounded, then a 1-minute pre-blast warning will be sounded and finally, a Fire-In-The-Hole call will be made over the communication devices used to control the blast area. The Blaster-In-Charge is the one responsible for going through this countdown and will ensure all personnel and equipment in and around the blast area are at a safe distance from the shot.

2.5 Blasting Report

After each blasting event, the blasting contracted service shall produce a blast report consisting of the following items:

1. Quantity of explosives used in blast
2. Distance to nearest occupied structure

3. Time of blast
4. Weather at blast time
5. Blast Purpose
6. Blast location
7. Pounds per delay in the blast
8. Initiation system used in blast
9. Name of individual firing shot
10. The license number of blaster
11. Rough blast diagram
12. Calculated pounds shot within an 8-millisecond delay period
13. Number of holes fired
14. Number of holes misfired
15. Number of holes fired at once (within 8ms of each other)
16. Type of material blasted (ie. sandstone, limestone, clay, etc)
17. Diameter and depth of holes - shot geometry and blast plan dependent
18. Types of explosives used
    a. Dry Holes - ANFO
    b. Wet Holes - Emulsion
19. Type and length of stemming;
    a. Stemming serves to confine and maximize efficient use of the explosive's energy.
    b. Stemming is a suitable inert incombustible material or device used to confine or separate explosives in a drill hole
    c. Ideal stemming is ¾" crushed rock
20. Mats or other protections used;
    a. Mats are not anticipated to be used due to the distance from structures
21. Type of delay detonator and delay periods used;
    a. Non-Electric - a very common type of non-electric detonator used in industry is a dual delay product that has a delay element in the hole (350ms or 500ms delays) and a 25ms delay on the surface.
    b. Electronic - Electronic blasting systems are programmable and capable of being programmed to ensure the "8 milliseconds per delay" rule can be followed even with very large shots
22. Number of persons in the blasting crew working on the shot
23. Seismographic records where required including:
    a. Type of instrument sensitivity and the calibration signal of the gain setting or certification of annual calibration;
    b. The exact location of the instrument,
    c. Blast date and time
    d. Instrument distance from the blast;
    e. Name of the person and firm taking the reading;
    f. Name of the person and firm analyzing the seismographic record
    g. The vibration level was recorded.

The blasting contractor must complete a blasting report for each shot and be retained for at least 3 years and be available for inspection when requested.

EXPLOSIVES BLAST REPORT

PROJECT: _____ DATE: _____ EXACT TIME: _____

ADDRESS (EXACT LOCATION): _____

CONTRACTOR: _____ WEATHER: _____

INDENTIFICATION OF NEAREST STRUCTURES IN VIBRATION SENSITIVE AREA: (DIRECTION, DISTANCE IN FEET, AND DESCRIPTION):

_____

_____

_____

TYPES OF EXPLOSIVES USED	TYPE OF MATERIAL BLASTED	NO. OF HOLES DETONATED	DEPTH OF HOLE	DIAMETER OF HOLES	BURDEN / SPACING
AMOUNT OF EXPLOSIVES PER HOLE OR CHARGE	**TOTAL AMOUNT OF EXPLOSIVES**	**TYPE OF STEMMING**	**HEIGHT OF STEMMING**	**TYPE OF DELAY**	**DELAY PERIOD**
MAXIMUM AMOUNT OF EXPLOSIVES AND HOLES DETONATED WITHIN 8 MILLISECONDS			**METHOD OF FIRING / TYPE OF CIRCUIT**		
EXPLOSIVES:	**HOLES:**				

WERE MATS OR OTHER PROTECTION USED? YES ☐ NO ☐

WERE SEISMIC READINGS TAKEN? YES ☐ NO ☐ IF YES, ATTACH READINGS TO BLAST REPORT

RESULTS:

COMMENTS:

BLASTER IN CHARGE:

SIGNATURE: TYPE I PERMIT NUMBER:

PRINTED NAME: DATE:

Figure 2.8 - Explosives Blast Report Content Example

2.6 Blasting Plan

Planned blasting events will not adversely impact any off-site areas by following the above parameters in the blast plan.

2.6.1 Blasting Commercial Purpose

Blasting at the Denver Brick Company's Golden Mine is to fracture claystone and sandstone rock that is surrounding the clay seams so the clay seams can be extracted for industrial usage.

2.6.2 Blasting Plan Components

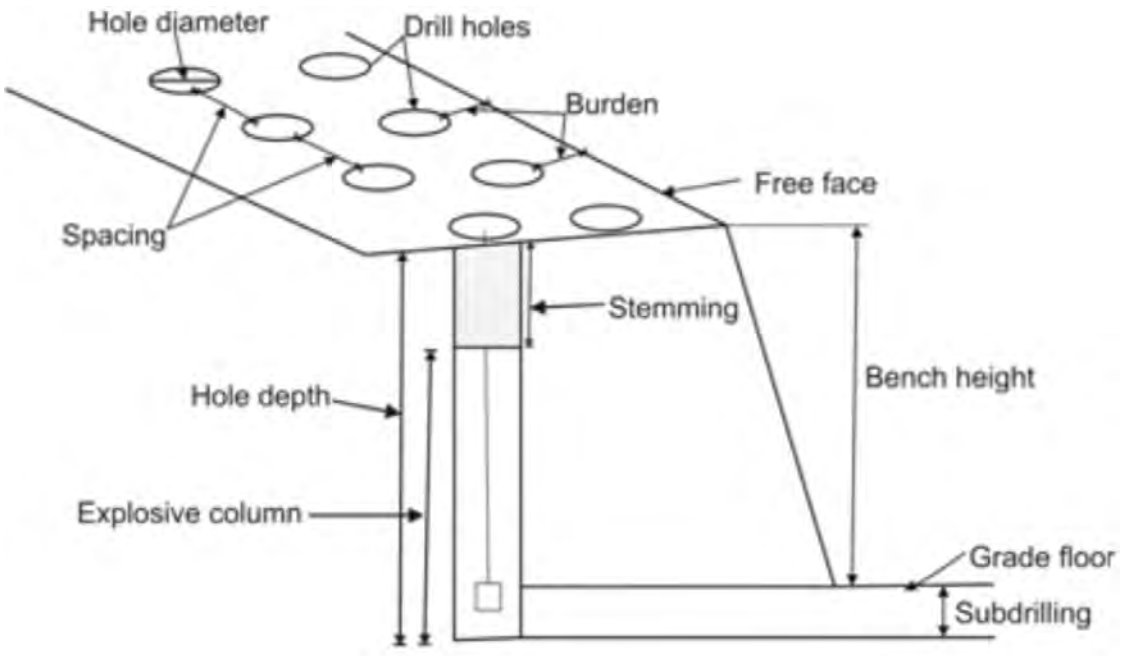


Figure 2.9 - Blast Design Parameters

Each blast plan will contain the following with respect to the above blast design parameters.

1. Number, spacing, diameter, and depth of holes;
    a. These blast design parameters are determined by the geometry and quantity of the desired blast results. The Blasting contractor will determine these parameters during the pre-blast site audit in order to develop the blast plan to meet the needs of the client, the Denver Brick Company. Common starting blast designs using a 4 in diameter borehole would be a 10ft x 10ft square pattern.
2. Type and amount of stemming material;
    a. Stemming material will consist of ¾" crushed rock.
    b. Typical stemming material depth will be a minimum of 5 feet or more. This depth will ensure that the explosive energy in each hole will fracture the rock and not find its way out of the top of the hole.

3. Blasting agent
    a. ANFO or
    b. Emulsion
    c. Amount per hole - determined by the depth of the hole
4. Type of delay detonator
    a. Non-electric or
    b. Electronic
    c. Delay periods per blast plan - determined by the geometry of the blast site and desired amount of blasted rock requested
5. Description of monitoring systems to be used
    a. Seismic and air blast monitoring systems such as the Blastmate III or other industry-accepted blast monitoring systems.
6. Location of blast monitoring
    a. The location of the blast monitoring system will be as close as possible to the nearest home or structure on the mine property or
    b. Adjacent to the nearest home or structure provided the land owner's permission is obtained during the pre-blast home survey. (preferred location to set up a seismograph)

The above blast design parameters will be refined after the test blast in order to deliver the Denver Brick Company fractured rock that can be removed using standard mining equipment. Due to the nature of the clay seams that the Denver Brick Company is mining, their stated goal is to simply fracture the sandstone surrounding the clay so the clay can be extracted with minimal dilution.

3.0 General Blasting Concerns of Project Neighbors

Neighbors of operations where blasting will occur often desire assurances that explosive materials will be safely transported to and used at the blasting site. The purpose of this section is to provide general information about modern blasting methods, transportation systems, and regulations applying to their use.

In Colorado, all mining and construction-related blasting work must be performed under the direct supervision of a State-licensed blaster. The licensed blaster may be employed directly by the Mining Company or by a qualified blasting contractor.

When explosives are transported over public roads, vehicles and drivers must satisfy all stringent standards required by the Federal Department of Transportation (DOT). Drivers must have special hazardous materials training in addition to meeting the normal requirements for a commercial driver's license.

While on-site, explosive handling and use are regulated by the Federal Mine Safety and Health Administration (MSHA) and the Colorado Department of Labor and Employment, 7 C.C.R. 1101-9.

3.1 Concerns of Property Owners

Most people are concerned when they learn that blasting will occur near their property. People often perceive that blasting will throw rocks everywhere and threaten lives and property. An understanding of modern blasting technology as explained in the following series of questions and answers regarding modern blasting methods will dispel these false perceptions.

3.2 Common Blasting Questions and Answers

Q. Why is blasting necessary?

A. In any kind of construction, quarrying, or mining operation, blasting is generally considered the quickest and most cost-effective method of removing rock. For many projects, if explosives could not be used, costs would be unreasonably high and the project might be abandoned. Blasting makes it possible for all of us to have new highways, transportation systems, and improved utilities. It allows for residential development to provide housing and commercial development to provide jobs. Blasting also results in more affordable consumer prices for products that come from rock and other minerals.

Q. What's to prevent a blaster from going overboard and using more explosives than absolutely necessary?

A. Mining companies prefer to blast so that vibration levels are well below the government's mandated or recommended limits. A mine cannot stay in business without a strong concern for public safety and strict adherence to governmental regulations. Furthermore, most blasting projects develop contract specifications that further assure that the contractor can not use excessive amounts of explosives.

Q. How much vibration will I feel if my house or business is near the blast site?

A. Normal household or office activity like heavy footsteps or a slamming door will generally produce higher vibration readings on a seismograph than a nearby blasting operation will. You should be aware, however, that the human body does detect extremely low levels of motion. You may feel the vibration from the blast and hear some noise. Occasionally, the airblast may rattle doors and windows. These vibration and noise levels are normally as harmless as those generated by routine, day-to-day activity around your home or office.

Q. Does a blaster really have control over how much vibration and noise are generated by the explosives?

A. The primary factors affecting vibration and noise are within the blaster's control, including the size of the explosive charges, and the timing sequence used to delay them. For factors outside the blaster's control, such as weather and site conditions, experienced blasters know to anticipate and make conditions and adjust for them.

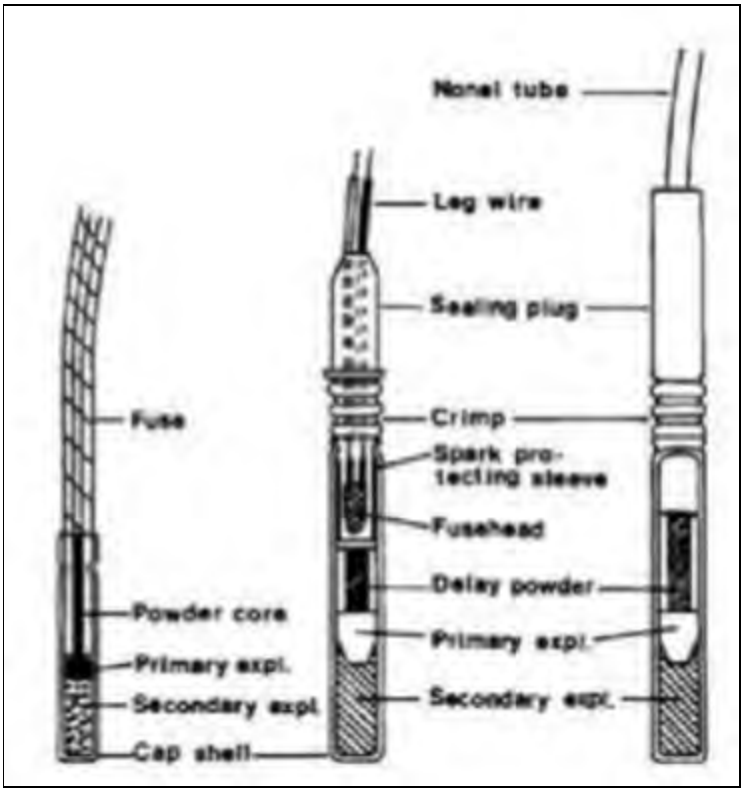


Figure 3.0 - Using Delay Timed Non-electric Detonators to Reduce Ground Vibration

4.0 Regulations Governing Blasting and Explosive Use

A review of all Federal and Colorado agencies and regulations governing the security, transportation, and use of explosives follows.

4.1 Mine Safety & Health Administration (MSHA)

MSHA has enforcement authority over blasting and the use of explosives at all U.S. mines. MSHA regulations governing all aspects of explosive use are found in the Code of Federal Regulations (CFR 30). These extensive regulations govern all aspects of explosive handling and blasting activities.

4.2 Colorado State Division of Labor

The Colorado State Division of Labor administers regulations governing blast permitting, explosive storage, transportation, and explosive use.

4.3 Bureau of Alcohol Tobacco and Firearms (BATF)

Title 27, CFR Part 555, Commerce in Explosives, defines the authority of BATF as defined by Congress in the Organized Crime Control Act of 1970. In general, the regulations contained in

this part related to commerce in explosives and implement Title XI, Regulation of Explosives (18 U.S.C. Chapter 40:84 Stat. 952), of the Organized Crime Control Act of 1970 (84 Stat. 922).

BATF Regulates:

1. The interstate or foreign commerce in explosive materials;
2. The licensing of manufacturers and importers of, and dealers in, explosive minerals;
3. The issuance of user permits;
4. The conduct of business by licensees and operations by permittees;
5. The storage of explosive materials;
6. The records and reports required of licensees and permittees;
7. Relief from disabilities under this part; and
8. Exemptions, unlawful acts, penalties, seizures, and forfeitures.

In summary, for commercial explosive users, BATF regulates all of the storage of explosives and issues federal licenses to companies that use explosives in their own operations.

4.4 Department of Transportation (DOT)

DOT has authority over all shipments of hazardous materials within or through the United States and its possessions. Shipments of hazardous materials by truck, plane, ship or other modes are governed by the authority and regulations of the DOT. The enforcement branches of the DOT are the Federal Highway Administration (FHWA), the Federal Aviation Administration (FAA), the U.S. Coast Guard (USCG), and the Federal Railroad Administration (FRA).

Office of Hazardous Materials:
DOT's Office of Hazardous Materials (OHMT) is responsible for developing and publishing rules regarding the classification and transportation of hazardous materials. These rules are published in the U.S. Code of Federal Regulations, Title 49 (49 CFR), primarily in Parts 106, 107, 171-179, 383, and 390-399.

Following is a listing of DOT regulations in 49 CFR, that govern explosives transportation:

Part 390	General
Part 391	Qualification of Drivers
Part 392	Driving of Motor Vehicles
Part 393	Parts and Accessories Necessary for Safe Operation
Part 394	Notification, Reporting, and Recording of Accidents
Part 395	Hours of Service of Drivers
Part 396	Inspection, Repair and Maintenance
Part 397	Transportation of Hazardous Materials; Driving and Parking Rules
Part 399	Employee Safety and Health Standards

5.0 Qualifications of Authors

5.1 Neal Stanton

PRINCIPAL – Stanto Group Inc
Parker, CO 80134-5611
Phone: (303) 800-6267 Cell: (303) 886-7652
E-mail: stantogroup@gmail.com

BLAST-ENGINEERING & VIBRATION-NOISE CONSULTING QUALIFICATIONS

Blast consulting services for the mining and heavy construction industry and its Engineering and Management Firms. Services include all blasting-related design, training, and risk management work.

EXPERIENCE

1994-2003 - Technical Representative for Orica Inc
Provided direct technical support to surface coal mining, and underground coal/metal/non-metal mining development projects.
Providing explosives-related training, design, and risk management services for the quarry, construction and mining industries.
Responsible for safety, explosives, and blasting application technical support to major construction and mining sites where damage and vibration control were critical.
Lectured at numerous Blasters License Training Courses.
2003-2011 - Product Manager for Orica Inc
Ensured mining and construction industry partners understood the use and application of the bulk AN/Emulsion and package products range of capabilities and use in a field environment.
Provided and coordinated technical training to the mining and construction industry.
2013-2016 - Business Development Director for BME
Developed new business opportunities for BME entry into the US/CAN/MEX explosives market.
Consulted as required on projects being pursued for blast design, vibration, and environmental impacts of explosives.
2016-Present - Principal for ExploStore, LLC
Managed explosives sales and service business operating throughout 13 western states.
Directly supervised crews performing contract-blasting services to quarries and construction projects.
2020-Present - Marketing & Sales Director for RocTek Inc - Drilling and Blasting
Directly responsible for on-site storage and over-the-road explosive transportation operations.
Developed company safety and application training programs.
Directly responsible for the fielding and use of Seismic monitoring equipment.
Managed blast scheduling and reporting for drilling and blasting operations.

RECENT PROJECT EXPERIENCE

Oftedal Sheridan Lake Road Widening – 2021, Rapid City, South Dakota.
Designed rock blast patterns for the State of South Dakota transportation department.
Coordinated blasting schedule with Oftedal, Local, State, and Federal agencies.

Provided blasting guidance on a daily basis for all drill and blast activities for the road widening challenges.
K&M Mining Quarry - 2021, Lusk, WY
Addressed MSHA high wall concerns and provided drilling and blasting contract services to mitigate overhangs in quarry from anticline geological features.
Developed blast design for achieving maximum fragmentation in challenging geology with natural voids.
Simon Quarry- 2021, Hot Springs, South Dakota
Developed blast designs for blasting under high power lines and power poles in a safe and economical manner.
Coordinated with quarry operator to ensure blasting parameters were understood and strictly followed.
Hycroft Mine Eagle Nest Mitigation Project - 2020, Winnemucca, Nevada
Designed blasting parameters to meet clients' needs for Eagle Nest mitigation while ensuring no injury to any wildlife occurred.
Communicated with the mine management team on blasting operations and any significant findings while drilling operations were occurring.
Established mitigation measures for vibration-sensitive areas with respect to wildlife.
Massive Rock Well Development Project - 2020, Pine, Colorado
Developed vibration and blasting plan to provide a water line to an already established wellhead in a massive granite cap rock.
Established project-blasting limitations designed to protect existing wellhead from blast-induced vibratory motion.
Glenwood Springs Quarry - 2020, Glenwood Springs, Colorado
Consulted with the quarry on sensitive blasting issues involving quarry blasting and city.
Developed vibration mitigation strategies and parameters for quarry to use to ensure city compliance.
Established vibration monitoring location for quarry to use in order to provide consistent results for city management.

5.2 Paul Stanton

Consultant – Stanto Group Inc
South Jordan, UT 84095
Cell: (303) 408-0113
E-mail: paul.18.stanton@gmail.com

Education Credentials
Colorado School of Mines - Major: Mining Engineer, 3.92
Minor: Explosives Engineering, 4.0

EXPERIENCE
2017 - Technical Representative for BME, Zambia
Provided direct technical explosives support to Kansanshi Open Pit Copper Mine in Zambia, Africa.

Designed blast patterns using BlastMap™ III software that show the energy distribution and movement direction of blasted rock.
Implemented the AXXIS™ Electronic Blasting system using electronic delay detonators.
2018 - Data Analysis Engineer for NASA
Worked on the team as an evaluator for training programs under Instrument and Payload Systems Engineering Branch at Goddard Space Flight Center
Evaluated data collected from training programs and generated Heat Maps in Excel and MATLAB
Built reports in Microsoft Word and LaTex for correlation of training programs used at NASA
2018 - Consultant for Patriot Powder, LLC
Technical Sales representative providing sales support for the AXXIS™ electronic detonator system
Built retail pricing model for Western US business using North American explosive manufacturers' products
Developed State of Wyoming Blaster Training 24-hour course with blast design, explosive usage, vibration monitoring, Explosives transporting, and preparatory training sections
Developed Wyoming, Colorado, Nevada, and Utah business plans
2019 - Present - Planning Engineer for Rio Tinto, Kennecott Bingham Canyon Mine
Assisted the Senior Drill & Blast Engineer with the MineSight layout of blast patterns
Develop a daily plan for shovels and drills. Coordinate daily with teams impacted by the changing environment in the pit.
Developed monthly haul truck speed model reconciliation tool by constructing a monthly haulage network based on proportional good vs. bad weather days to validate if actual is following to plan. Showed the total, loaded, empty cycle times comparison to distance to show variance between them and if the MS Haulage is faster or slower than actual
Updated speed model by comparing total cycle times to correlate with distance. Calculated the impact to operating hours with the new speed restrictions to the current model vs. the base case model.
Experience in 3-month planning for shovels by incorporating each input of various stakeholders to align towards EOY quarterly forecast predictions.
Developed a monthly Time Usage Model report to analyze actual vs. plan. Delay and Standby reconciliation to track KPI's such as Availability, Utilization of Availability, Utilization, and Effective Utilization.

6.0 References

ANSI A10.7 (2018) - Safety and Health Requirements for Construction and Demolition Use, Storage, Handling and Site Movement of Commercial Explosives and Blasting Agents

Berger, P.R., Froedge, D.T., Gould, J.A., Straw, J.A. and Dayton, M.A., (1980 and 1982). Survey of Blasting Effects on Ground Water Supplies in Appalachia (contract JO285029, Philip R. Berger and Associates, Inc.). Volumes I and II.

Butkovitch, T.R. and Hearst, JR, (1976), "Prediction and Determination of Explosive-Induced Fracture," Lawrence Livermore Laboratory, University of California, International Society of Explosives Engineers Proceedings-1976.

Code of Federal Regulations, 27 CFR part 555, Commerce in Explosives, U.S. Govt. Printing Office, Washington, DC 20402 (latest edition).

Code of Federal Regulations, 29 CFR part 1910 subpart H, 1910.109. Explosives and blasting agents, U.S. Govt. Printing Office, Washington, DC 20402 (latest edition).

Code of Federal Regulations, 29 CFR part 1926 subpart U, Blasting and the Use of Explosives, U.S. Govt. Printing Office, Washington, DC 20402 (latest edition).

Colorado Department of Labor and Employment, Division of Oil and Public Safety, Explosives Regulations, 7 C.C.R. 1101-9 (2019)

Dowding, C.H. (1996). CONSTRUCTION VIBRATIONS, Prentice-Hall, Inc.

Holmberg, R and Hustrulid, W., (1981), "Swedish Cautious Blast Excavation at the CSM/ONWI Test Site in Colorado," International Society of Explosives Engineers Proceedings-1981.

Nichols, H.R., Johnson, C.F., and Duvall, W.I., (1971), BLASTING VIBRATIONS AND THEIR EFFECTS ON STRUCTURES, U.S. Bureau of Mines Bulletin 656.

Oriard, Lewis L., (1996), "Vibration and Ground Rupture Criteria for Buried Pipelines," *Internal Society of Explosives Engineers Proceedings,* 1996.

Oriad, L.L., (1972). "Blasting Operations in the Urban Environment," Association of Engineering Geologists Annual Meeting, Washington, D.C., October 1970, published in Bulletin of AEG, Vol. IX. No. 1, 1972.

Oriard, L.L., (1991), "Close-in Blasting Effects on Structures and Materials," *International Society of Explosives Engineers Proceedings*-1991.

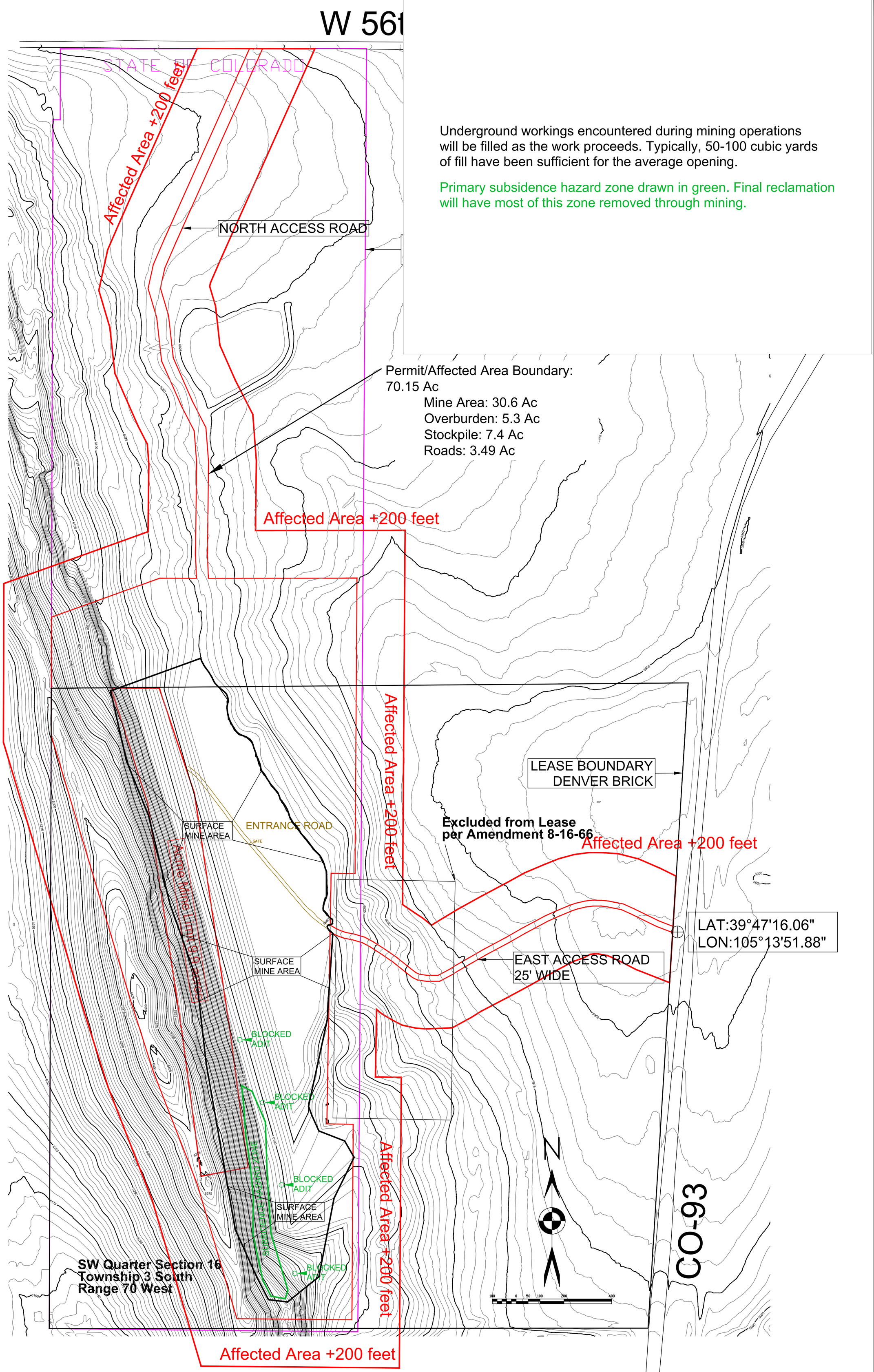
RI 7001, (1983)., Siskind, D.E. and Fumanti, R.R., BLASTING-PRODUCED FRACTURES IN LITHONIA GRANITE, U.S. Bureau of Mines, Report of Investigations 7901.

RI 8507, (1980)., Siskind, D.E., Stagg, M.S., Knopp, J.W. and Dowding, C.H., STRUCTURE RESPONSE AND DAMAGE PRODUCED BY GROUND VIBRATIONS FROM SURFACE BLASTING, U.S. Bureau of Mines Report of Investigations 8507.

Singh, P.K., Klemenz, M. and Niemann-Delius, C., (2005) Air *Overpressure*. Retrieved from QM Journal, www.qmj.co.uk, https://www.agg-net.com/resources/articles/drilling-blasting/air-overpressure

Yetzer, Bill. (2005). KRW Consulting, Inc. Survey Manager, WATER WELL SURVEYED INFORMATION, NAD 83 Colorado Central Coordinates. Reference index for official documentation.

6.4.6 Exhibit F
Reclamation Plan Map



Underground workings encountered during mining operations will be filled as the work proceeds. Typically, 50-100 cubic yards of fill have been sufficient for the average opening.

Primary subsidence hazard zone drawn in green. Final reclamation will have most of this zone removed through mining.

Drawn By: *Richard Murphy* *Exploration Manager*	*Rule 6.4.3 Exhibit F: Reclamation Plan Map*	*M-1976-007UG* *Golden Mine* *Conversion-01*	**Denver Brick Company** Exploration Department Denton, Texas	Date: *2-25-21* Scale: *1" = 200'* Contour Interval: 5'	Rev. *001* / Date *11-4-21* / By: *R.Murphy*

6.4.8 Exhibit H
Wildlife Information

This location is historically a clay mine dating back to the 1800's, co-existing with wildlife for more than one century. The CO DOW letter dated June 13, 1977 is provided herein as Exhibit 6.4.8-1 recognized the minor impact on wildlife and potential to improve the area for wildlife with reclamation. CO Parks and Wildlife (CPW) was contacted in January and October 2021, inviting representatives to a site visit. CPW did not respond to either invitation.

The CO Natural Heritage Program Conservation Data Explorer (CODEX) report is provided herein as Exhibit 6.4.8-2. CODEX searches multiple conservation databases including CO Parks and Wildlife data for sensitive species and natural wildlife communities. The study area includes the proposed permit area and a one-mile radius buffer area.

CODEX identified two preservation areas and four regulatory species within one-mile of the project area. The North Table Mountain Park and Golden Gate Canyon are preservations areas within a one-mile radius of the mine but substantially outside mining impacts. The Golden Eagle, Cutthroat Trout and Meadow Jumping Mouse have documented occurrences within 1 mile of the project. Water resources are not sufficiently close or impacted by the mine thus will not impact the Cutthroat Trout and the Ute Ladies' Tresses. Data from the US Fish and Wildlife Department is provided as Figure 6.4.8-1 showing Meadow Jumping Mouse habitat is approximately 2.5 miles northwest of the mine.

The Golden Eagle habitat is open mountains and foothills, according to the National Audubon Society website. Nests site may be on a cliff ledge or large trees. At the time of the pre-operation site inspection on October 27, 2021, eagle nests were not observed on the hogback and the permit area does not contain large trees that would be suitable for nests.

CODEX did not locate any critical habitats for fish and wildlife within a one-mile radius of the project area.

The majority of the proposed permit boundary is the historic clay mine, and the current clay operation. The rangeland to the east yet within the boundary will be temporarily impacted, if impacted at all, and reclaimed. The trees and randomly placed boulders will improve the potential wildlife habitat in the permit boundary.

This small clay mine with intermittent active mining will have far less impact on wildlife than the substantial mine and industrial operation to the north and the ever creeping residential development to the east and municipal development to the south. During operations, since the mine is very low activity and volume, the mine area will be open space for wildlife habitat.

6.4.12 Exhibit L
Reclamation Costs

The operator is in agreement with the Division's bond estimate summary provided herein.

COST SUMMARY WORK

Task description: **CN1 Final Reclamation Estimate**

Site: **Golden Mine** Permit Action: CN1 Permit/Job#: M1976007UG

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 3/1/2022 County: Jefferson Filename: M007-000
User: ECS

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Reslope 400' working face to 3:1	DOZER	1	28.15	$6,618
002	Rip Haul Road/Process/Stockpile area 13.1 ac	RIPPER	1	20.00	$5,208
003	Replace 6" topsoil over 43.3 ac/remove visual berms	SCRAPER1	1	147.38	$98,116
005	Finish grade affected area 43.3 ac	GRADER	1	31.50	$4,144
006	Revegetate affected area 43.3 ac	REVEGE	1	130.00	$101,712
007	Mob/Demob	MOBILIZE	1	7.00	$5,598
		SUBTOTALS:		**364.03**	**$221,396**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$4,472
Performance bond:	1.05	Total =	$2,325
Job superintendent:	221.66	Total =	$15,966
Profit:	10.00	Total =	$22,140
		TOTAL O & P =	$44,903
		CONTRACT AMOUNT (direct + O & P) =	$266,299

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$500	Total =	$500
Engineering work and/or contract/bid preparation:	4.25	Total =	$11,318
Reclamation management and/or administration:	5.00		$13,315
CONTINGENCY:	3.00	Total =	$6,642
		TOTAL INDIRECT COST =	$76,677
		TOTAL BOND AMOUNT (direct + indirect) =	**$298,073**

6.4.13 Exhibit M
Other Permits and Licenses

Permit/License	Contact Name	Address	Status
Jefferson County Planning and Zoning Location and Extent	Nick Nelson Patrick O'Connell	100 Jefferson County Parkway, Suite 3550, Golden, CO, 80419	
Colorado Department of Public Health and Environment Fugitive Dust Permit and Plan		CDPHE APCD-B1 4300 Cherry Creek Drive South Denver, Colorado 80222-1530	92JE940F
Colorado Department of Public Health and Environment Stormwater Discharge Permit and Plan		CDPHE WQCD-PE-B2 4300 Cherry Creek Drive South Denver, Colorado 80222-1530	COG501852
Colorado State Land Board Minerals Lease	Ben Teschner	1127 Sherman Street, Suite 300 Denver, CO 80203	Denver Brick Lease #102414 General Shale Lease #102418
Colorado Department of Transportation		Region 1 Traffic Section 2829 W. Howard Place, Second Floor Denver, CO 80204	Permit No. 121099 issued September 3, 2021

The applicant will obtain the appropriate land use or environmental permits that are necessary to be compliant with county and state oversight agencies.

6.4.18 Exhibit R
Proof of Filing with County Clerk and Recorder

I Patricia Rak-Houchen, of Jefferson County Clerk and Recorder's Office located at 100 Jefferson County Parkway, Suite 2560, Golden, CO 80401, received from Angela Bellantoni of Environmental Alternatives Inc the CO Division of Reclamation Mining and Safety amendment application for the Golden Mine on behalf of Denver Brick Company.

Patricia Rak-Houchen

Jefferson County representative's signature

4-25-2022

Date

6.4.19 Exhibit S
Permanent Man-Made Structures
Within 200 Feet of Affected Area

Structure Description	Structure Owner	Date Structure Agreement Executed
Solar Farm	Clean Energy Collective, LLC	Geotechnical assessment signed September 8, 2021
Buildings, underground water line and West 56th Avenue	Jefferson County	Geotechnical assessment signed September 8, 2021
Highway 93	CO Department of Transportation	Access permit dated December 21, 2020.
Overhead utility lines on Hwy 93 and W. 56th Avenue, underground line in W 56th Avenue and Highway 93	Centurylink	Geotechnical assessment signed September 8, 2021 and December 17, 2021
Underground water line	City of Golden Water Department	Geotechnical assessment signed December 17, 2021
Underground optic line	Zayo Bandwidth	Geotechnical assessment signed December 17, 2021

An example Structure Agreement which meets the requirements of the Statutes is shown below.
****

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Underground gas line in West 56th
2. Underground gas line in Hwy 93
3. Above ground electricity lines along West 56th and Hwy 93
4. _____
5. _____

(Please list additional structures on a separate page)

CERTIFICATION

The Applicant, Denver Brick Company (print applicant/company name), by Ed Watson (print representative's name), as EVP of Operations (print representative's title), does hereby certify that Xcel Energy/PSCo (structure owner) shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Golden Mine (operation name), File Number M-1976-007UG.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant Denver Brick Company Representative Name Ed Watson

Date 01/04/2022 Title EVP Operations

STATE OF Texas)
) ss.
COUNTY OF Tarrant)

The foregoing was acknowledged before me this 4th day of January, 2022, by Ed Watson as EVP of Operations of Acme Brick Company.

Notary Public My Commission Expires: 04/24/2022

ESTHER NEAL
Notary Public, State of Texas
Comm. Expires 04-24-2022
Notary ID 125669347

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY:

Structure Owner Public Service Company of Colorado D.B.A. Xcel Energy Name Richard J. Grady

Date _____ Title Manager, Right of Way & Permits

STATE OF COLORADO)
) ss.
COUNTY OF JEFFERSON)

The foregoing was acknowledged before me this 7TH day of January, 20 22, by Richard J. Grady as Authorized Agent of Public Service Company of CO D.B.A. Xcel Energy

Robert E. Blu, II My Commission Expires: 4/22/2022
Notary Public

ROBERT E. BLU, II
Notary Public
State of Colorado
Notary ID # 20104014057
My Commission Expires 04-22-2022

General Shale
Building The American Dream®

November 2, 2021

Environmental Alternatives Inc.
PO. Box 326
Cañon City, CO 81215

Attention: Dr. Angela M. Bellantoni

RE: Golden Mine M-1976-007 UG Permit Amendment Structure Agreement for above ground Century Link and Xcel Energy utilities located at Highway 93 Primary Mine Entrance

Dear Dr. Bellantoni:

Century Link and Xcel Energy have utilities located at Highway 93 Primary Mine Entrance on a above ground poles. As part of the Permit Amendment/Conversion for the Golden Mine M-1976-007 UG, a structure agreement is required for structures within 200 feet of the permit boundary. The above ground utilities lie within 200 feet of the permit boundary.

The above ground utilities are located along the haul road and also above the haul road and Highway 93 intersection. No excavation will occur within 200 feet of the above ground utilities. The only activity near these utilities will be traffic entering and existing the mine site on the preexisting haul road. Mine traffic will not adversely impact the above ground utilities.

If you have any questions please feel free to contact me at (303) 783-3058 or email jason.mcgraw@generalshale.com.

Best Regards,

Jason E. McGraw, P.E. #47171

Mine Supervisor

General Shale Brick, Inc.

General Shale
Building The American Dream®

November 2, 2021

Environmental Alternatives Inc.
PO. Box 326
Cañon City, CO 81215

Attention: Dr. Angela M. Bellantoni

RE: Golden Mine M-1976-007 UG Permit Amendment Structure Agreement for above ground Century Link and Xcel Energy utilities located at W 56th Avenue Secondary Mine Entrance

Dear Dr. Bellantoni:

Century Link and Xcel Energy have utilities located at W 56th Avenue Secondary Mine Entrance on a above ground poles. As part of the Permit Amendment/Conversion for the Golden Mine M-1976-007 UG, a structure agreement is required for structures within 200 feet of the permit boundary. The above ground utilities lie within 200 feet of the permit boundary.

The above ground utilities are located above the haul road and W 56th Avenue intersection. No excavation will occur within 200 feet of the above ground utilities. The only activity near these utilities will be traffic entering and existing the mine site on the preexisting haul road. Mine traffic will not adversely impact the above ground utilities.

If you have any questions please feel free to contact me at (303) 783-3058 or email jason.mcgraw@generalshale.com.

Best Regards,

Jason E. McGraw, P.E. #47171

Mine Supervisor

General Shale Brick, Inc.

COLORADO LICENSED
JASON E. McGRAW
0047171
11/2/2021
PROFESSIONAL ENGINEER

General Shale
Building The American Dream®

December 17, 2021

Environmental Alternatives Inc.
PO. Box 326
Cañon City, CO 81215

Attention: Dr. Angela M. Bellantoni

RE: Golden Mine M-1976-007 UG Permit Amendment Structure Agreement for underground Century Link phone line located at W 56th Avenue Secondary Mine Entrance

Dear Dr. Bellantoni:

Century Link has an underground phone line located along the north side of W 56th Avenue. The Secondary Mine Entrance is located south of W56th Avenue. As part of the Permit Amendment/Conversion for the Golden Mine M-1976-007 UG, a structure agreement is required for structures within 200 feet of the permit boundary. The phone line lies within 200 feet of the permit boundary.

No excavation will occur within 200 feet of the phone line. The only activity near the phone line will be traffic entering and existing the mine site on the preexisting haul road. Mine traffic will not adversely impact the phone line since the line is located north of the driveway and north of West 56th Avenue.

If you have any questions please feel free to contact me at (303) 783-3058 or email jason.mcgraw@generalshale.com.

Best Regards,

Jason E. McGraw, P.E. #47171

Mine Supervisor

General Shale Brick, Inc.

COLORADO LICENSED
JASON E. McGRAW
0047171
12/17/2021
PROFESSIONAL ENGINEER

General Shale
Building The American Dream®

December 17, 2021

Environmental Alternatives Inc.
PO. Box 326
Cañon City, CO 81215

Attention: Dr. Angela M. Bellantoni

RE: Golden Mine M-1976-007 UG Permit Amendment Structure Agreement for Xcel Energy natural gas line located near Highway 93 Primary Mine Entrance

Dear Dr. Bellantoni:

Xcel Energy has natural gas line located in the middle of Colorado Highway 93. As part of the Permit Amendment/Conversion for the Golden Mine M-1976-007 UG, a structure agreement is required for structures within 200 feet of the permit boundary. The natural gas line lies within 200 feet of the permit boundary.

No excavation will occur within 200 feet of the natural gas line. The only activity near the natural gas line will be traffic entering and existing the mine site on the preexisting haul road. Mine traffic will not adversely impact the natural gas line since the line is located east of the driveway and is in the middle of Colorado State Highway 93.

If you have any questions please feel free to contact me at (303) 783-3058 or email jason.mcgraw@generalshale.com.

Best Regards,

Jason E. McGraw, P.E. #47171

Mine Supervisor

General Shale Brick, Inc.

General Shale
Building The American Dream®

December 17, 2021

Environmental Alternatives Inc.

PO. Box 326

Cañon City, CO 81215

Attention: Dr. Angela M. Bellantoni

RE: Golden Mine M-1976-007 UG Permit Amendment Structure Agreement for Century Link underground phone line located near Highway 93 Primary Mine Entrance

Dear Dr. Bellantoni:

Century Link has an underground phone line located immediately east of Colorado Highway 93. The Secondary Mine Entrance is located on the west side of Colorado Highway 93. As part of the Permit Amendment/Conversion for the Golden Mine M-1976-007 UG, a structure agreement is required for structures within 200 feet of the permit boundary. The phone line lies within 200 feet of the permit boundary.

No excavation will occur within 200 feet of the phone line. The only activity near the phone line will be traffic entering and existing the mine site on the preexisting haul road. Mine traffic will not adversely impact the phone line since the line is located east of the driveway and east of Colorado Highway 93.

If you have any questions, please feel free to contact me at (303) 783-3058 or email jason.mcgraw@generalshale.com.

Best Regards,

Jason E. McGraw, P.E. #47171

Mine Supervisor

General Shale Brick, Inc.

General Shale
Building The American Dream®

December 17, 2021

Environmental Alternatives Inc.
PO. Box 326
Cañon City, CO 81215

Attention: Dr. Angela M. Bellantoni

RE: Golden Mine M-1976-007 UG Permit Amendment Structure Agreement for Zayo Bandwidth fiber optic line located near Highway 93 Primary Mine Entrance

Dear Dr. Bellantoni:

Zayo Bandwidth has fiber optic line located in the driveway that ties into Colorado Highway 93. As part of the Permit Amendment/Conversion for the Golden Mine M-1976-007 UG, a structure agreement is required for structures within 200 feet of the permit boundary. The fiber optic line lies within 200 feet of the permit boundary.

No excavation will occur within 200 feet of the fiber optic line. The only activity near the fiber optic line will be traffic entering and existing the mine site on the preexisting haul road. Mine traffic will not adversely impact the fiber optic line.

If you have any questions please feel free to contact me at (303) 783-3058 or email jason.mcgraw@generalshale.com.

Best Regards,

Jason E. McGraw, P.E. #47171

Mine Supervisor

General Shale Brick, Inc.

General Shale
Building The American Dream®

December 17, 2021

Environmental Alternatives Inc.
PO. Box 326
Cañon City, CO 81215

Attention: Dr. Angela M. Bellantoni

RE: Golden Mine M-1976-007 UG Permit Amendment Structure Agreement for City of Golden Water line located near Highway 93 Primary Mine Entrance

Dear Dr. Bellantoni:

The City of Golden Water Department has water line located in the driveway that ties into Colorado Highway 93. As part of the Permit Amendment/Conversion for the Golden Mine M-1976-007 UG, a structure agreement is required for structures within 200 feet of the permit boundary. The water line lies within 200 feet of the permit boundary.

No excavation will occur within 200 feet of the water line. The only activity near the water line will be traffic entering and existing the mine site on the preexisting haul road. Mine traffic will not adversely impact the water line.

If you have any questions please feel free to contact me at (303) 783-3058 or email jason.mcgraw@generalshale.com.

Best Regards,

Jason E. McGraw, P.E. #47171

Mine Supervisor

General Shale Brick, Inc.

COLORADO LICENSED
JASON E. McGRAW
0047171
12/17/2021
PROFESSIONAL ENGINEER

General Shale
Building The American Dream®

December 17, 2021

Environmental Alternatives Inc.
PO. Box 326
Cañon City, CO 81215

Attention: Dr. Angela M. Bellantoni

RE: Golden Mine M-1976-007 UG Permit Amendment Structure Agreement for private water line located near Highway 93 Primary Mine Entrance to home

Dear Dr. Bellantoni:

Jefferson County Open Space owns a home that has an underground water line from the mine entrance to the home. The location of the private water line is unknown. As part of the Permit Amendment/Conversion for the Golden Mine M-1976-007 UG, a structure agreement is required for structures within 200 feet of the permit boundary. The water line most likely lies within 200 feet of the permit boundary.

No excavation will occur within 200 feet of the water line because the excavation will be west of the home. The only activity near the water line will be traffic entering and existing the mine site on the preexisting haul road. Mine traffic will not adversely impact the water line.

If you have any questions please feel free to contact me at (303) 783-3058 or email jason.mcgraw@generalshale.com.

Best Regards,

Jason E. McGraw, P.E. #47171

Mine Supervisor

General Shale Brick, Inc.

COLORADO LICENSED
JASON E. McGRAW
0047171
12/17/2021
PROFESSIONAL ENGINEER

General Shale
Building The American Dream®

September 8, 2021

Environmental Alternatives Inc.
PO. Box 326
Cañon City, CO 81215

Attention: Dr. Angela M. Bellantoni

RE: Golden Mine M-1976-007 UG Permit Amendment Structure Agreement for Clean Energy Collective Solar Farm

Dear Dr. Bellantoni:

Clean Energy Collective operates a solar farm located at 21506 West 56th Avenue Golden, Colorado 80403. As part of the Permit Amendment/Conversion for the Golden Mine M-1976-007 UG, a structure agreement is required for structures within 200 feet of the permit boundary. The solar farm lies within 200 feet of the permit boundary.

No excavation will occur within 200 feet of the solar farm. The solar farm is adjacent to the haul road. Mine traffic will not adversely impact the solar farm.

If you have any questions please feel free to contact me at (303) 783-3058 or email jason.mcgraw@generalshale.com.

Best Regards,

Jason E. McGraw, P.E. #47171

Mine Supervisor

Colorado Community Media
750 W. Hampden Ave. Suite 225
Englewood, CO 80110

Environmental Alternatives, Inc. **
P.O. Box 326
Canon City CO 81215

Description: No. 411852 Construction Materials Operation Reclamation

AFFIDAVIT OF PUBLICATION

State of Colorado }
County of Jefferson } ss

This Affidavit of Publication for the Golden Transcript, a weekly newspaper, printed and published for the County of Jefferson, State of Colorado, hereby certifies that the attached legal notice was published in said newspaper once in each week, for 4 successive week(s), the last of which publication was made 12/30/2021, and that copies of each number of said paper in which said Public Notice was published were delivered by carriers or transmitted by mail to each of the subscribers of said paper, according to their accustomed mode of business in this office.

Linda C Shapley

For the Golden Transcript

State of Colorado }
County of Jefferson } ss

The above Affidavit and Certificate of Publication was subscribed and sworn to before me by the above named Linda Shapley, publisher of said newspaper, who is personally known to me to be the identical person in the above certificate on 12/30/2021. Linda Shapley has verified to me that she has adopted an electronic signature to function as her signature on this document.

Carla Bethke

Carla Bethke
Notary Public
My commission ends April 11, 2022

CARLA BETHKE
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20004025550
MY COMMISSION EXPIRES APRIL 11, 2022

PUBLIC NOTICE

Denver Brick Company with address 210 Acme Street, Denton, TX 76205, (940) 435-5587 has filed an application for a Regular (112) Construction Materials Operation Reclamation Permit with the Colorado Mined Land Reclamation Board under provisions of the Colorado Land Reclamation Act for the Extraction of Construction Materials. The proposed mine is known as the Golden Mine, and is located at or near Section 16, Township 3 North, Range 70 West of the 6th Principle Meridian.

The proposed date of commencement is January 1, 2022, and the proposed date of completion is in 2042. The proposed future use of the land is rangeland. Additional information and tentative decision date may be obtained from the Division of Reclamation, Mining, and Safety, 1313 Sherman Street, Room 215, Denver, Colorado 80203, (303) 866-3567, or at the Jefferson County Clerk and Recorder's office; 100 Jefferson County Parkway, Suite 2560, Golden, CO 80419, or the above-named applicant.

Comments must be in writing and must be received by the Division of Reclamation, Mining, and Safety by 4:00 p.m. on January 19, 2022.

Please note that under the provisions of C.R.S. 34-32.5-101 et seq. Comments related to noise, truck traffic, hours of operation, visual impacts, effects on property values and other social or economic concerns are issues not subject to this Office's jurisdiction. These subjects, and similar ones, are typically addressed by your local governments, rather than the Division of Reclamation, Mining, and Safety or the Mined Land Reclamation Board.

Legal Notice No. 411852
First Publication: December 9, 2021
Last Publication: December 30, 2021
Publisher: Golden Transcript

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Street and Apt. No. 930 N. Shields Street
City, State, ZIP+4 Fort Collins, CO 80521

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Street and Apt. No. 414 Nicollet Mall
City, State, ZIP+4 Minneapolis, MN 55401

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Street and Apt. No	361 Centennial Parkway, Suite 300
City, State, ZIP+4	Louisville, CO 80227

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Environmental Alternative
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Clean Energy Collective
361 Centennial Parkway, Suite 300
Louisville, CO 80227

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Postage	$1.36
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Total Postage a	$8.16
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Street and Apt. N	Water Division
City, State, ZIP+	1445 10th Street
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A. Signature
X Kerry Major ☐ Agent ☐ Addressee

B. Received by (Printed Name) Kerry Major C. Date of Delivery 12-28-21

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Postage	$1.36
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Street and Apt. N	414 Nicollet Mall
City, State, ZIP+4	Minneapolis, MN 55401

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X [signature] ☐ Agent ☐ Addressee

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Postage	$1.36
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Street and Apt. N	141 E. Enterprise Drive
City, State, ZIP+4	Pueblo, CO 81007

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2. Article Number (Transfer from service label)

7018 1130 0000 4537 1801

(over $500)

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 1/7

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

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Golden, CO 80401

OFFICIAL USE

Certified Mail Fee $3.75

$ $3.05

Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $ $0.00
- Return Receipt (electronic) $ $0.00
- Certified Mail Restricted Delivery $ $0.00
- Adult Signature Required $ $0.00
- Adult Signature Restricted Delivery $

Postage $0.58

Total Postage and Fees $7.38

Sent To City of Golden
Water Division
1445 10th Street
Golden, CO 80401

Street and Apt. No.

City, State, ZIP+4

PS Form 3800,

CANON CITY CO 81212 0773 07
DEC 17 2021
12/17/2021
USPS

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Pueblo, CO 81007

OFFICIAL USE

Certified Mail Fee $3.75

$ $3.05

Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $ $0.00
- Return Receipt (electronic) $ $0.00
- Certified Mail Restricted Delivery $ $0.00
- Adult Signature Required $ $0.00
- Adult Signature Restricted Delivery $

Postage $0.58

Total Postage and Fees $7.38

Sent To CenturyLink
141 E. Enterprise Drive
Pueblo, CO 81007

Street and Apt. No.

City, State, ZIP+4

PS Form 3800,

CANON CITY CO 81212 0773 07
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COMPLETE THIS SECTION ON DELIVERY

A. Signature
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☐ Agent
☐ Addressee

B. Received by (Printed Name) C. Date of Delivery
12/20

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
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- ☑ Certified Mail®
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PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

U.S. Postal Service™
CERTIFIED MAIL® RE
Domestic Mail Only

For delivery information, visit our wet
Golden, CO 80403
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Certified Mail Fee $3.75
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Sent To Rhonda Bento
Street and Apt. N 5230 Pine Rid
City, State, ZIP+4 Golden, CO 8

PS Form 3800,

7018 1130 0000 4537 2235

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Rhonda Benton
5230 Pine Ridge Road
Golden, CO 80403

9590 9402 3000 7124 4764 13

2. Article Number (Transfer from service label)
7018 1130 0000 4537 2235

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Rhonda Benton ☐ Agent ☐ Addressee

B. Received by (Printed Name) RhondaBenton
C. Date of Delivery 12/8/21

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

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Golden, CO 80403
OFFICIAL USE

Certified Mail Fee $3.75
$ $3.05
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) $ $0.00
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☐ Certified Mail Restricted Delivery $ $0.00
☐ Adult Signature Required $ $0.00
☐ Adult Signature Restricted Delivery $
Postage $0.58
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Total Postage an $7.38
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Sent To Stephen Hawthorne
Street and Apt. N 5250 Pine Ridge Road
City, State, ZIP+4 Golden, CO 80403

PS Form 3800,

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DEC 2021
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2. Article Number (Transfer from service label)
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SN 7530-02-000-9053 Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
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Denver, CO 80204
OFFICIAL USE

Certified Mail Fee $3.75
$ $3.05
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) $ $0.00
☐ Return Receipt (electronic) $ $0.00
☐ Certified Mail Restricted Delivery $ $0.00
☐ Adult Signature Required $ $0.00
☐ Adult Signature Restricted Delivery $
Postage $0.58
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Total Postage a $7.38
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Sent To CDOT Region 1
Street and Apt. 2829 W. Howard Place, 2nd Floor
City, State, ZIP Denver, CO 80204

PS Form 3800,

CANON CITY CO 8121 0773 06
Postmark Here
DEC 2021
USPS
12/02/2021

7018 1130 0000 4537 2167

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Golden, CO 80403

OFFICIAL USE

Certified Mail Fee $3.75
$3.05
Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $0.00
- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $0.58

Total Postage an $7.38

Sent To Keller Family Limited Partnership

Street and Apt. N 14802 W. 44th

City, State, ZIP+4 Golden, CO 80403

PS Form 3800,

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12/03/2021

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COMPLETE THIS SECTION ON DELIVERY

A. Signature
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☐ Agent
☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
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- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Rece

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Golden, CO 80419

OFFICIAL USE

Certified Mail Fee $3.75
$3.05
Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $0.00
- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $0.58

Total Postage a $7.38

Sent To Jefferson County

Street and Apt. 100 Jefferson County Parkway

City, State, ZIP+ Golden, CO 80419

PS Form 3800,

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CANYON CITY CO 81212 DEC - 3 2021 USPS Postmark Here

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COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Lynn M. Wies
☐ Agent
☐ Addressee

B. Received by (Printed Name) DEC 06 2021 C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
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- ☐ ...ail
- ☐ ...ail Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

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Golden, CO 80403

OFFICIAL USE

Certified Mail Fee $3.75
$3.05
Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $0.00
- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $0.58

Total Postage an $7.38

Sent To Mark and Maribel Crespin

Street and Apt. N 5180 Pine Ridge Road

City, State, ZIP+4 Golden, CO 80403

PS Form 3800,

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CANYON CITY CO 81212 DEC - 3 2021 USPS Postmark Here

12/03/2021

7018 1130 0000 4537 2228

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For delivery information, visit our website at www.usps.com®
Denver, CO 80203
OFFICIAL USE
Certified Mail Fee $3.75
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy) $
Return Receipt (electronic) $
Certified Mail Restricted Delivery $
Adult Signature Required $
Adult Signature Restricted Delivery $
Postage $0.58
Total Postage and Fees $7.38
Sent To
Street and Apt. No.
City, State, ZIP+4
CO State La
1127 Sherm
Denver, CC
PS Form 3800, April 2015 PSN 7530-02-000-9047
7018 1130 0000 4537 2174

SENDER: COMPLETE THIS SECTION
- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
CO State Land Board
1127 Sherman Street, Suite 300
Denver, CO 80203

9590 9402 3000 7124 4764 75

2. Article Number (Transfer from service label)
7018 1130 0000 4537 2174

COMPLETE THIS SECTION ON DELIVERY
A. Signature
X IN MAILBOX
☑ Agent ☐ Addressee
B. Received by (Printed Name)
C. Date of Delivery 12/6/21
D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

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Golden, CO 80403
OFFICIAL USE
Certified Mail Fee $3.75
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy) $
Return Receipt (electronic) $
Certified Mail Restricted Delivery $
Adult Signature Required $
Adult Signature Restricted Delivery $
Postage $0.58
Total Postage and Fees $7.38
Sent To
Street and Apt. No.
City, State, ZIP+4
Dewey Will
Lorraine W
5040 Pine F
Golden, CC
PS Form 3800,
7018 1130 0000 4537 2181

SENDER: COMPLETE THIS SECTION
- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Dewey Willis Wheeler Trust
Lorraine Wheeler
5040 Pine Ridge Road
Golden, CO 80403

9590 9402 3000 7124 4764 68

2. Article Number (Transfer from service label)
7018 1130 0000 4537 2181

COMPLETE THIS SECTION ON DELIVERY
A. Signature
X Lorraine J. Wheeler
☐ Agent ☐ Addressee
B. Received by (Printed Name)
C. Date of Delivery
D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
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☑ Certified Mail®
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PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

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Domestic Mail Only
For delivery information, visit our website at www.usps.com®
Golden, CO 80401
OFFICIAL USE
Certified Mail Fee $3.75
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy) $
Return Receipt (electronic) $
Certified Mail Restricted Delivery $
Adult Signature Required $
Adult Signature Restricted Delivery $
Postage $0.58
Total Postage and Fees $7.38
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SENDER: COMPLETE THIS SECTION
- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
City of Golden
1445 10th Street
Golden, CO 80401

9590 9402 3000 7124 4764 44

2. Article Number (Transfer from service label)
7018 1130 0000 4537 2204

COMPLETE THIS SECTION ON DELIVERY
A. Signature
X
☐ Agent ☐ Addressee
B. Received by (Printed Name) Anne Bevelle
C. Date of Delivery
D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
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☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

From:	Merinda Binning
To:	Angela Bellantoni
Cc:	Gillian Leytham; Richard Murphy
Subject:	Re: Certified Mail - RE: Denver Brick Company CO DRMS Structure Agreement
Date:	Tuesday, January 18, 2022 8:33:04 AM

Hello Angela & Richard~

As the Denver Brick is asking for Zayo to sign a document we will await a clear correspondence with the Addendum and the open items stated previously addressed. We are trying to assist, but asking us to sign a very vague and incorrect document will not happen. We will leave this in your hands to work with Mr. Murphy to identify and correct the open items for Zayo.

Merinda

On Tue, Jan 18, 2022 at 8:11 AM Angela Bellantoni <angela@envalternatives.com> wrote:

> Good morning Ms. Binning
>
> I'm copying Mr. Murphy from Denver Brick who will gladly speak to Item 2.
>
> Item 1) The Structure Agreement can easily be revised to Zayo Group LLC. The name in the agreement was the name provided by 811 and what I found when I searched on Google.
>
> Item 3) CO DRMS regulations consider hauling material on internal roads to be a mining activity. Interior haul roads are included in the affected area boundary. As provided in the map in a previous email, the access is onto Hwy 93. Zayo's structure is in the Hwy ROW. Denver Brick also has an agreement from Xcel who has lines in the ROW. DRMS also required an agreement with CDOT for Hwy 93. Any structure in the public ROW requires an agreement according to DRMS regulations. No drilling or mining of any sort will occur near your structure. Please feel free to speak to Mr. Murphy regarding the access use.
>
> I hope this answers your questions. I urge you to email Mr. Murphy or call him at (940) 435-5587.
>
> *Dr. Angela M. Bellantoni*
>
> *Environmental Alternatives Inc.*
>
> *PO. Box 326*
>
> *Cañon City, CO 81215*

719-275-8951

angela@envalternatives.com

www.envalternatives.com

From: Merinda Binning [mailto:Merinda.Binning@zayo.com]
Sent: Monday, January 17, 2022 5:15 PM
To: Angela Bellantoni <angela@envalternatives.com>
Cc: Gillian Leytham <gillian.leytham@zayo.com>
Subject: Re: Certified Mail - RE: Denver Brick Company CO DRMS Structure Agreement

Good Afternoon Angela~

I wanted to get back to you on some open items I see. I am clearly only trying to assist in your request. At current time Zayo is unwilling to sign or agree to any requests until further information is provided. See the request below.

1) The form sent to us calls out Zayo Bandwidth, that is not our company name: Should read "Zayo Group LLC"

2) It is very vague as to what "Compensated" means. Can you show clarity on the amount? What is covered, length of outages, size of damage etc?

3) Why are you asking for signatures on a public ROW 200'? The only reason I could see is if you are drilling. close to our line?

Unfortunately we are unable to sign any agreement until some clarity is given.

Thank you,

Merinda

On Fri, Jan 14, 2022 at 8:25 AM Angela Bellantoni <angela@envalternatives.com> wrote:

> Good morning Merinda.

The key word is “may”. A utility has choices. In the last 23 years, Xcel, Spectrum, Black Hills, Atmos, etc. have all signed the Structure Agreement. But, if you prefer the engineer’s letter, I have one on the engineer’s letterhead. Your choice.

Angela Bellantoni

From: Merinda Binning [mailto:Merinda.Binning@zayo.com]
Sent: Friday, January 14, 2022 6:10 AM
To: Angela Bellantoni <angela@envalternatives.com>
Cc: Gillian Leytham <gillian.leytham@zayo.com>
Subject: Re: Certified Mail - RE: Denver Brick Company CO DRMS Structure Agreement

Angela~

So I see this document attached to the letter are yet the document states:

Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead,
from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have
"no negative effect" on their utility. (Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard
RocVMetal Mining Rule 6.3.12 and Rule 6.4.20)

So what exactly are you needing from Zayo?

Merinda

On Thu, Jan 13, 2022 at 2:16 PM Angela Bellantoni <angela@envalternatives.com> wrote:

> Thank you Merinda for your email.

CDOT was notified as well and granted an access permit.

Yes, no excavating/mining, but a detail required of CO DRMS.

Thank you for your consideration.

Dr. Angela M. Bellantoni

Environmental Alternatives Inc.

PO. Box 326

Cañon City, CO 81215

719-275-8951

angela@envalternatives.com

www.envalternatives.com

From: Merinda Binning [mailto:Merinda.Binning@zayo.com]
Sent: Thursday, January 13, 2022 2:15 PM
To: Angela Bellantoni <angela@envalternatives.com>
Cc: Gillian Leytham <gillian.leytham@zayo.com>
Subject: Re: Certified Mail - RE: Denver Brick Company CO DRMS Structure Agreement

Angela~

The network you are referring to is a joint network built with CDOT. The network has been in place for many years. I would not see an issue with Zayo's council signing something like this as you stated you would be fully liable if you were to damage any network. Yet if you are not digging I am not seeing how there is much risk involved. Gilian please let me know how you would like to proceed with this.

Merinda

On Thu, Jan 13, 2022 at 8:26 AM Angela Bellantoni <angela@envalternatives.com> wrote:

> Good morning Ms. Binning.
>
> Thank you for reaching out. Attached is an exhibit from the DRMS application. Yes, Zayo's fiber optic line is in the ROW of Hwy 93 that is within 200 ft of the red affected area boundary. As stated in the cover letter, no mining is proposed. This area is the 100+ year old access for the clay mine. Denver Brick has held this lease with the State of CO since 1940 and has conducted mining. The proposed amendment is consistent with historic mining practices and volumes but is seeking an increase to the active mine area at the toe of the hogback to allow safe maneuvering of equipment and better reclamation that will blend with the reclaimed mine adjoining to the north.
>
> In the structure agreement you received, Denver Brick assumes liability for any damage to Zayo's structure due to mining activity including hauling material offsite (Certification statement on page 2 of 3). Even though this is highly unlikely since the structure is underground and hauling has not damaged the structure to date and the structure was installed after the mine commenced decades ago, DRMS regulation require notification to the structure owner of the amendment application. As stated in the cover letter, if you have further questions, Mr. Richard Murphy of Denver Brick will gladly receive your phone call or email.
>
> *Dr. Angela M. Bellantoni*
>
> *Environmental Alternatives Inc.*
>
> *PO. Box 326*
>
> *Cañon City, CO 81215*
>
> 719-275-8951
>
> angela@envalternatives.com
>
> www.envalternatives.com
>
> **From:** Merinda Binning [mailto:Merinda.Binning@zayo.com]
> **Sent:** Wednesday, January 12, 2022 4:55 PM
> **To:** Angela Bellantoni <angela@envalternatives.com>; Gillian Leytham

<gillian.leytham@zayo.com>; Merinda Binning <Merinda.Binning@zayo.com>
Subject: Fwd: Certified Mail - RE: Denver Brick Company CO DRMS Structure Agreement

Hello Angela~

I left you a voicemail earlier and I wanted to follow it up with this email. Zayo is unclear of what your company is needing. Do you have a map of the 200' area that will be affected by your mining? Zayo does have fiber optic cables installed at Hwy93, but we have no exact location as to where you will be mining and what does your mining consist of ? All Zayo's fiber optic lines are installed in the public ROW, so I am sure others will have the same questions.

Thank you in advance for the details.

Merinda

--

Merinda Binning
Director OSP | Mountain Plains Region | **Zayo Group**

1805 29th St. | Boulder, CO 80301

720.891.0709| merinda.binning@zayo.com | http://www.zayo.com

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Merinda Binning
Director OSP | Mountain Plains Region | **Zayo Group**

1805 29th St. | Boulder, CO 80301

> > 720.891.0709| merinda.binning@zayo.com | http://www.zayo.com
>
> --
>
> **Merinda Binning**
> Director OSP | Mountain Plains Region | **Zayo Group**
>
> 1805 29th St. | Boulder, CO 80301
>
> 720.891.0709| merinda.binning@zayo.com | http://www.zayo.com

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Merinda Binning
Director OSP | Mountain Plains Region | **Zayo Group**

1805 29th St. | Boulder, CO 80301

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