

**State of Illinois**  
**Department of Natural Resources**  
Office of Mines and Minerals  
Abandoned Mined Lands Reclamation Division

Funded by the  
United States Department of Interior  
Federal Office of Surface Mining

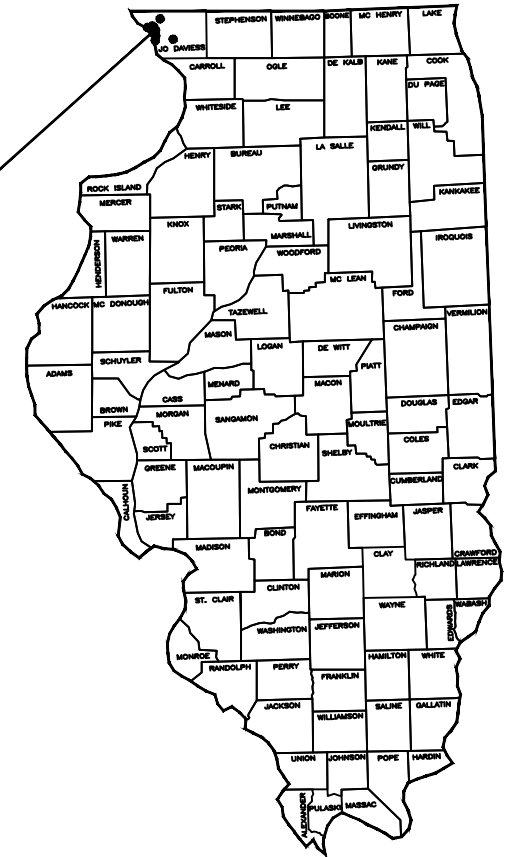
Lead & Zinc 2017 Mine Group  
Reclamation and Remediation Project  
AML-LdZc-1710  
Jo Daviess County  
1LR

SCHEDULE OF DRAWINGS:

1. Cover Sheet
2. Summary of Quantities/General Notes/Location Map
3. South River Road Sites
4. Weinschank Mine Area
5. Graser Property
6. Deininger Lead Mine Openings
7. Marsden Blackjack
8. Dygerts Mound
9. Bower Mine
10. Blackhawk Mine
11. Details
12. Bat Gate Details

Contract No. M1710

Lead and Zinc Mine Sites  
Jo Daviess County



Pre-Bid Meeting:

A MANDATORY pre-bid meeting for this project is scheduled for Wednesday, January 10, 2018, at 8:00 a.m. at the Galena City Hall, 101 Green St.. Prime Contractors must attend.

*Certified Copy*

Prepared By IDNR Staff

Approved for Bidding:

Thomas A. Benner, Director  
Office of Mines and Minerals

Approved By:

Greg Pinto, Acting Manager  
AMLR Division

Approved By:

Vinodchandra V. Patel  
IL Licensed Professional Engineer  
No. 062.046043



**Summary of Quantities**

Item No.	#	Item	Section	Quantity	Unit	Rates/Remarks
NRM20110	1	Special Clearing	201	1	L SUM	
NRM21510	2	Special Excavation	214	780	CU YD	
NRM21626	3	CA Fill, CA6	216	89	TON	CA-6
NRM21643	4	Rockfill, RR3	216	164	TON	
NRM21670	5	Rock Fill On-site	216	2044	CU YD	On Site
NRM25040	6	Nitrogen Fertilizer Nutrient	250	855	POUND	90 pounds/acre
NRM25050	7	Phosphorous Fertilizer Nutrient	250	855	POUND	90 pounds/acre
NRM25060	8	Potassium Fertilizer Nutrient	250	855	POUND	90 pounds/acre
NRM25090	9	Seeding	250	9.5	ACRE	
25100105	10	Mulch Method 1	IDOT 251	9.5	ACRE	2 tons/acre
NRM59410	11	Polyurethane Foam Closure	594	309	CU YD	
NRM59611	12	BAT GATE #49	596	1	EACH	Concrete Sill
NRM59612	13	BAT GATE #50	596	1	EACH	Steel Angle Iron Repair
NRM59613	14	BAT GATE #51	596	1	EACH	
NRM59614	15	BAT GATE #52	596	1	EACH	
NRM59615	16	BAT GATE #54	596	1	EACH	
NRM59616	17	BAT GATE #55	596	1	EACH	
NRM67110	18	Mobilization (Max. 6% of Bid)	671	1	L SUM	



**Location Map**

**GENERAL NOTES**

Unless otherwise noted on the plans, all disturbed areas within the construction limits will be amended with agricultural ground limestone, fertilizer nutrients, seeded and mulched at the required rates specified in the plans.

The contractor is responsible for visiting the site and familiarizing himself with the existing conditions and the proposed reclamation work prior to submitting a bid.

The contractor shall provide and pay for all field engineering services to execute the project as specified in the Field Engineering section of the Special Provisions.

The contractor is responsible for locating and protecting all existing utility lines pertaining to the work.

Unless noted on the plans, all onsite access roads may be used for construction and must be maintained during construction and restored to original or better condition at the completion of work by the contractor. Access roads to the site as designated in the plans are to be maintained to the satisfaction of the engineer.

The construction limits will be staked by the contractor prior to construction. The contractor is responsible for the repair and or restitution at his own expense for all damages done to any area outside the construction limits.

Application rates specified in the plans are shown in the Summary of Quantities-Rates/Remarks column.

**CONSTRUCTION NOTES**

**BURIAL/REMOVAL OF MATERIAL** – Concrete and masonry debris designated for burial by the engineer shall be buried at least three feet below proposed final grade. Onsite organic debris and trash shall be disposed of in an engineer approved offsite landfill in accordance with Sections 201 and 501 of the Special Provisions.

**TREE REMOVAL** – Trees removed shall be disposed of onsite per Section 201 of the Special Provisions.

**EROSION CONTROL** – The contractor shall schedule his operations and take such precautions that may be necessary to prevent or minimize erosion. Failure to comply with this requirement shall cause the contractor to be fully responsible for repairing any eroded areas and cleaning up areas or drainage structures that have become silted in or damaged.

**MULCHING** – Within 24 hours from the time seeding has been performed, the seeded area shall be given a covering of mulch at the rates specified in the plans. The mulch is to be anchored into the soil in accordance with the requirements for method 1, of Article 251.03 of the Standard Specifications. If Excelsior or Special Excelsior Blanket is to be used, the blanket shall be placed the same day that the areas are seeded.

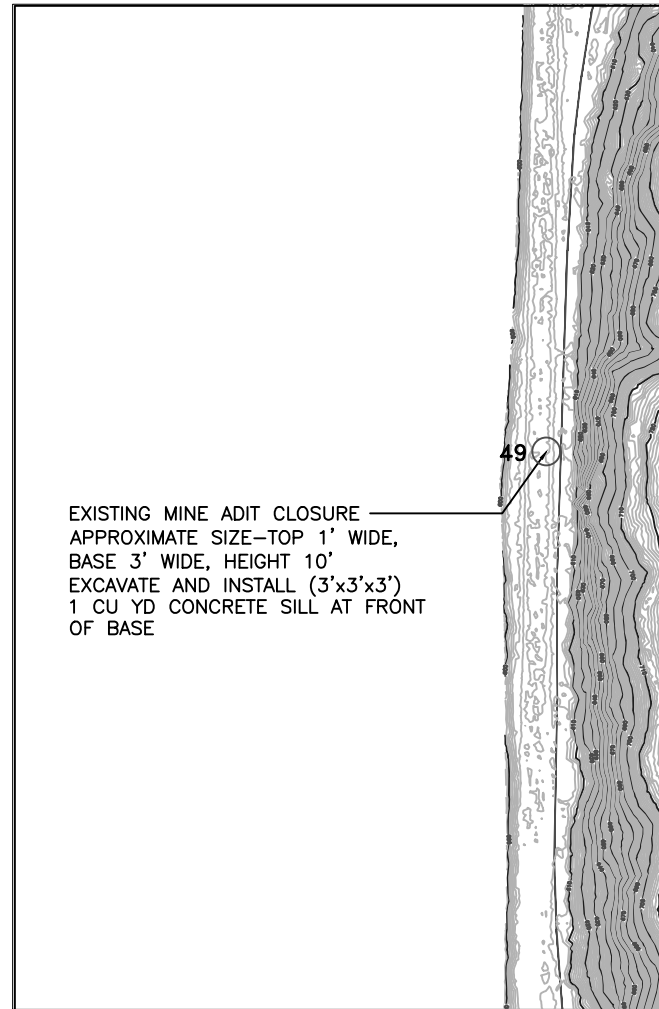
State of Illinois  
Department of Natural Resources

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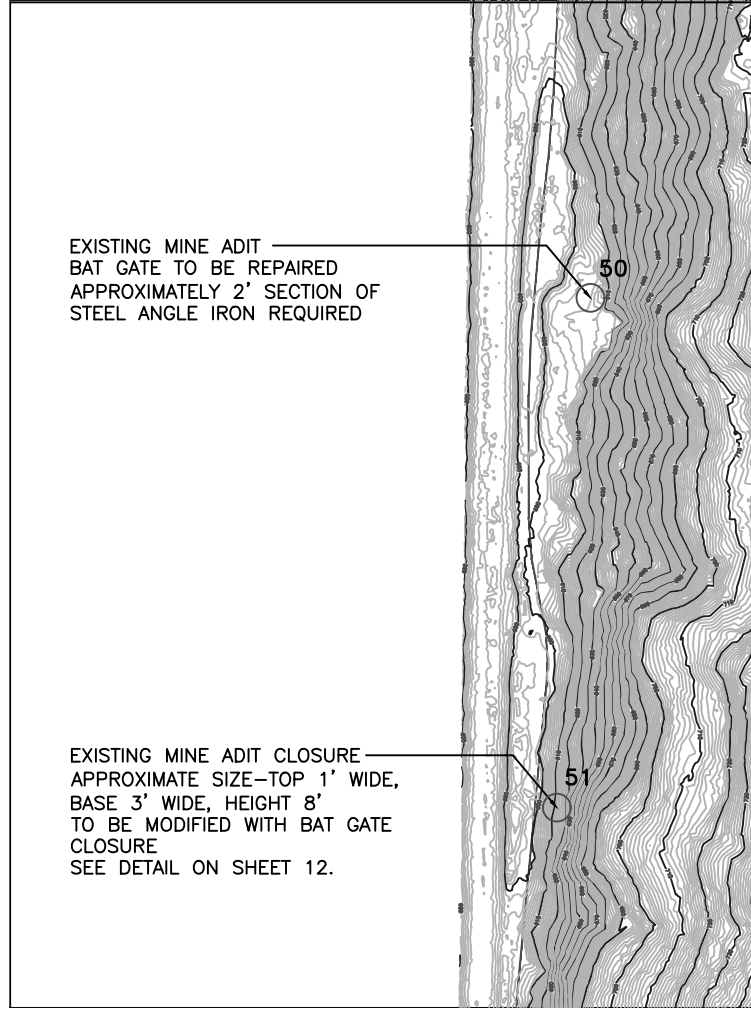
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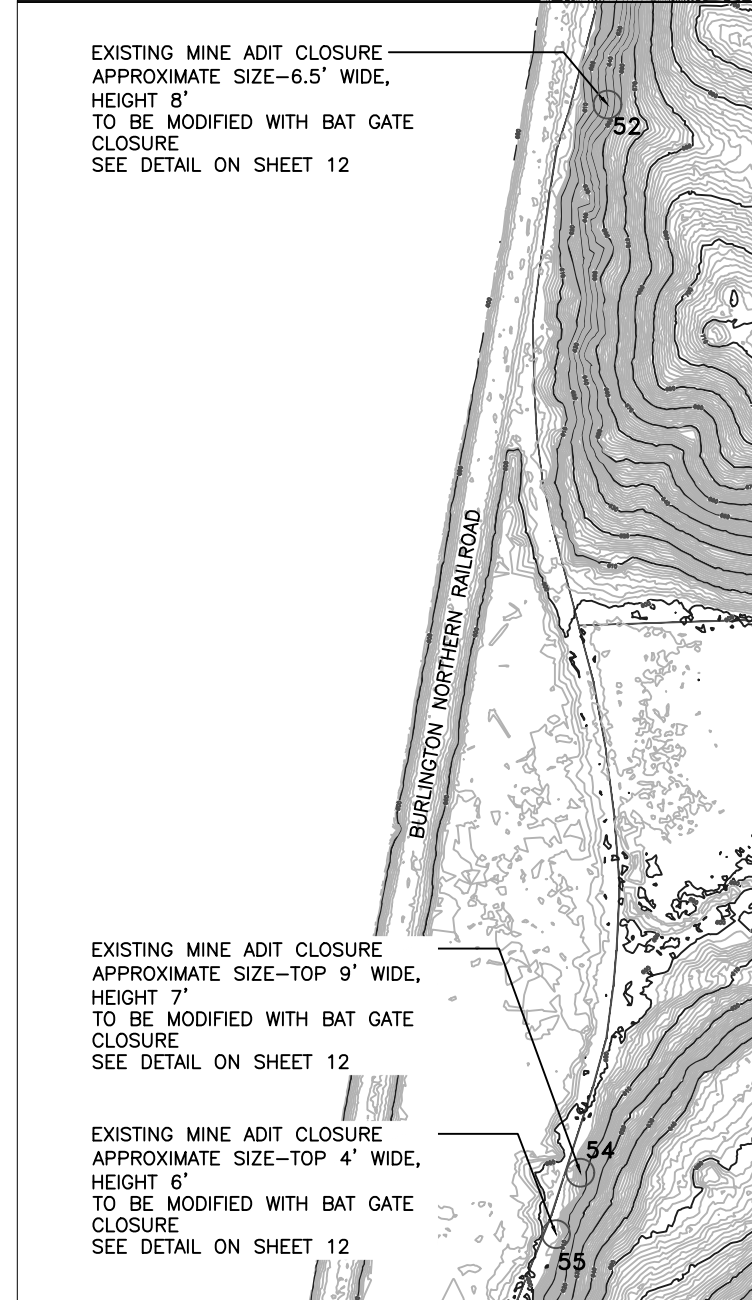
Summary of Quantities/  
General Notes/Location Map  
Sheet  
2 of 12



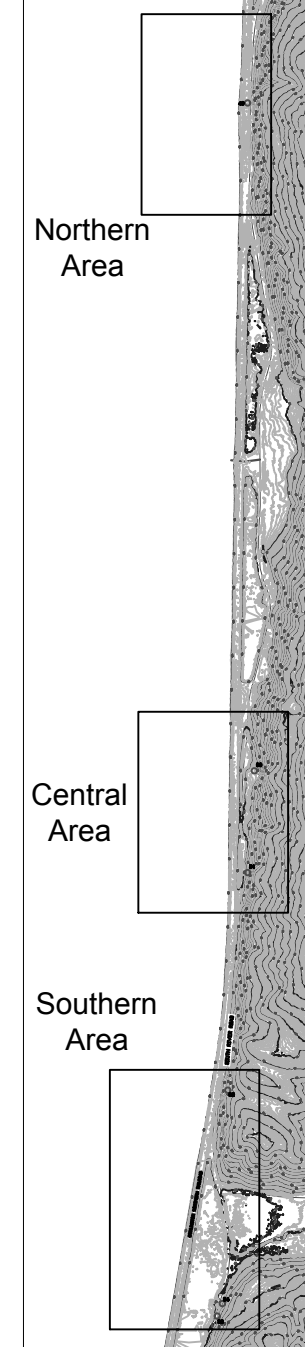
Northern Area



Central Area

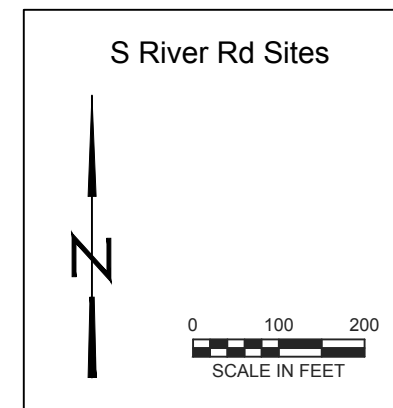
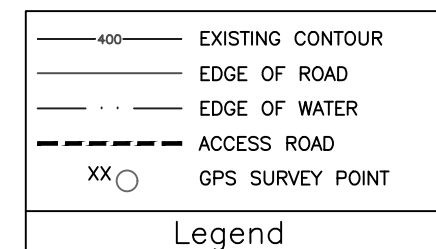


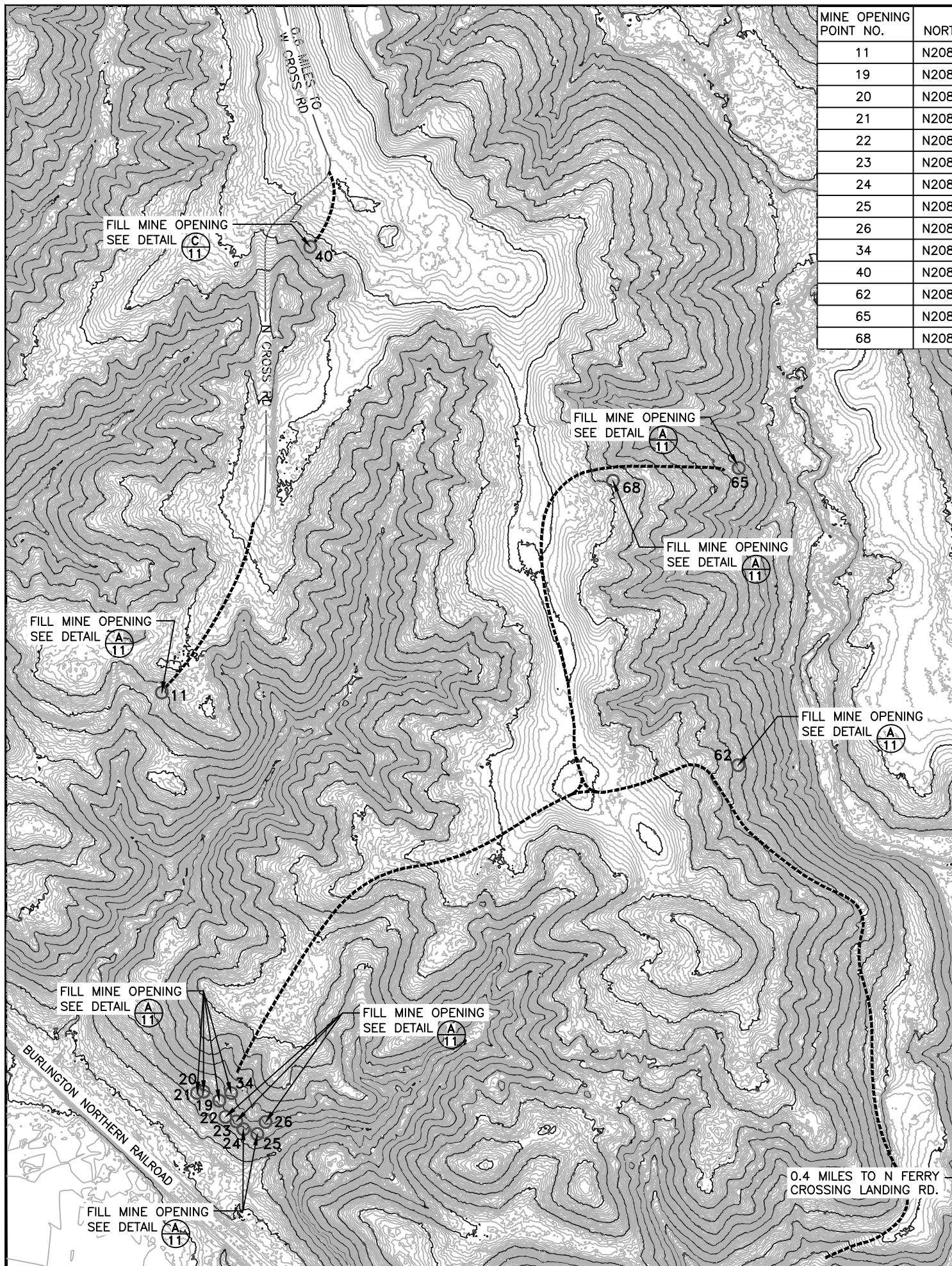
Southern Area



POINT NO.	NORTHING	EASTING
49	N2061009	E2232818
50	N2057118	E2232857
51	N2056524	E2232818
52	N2055257	E2232701
53	N2055026	E2232649
54	N2054012	E2232669
55	N2053940	E2232641

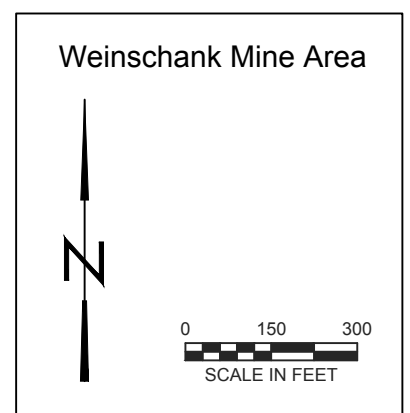
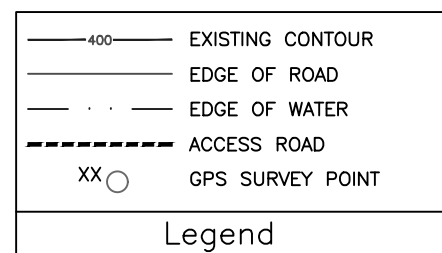
**NOTE:**  
DUE TO THE UNKNOWN CONDITIONS THAT EXIST IN AND AROUND THE MINE OPENINGS, THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN PERFORMING WORK NEAR THEM. THE ENGINEER RESERVES THE RIGHT TO INCREASE OR DECREASE THE QUANTITY FOR SPECIAL EXCAVATION AND BACKFILLING MATERIALS AS DETERMINED BY THE EXACT CONDITIONS ENCOUNTERED DURING SPECIAL EXCAVATION.





MINE OPENING POINT NO.	NORTHING	EASTING	SHAFT	SPECIAL EXCAVATION	CA FILL, CA6	ROCK FILL OFF-SITE	ROCK FILL ON-SITE	POLYURETHANE FOAM CLOSURE
11	N2087579	E2213831	15' DIA. x 10' DEEP	15 CU YD	-	-	14	20 CU YD
19	N2086465	E2213988	10' DIA. x 6' DEEP	5 CU YD	-	-	8	5 CU YD
20	N2086490	E2213945	10' DIA. x 6' DEEP	5 CU YD	-	-	7	6 CU YD
21	N2086486	E2213927	15' DIA. x 10' DEEP	15 CU YD	-	-	14	22 CU YD
22	N2086421	E2214005	5' DIA. x 10' DEEP	5 CU YD	-	-	3	2 CU YD
23	N2086409	E2214034	10' DIA. x 10' DEEP	5 CU YD	-	-	7	10 CU YD
24	N2086388	E2214054	5' DIA. x 5' DEEP	5 CU YD	-	-	3	2 CU YD
25	N2086374	E2214092	15' DIA. x 5' DEEP	15 CU YD	-	-	14	11 CU YD
26	N2086407	E2214114	15' DIA. x 5' DEEP	15 CU YD	-	-	14	11 CU YD
34	N2086486	E2214020	15' DIA. x 8' DEEP	15 CU YD	-	-	14	18 CU YD
40	N2088795	E2214236	25' DIA. x 20' DEEP	54 CU YD	89 TON	164 TON	-	-
62	N2087380	E2215404	5' x 5' x 37' DEEP	5 CU YD	-	-	5	15 CU YD
65	N2088191	E2215405	5' x 5' x 50' DEEP	5 CU YD	-	-	5	16 CU YD
68	N2088157	E2215062	10' x 2' x 8' DEEP	5 CU YD	-	-	5	3 CU YD

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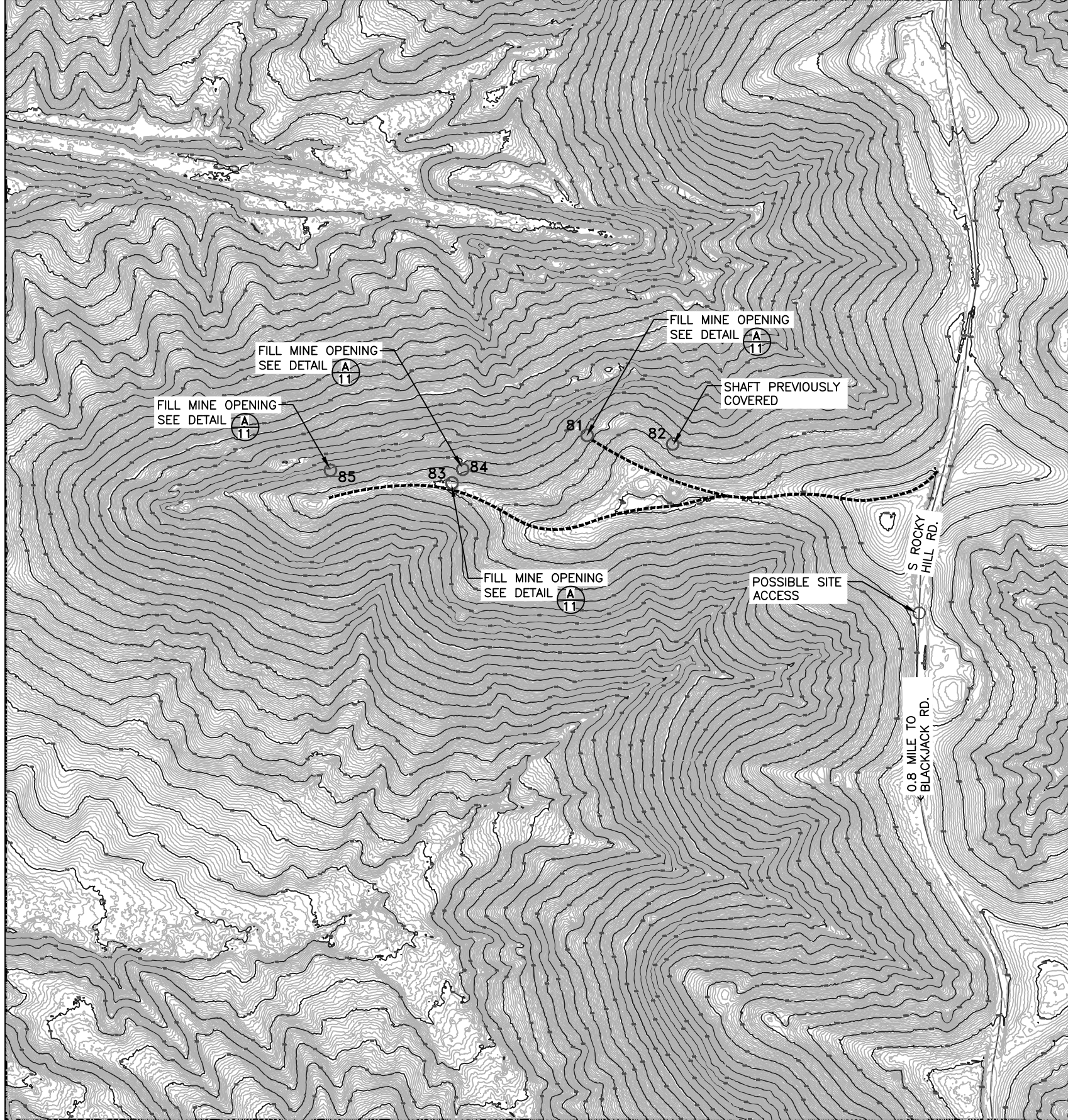
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Drawn By: B. Johnsrud Date: 12/2017  
 Checked By: \_\_\_\_\_

Weinschank Mine Area  
 Existing Conditions  
 Sheet  
 4 of 12

MINE OPENING POINT NO.	NORTHING	EASTING	SHAFT	SPECIAL EXCAVATION	CA FILL, CA6	ROCK FILL OFF-SITE	ROCK FILL ON-SITE	POLYURETHANE FOAM CLOSURE
81	N2064088	E2240659	5' DIA. x 4' DEEP PARTIAL OPEN	10 CU YD	-	-	7 CU YD	7 CU YD
83	N2063955	E2240284	10' DIA. x 5' DEEP PARTIAL OPEN	10 CU YD	-	-	7 CU YD	7 CU YD
84	N2063993	E2240314	8' DIA. x 8' DEEP OPEN	10 CU YD	-	-	7 CU YD	7 CU YD
85	N2063991	E2239946	5' DIA. x 2' DEEP PARTIAL OPEN	10 CU YD	-	-	7 CU YD	7 CU YD

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— 400 — EXISTING CONTOUR  
 ———— EDGE OF ROAD  
 - - - - - EDGE OF WATER  
 - - - - - ACCESS ROAD  
 XX ○ GPS SURVEY POINT

Legend

Graser Property

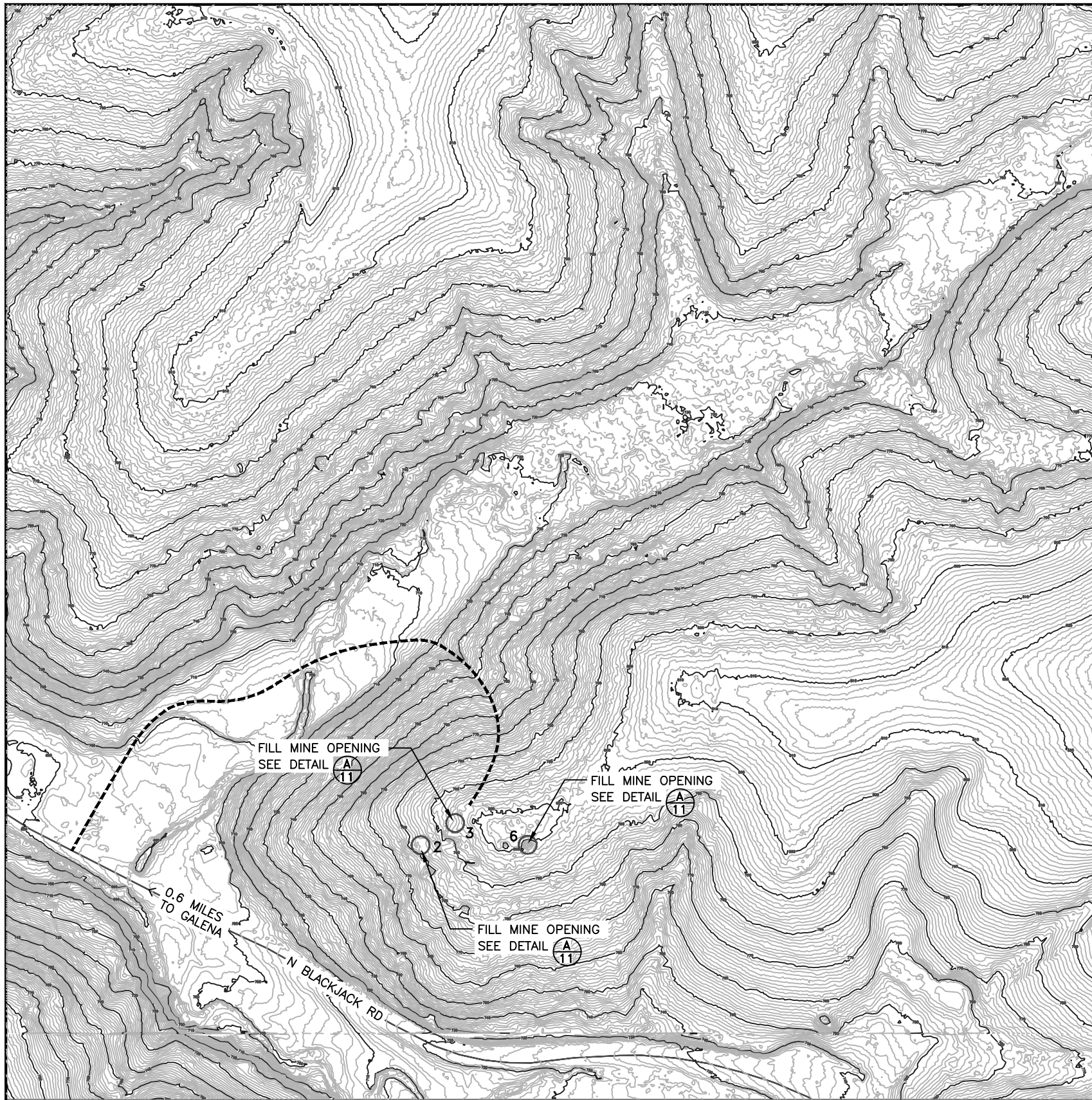
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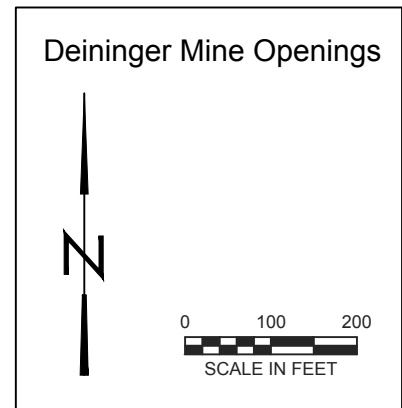
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Graser Property  
 Existing Conditions  
 Sheet  
 5 of 12



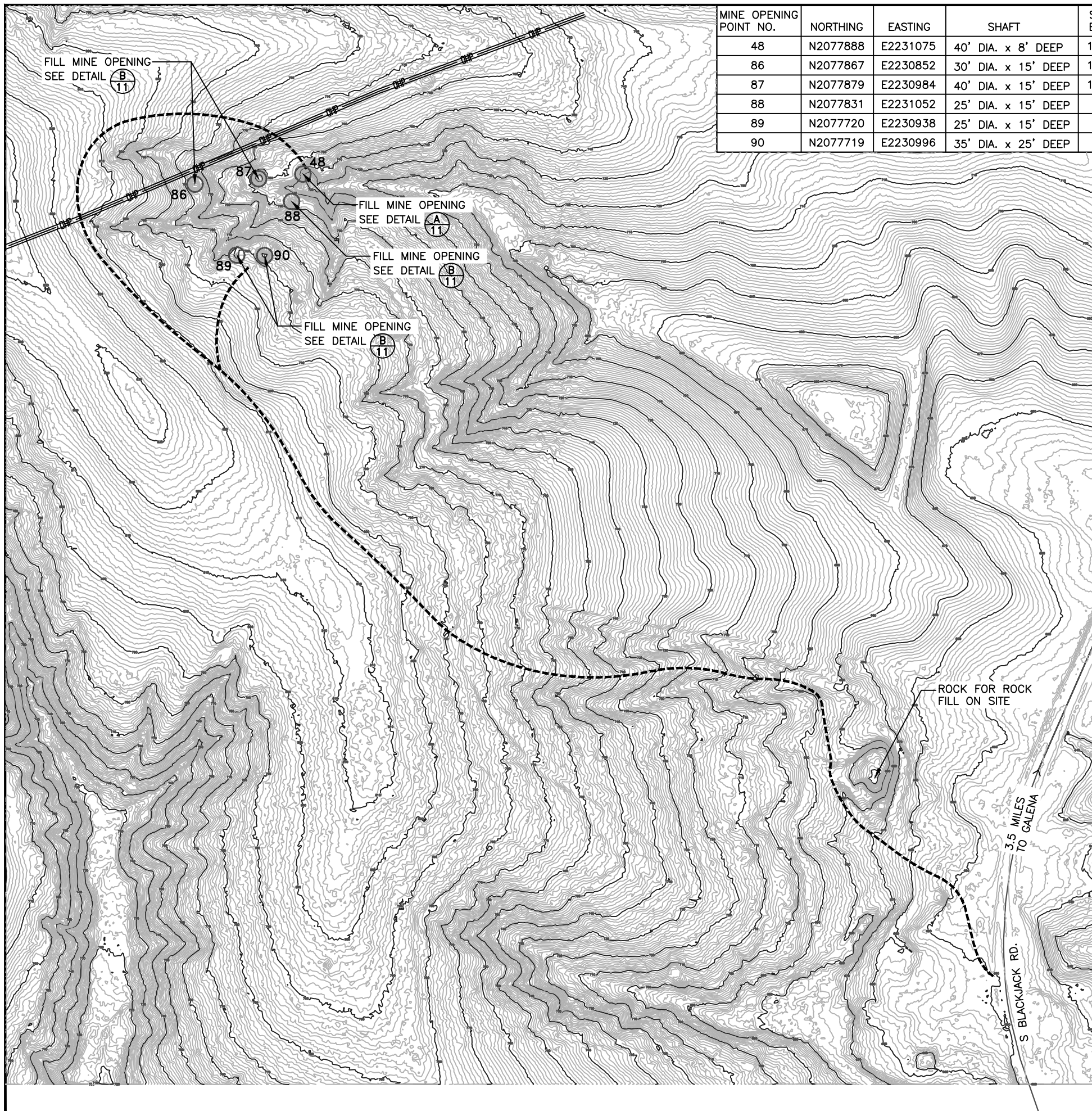
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Legend



MINE OPENING POINT NO.	NORTHING	EASTING	SHAFT	SPECIAL EXCAVATION	CA FILL, CA6	ROCK FILL OFF-SITE	ROCK FILL ON-SITE	POLYURETHANE FOAM CLOSURE
2	N2088342	E2230758	10' DIA. x 71' DEEP	5 CU YD	—	—	7 CU YD	31 CU YD
3	N2088382	E2230821	11' x 18' x 18' DEEP	5 CU YD	—	—	17 CU YD	57 CU YD
6	N2088342	E2230952	15' DIA. x 9' DEEP	20 CU YD	—	—	14 CU YD	18 CU YD

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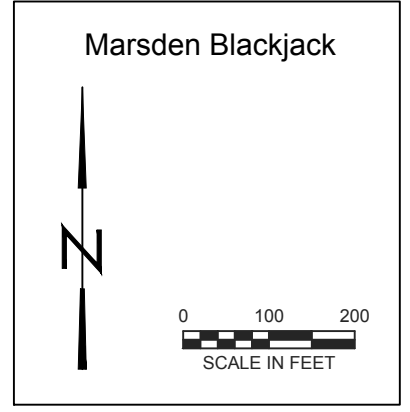


MINE OPENING POINT NO.	NORTHING	EASTING	SHAFT	SPECIAL EXCAVATION	CA FILL, CA6	ROCK FILL OFF-SITE	ROCK FILL ON-SITE	POLYURETHANE FOAM CLOSURE
48	N2077888	E2231075	40' DIA. x 8' DEEP	118 CU YD	-	-	312 CU YD	10 CU YD
86	N2077867	E2230852	30' DIA. x 15' DEEP	101 CU YD	-	-	281 CU YD	-
87	N2077879	E2230984	40' DIA. x 15' DEEP	131 CU YD	-	-	434 CU YD	-
88	N2077831	E2231052	25' DIA. x 15' DEEP	40 CU YD	-	-	162 CU YD	-
89	N2077720	E2230938	25' DIA. x 15' DEEP	40 CU YD	-	-	162 CU YD	-
90	N2077719	E2230996	35' DIA. x 25' DEEP	91 CU YD	-	-	436 CU YD	-

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	ACCESS ROAD
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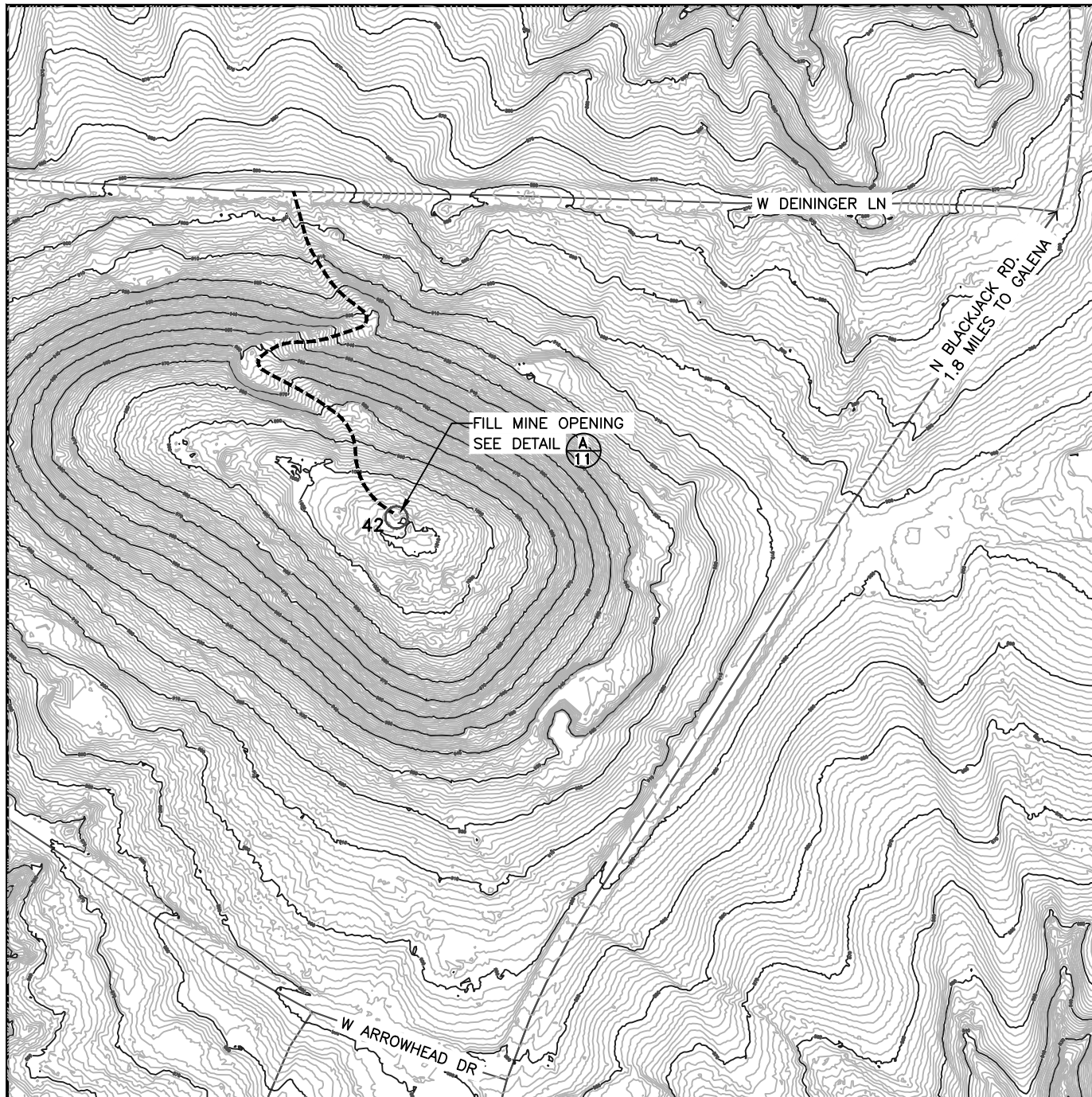


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Marsden Blackjack  
 Existing Conditions  
 Sheet  
 7 of 12

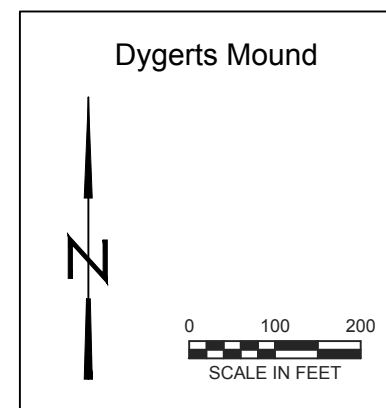


MINE OPENING POINT NO.	NORTHING	EASTING	SHAFT	SPECIAL EXCAVATION	CA FILL, CA6	ROCK FILL OFF-SITE	ROCK FILL ON-SITE	POLYURETHANE FOAM CLOSURE
42	N2085734	E2231498	6' x 4' x 12' DEEP	5 CU YD	-	-	3 CU YD	6 CU YD

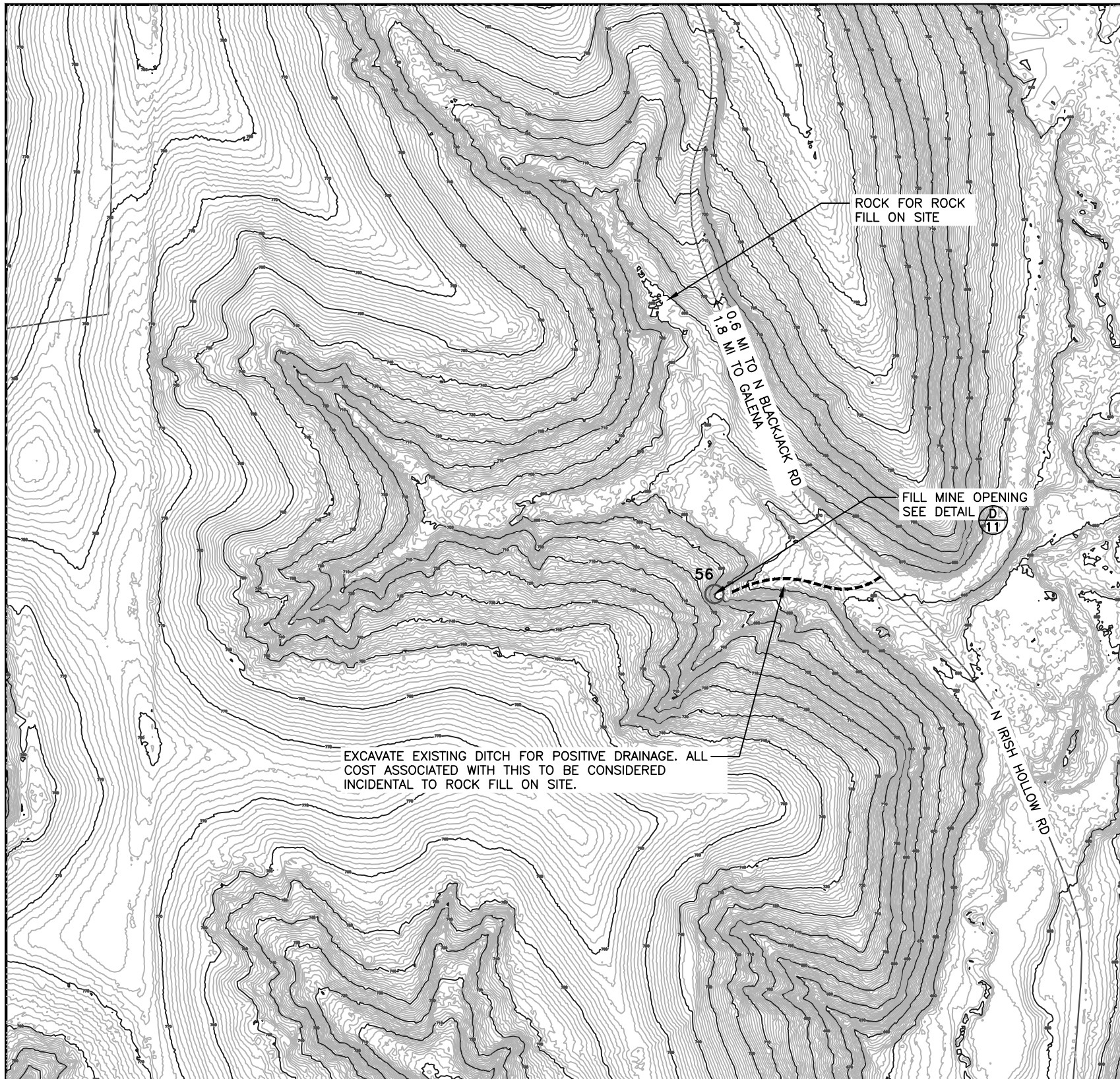
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ROCK FOR ROCK FILL ON SITE

FILL MINE OPENING SEE DETAIL D 11

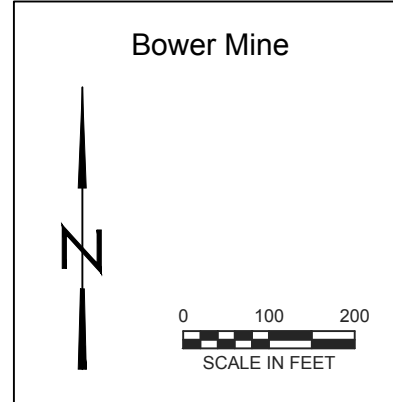
10.8 MI TO N BLACKJACK RD  
1.8 MI TO GALENA

N IRISH HOLLOW RD

56

	400	EXISTING CONTOUR
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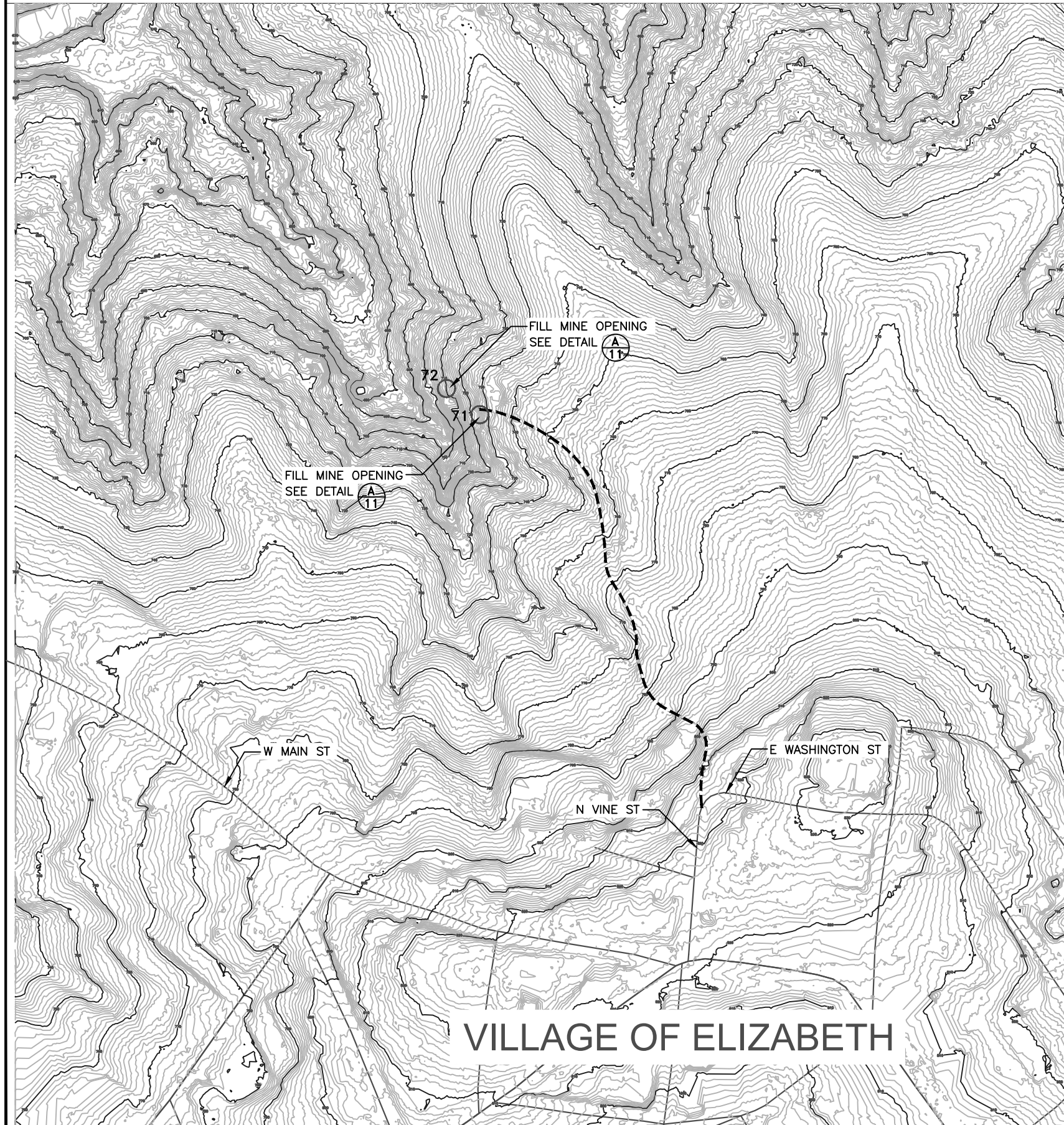
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MINE OPENING POINT NO.	NORTHING	EASTING	INCLINE	SPECIAL EXCAVATION	CA FILL, CA6	ROCK FILL OFF-SITE	ROCK FILL ON-SITE	POLYURETHANE FOAM CLOSURE
56	N2081903	E2237281	20' WIDE x 3' WIDE x UNKNOWN DEPTH	5 CU YD	-	-	59 CU YD	-

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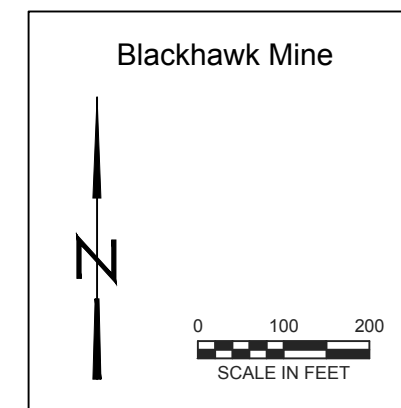
MINE OPENING POINT NO.	NORTHING	EASTING	SHAFT	SPECIAL EXCAVATION	CA FILL, CA6	ROCK FILL OFF-SITE	ROCK FILL ON-SITE	POLYURETHANE FOAM CLOSURE
71	N2059752	E2280870	10' DIA. x 10' DEEP	5 CU YD	-	-	2 CU YD	5 CU YD
72	N2059801	E2280808	15' DIA. x 6' DEEP	5 CU YD	-	-	14 CU YD	13 CU YD



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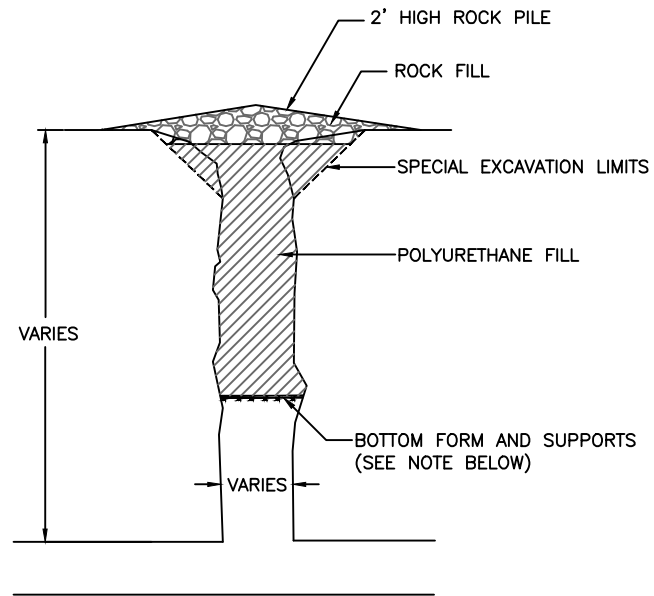
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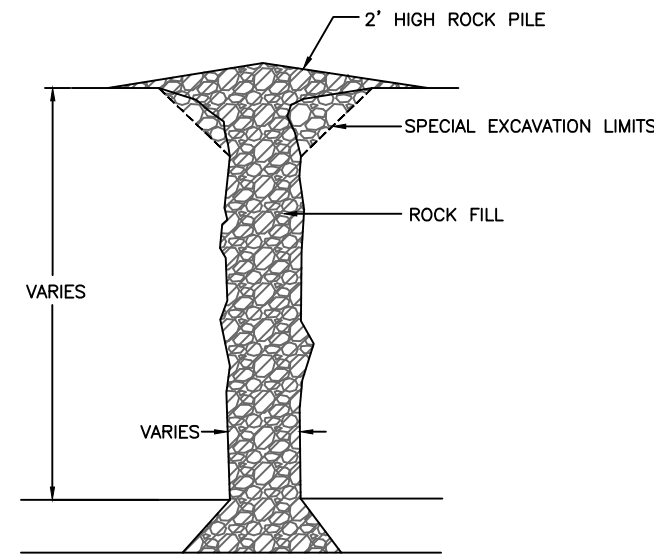
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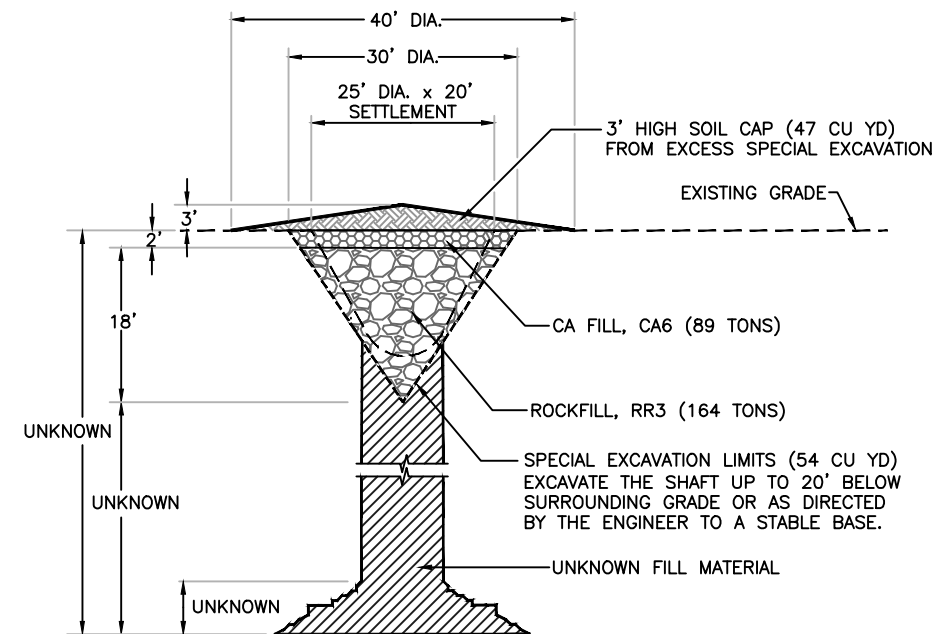
**A**  
12 TYPICAL POLYURETHANE SHAFT FILL WITH ROCK CAP  
NOT TO SCALE

1. BOTTOM OF POLYURETHANE FOAM PLUG TO BE LOCATED AT A MINIMUM DEPTH OF APPROXIMATELY 10' BELOW SHAFT COLLAR.
2. PLACE BOTTOM FORM EITHER 10' BELOW SHAFT COLLAR, OR 2-4 FT. BELOW LEVEL OF COMPETENT ROCK, WHICHEVER IS GREATER. SET FORM SO THAT BOTH ENDS ARE FIRMLY SEATED IN COMPETENT ROCK. SUPPORTS MAY BE PLACED AT AN ANGLE UP TO A MAXIMUM 20 DEGREES FROM HORIZONTAL.
3. APPLY PUF IN DRY WEATHER UNLESS PUF IS PROTECTED FROM WATER. SURFACES MUST BE FREE FROM WATER, OIL, AND GREASE. IF WATER IS PRESENT ABOVE THE LOCATION OF POLYURETHANE FOAM, CONTRACTOR SHALL MAKE AN ATTEMPT TO LOWER WATER ELEVATION TO ALLOW FOR FULL FOAM DEPTH INSTALLATION. ALL WORK ASSOCIATED WITH WATER REMOVAL SHALL BE INCIDENTAL TO THE CONTRACT.
4. FOR SPECIAL EXCAVATION THE CONTRACTOR IS TO REMOVE ANY DEBRIS WITHIN SHAFT TO A DEPTH OF  $\frac{1}{3}$  OF TOTAL SHAFT DEPTH OR UNTIL EQUIPMENT REACH IS MET, WHICHEVER COMES FIRST. MINIMUM DEPTH REQUIRED IS 10'.
5. BOTTOM FORM AND SUPPORTS: USE ANY COMMONLY AVAILABLE MATERIALS CAPABLE OF SUSTAINING THE INITIAL 2-4 FT. OF PUF. FORMS MUST BE CHEMICALLY INERT TO PUF. ACCEPTABLE FORM MATERIAL INCLUDES PLYWOOD, CARDBOARD, PANELING, CARPETING. FORM SUPPORTS CAN BE REBAR, 2x4'S, DOWELS, CARDBOARD TUBES.



**B**  
12 TYPICAL ROCK FILL SHAFT CLOSURE  
NOT TO SCALE

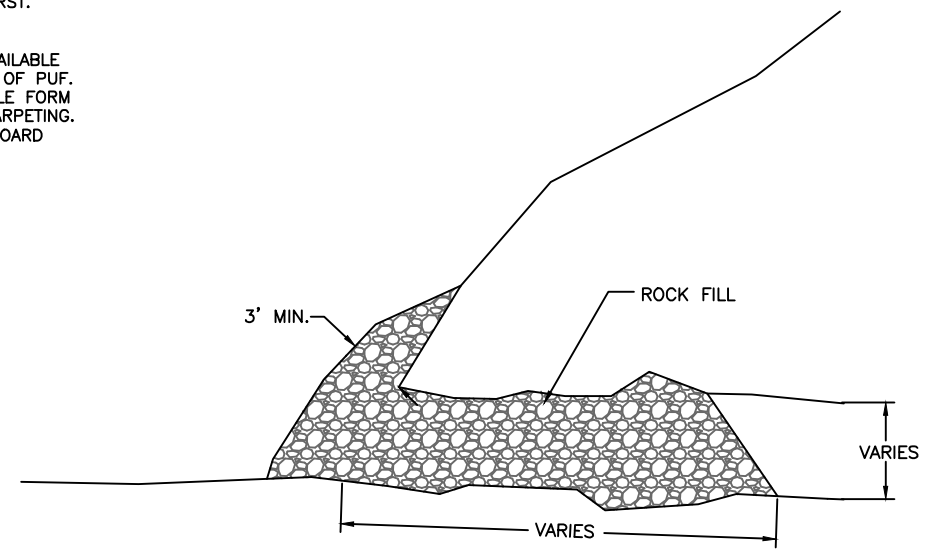
1. MOUND ROCK MINIMUM 3' ABOVE GRADE.
2. FOR SPECIAL EXCAVATION THE CONTRACTOR IS TO REMOVE ANY DEBRIS WITHIN SHAFT TO A DEPTH OF  $\frac{1}{3}$  OF TOTAL SHAFT DEPTH OR UNTIL EQUIPMENT REACH IS MET, WHICHEVER COMES FIRST, AND AS DIRECTED BY THE ENGINEER. MINIMUM DEPTH REQUIRED IS 10'.



**C**  
12 TYPICAL SHAFT FILLING DETAIL  
NOT TO SCALE

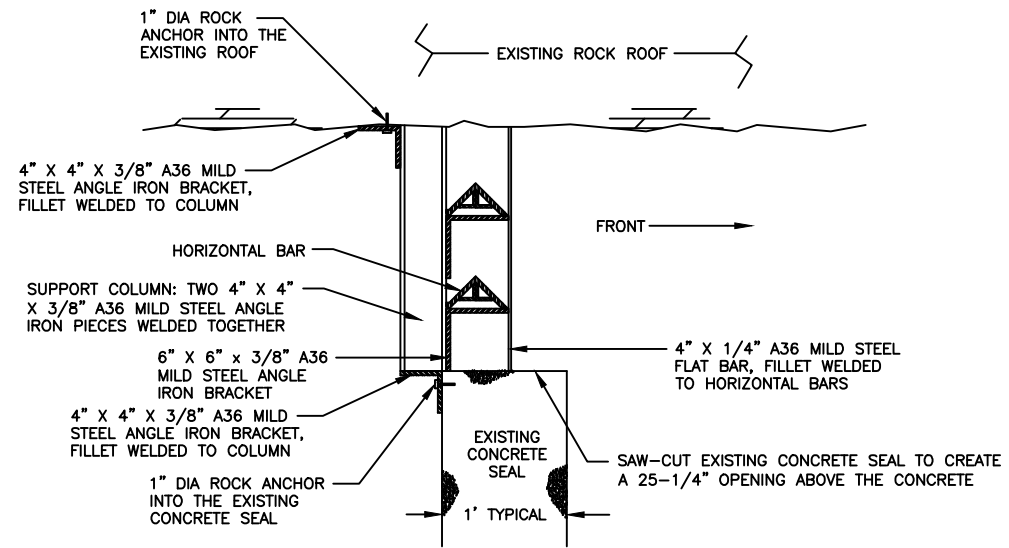
**NOTE:** REMOVE ALL TRASH AND DEBRIS FROM SHAFT TO A DEPTH OF 20' TO STABLE EXISTING FILL OR AS DIRECTED BY THE ENGINEER. ANY EXCESS EARTH GENERATED DURING SPECIAL EXCAVATION TO BE USED AS A SOIL CAP.

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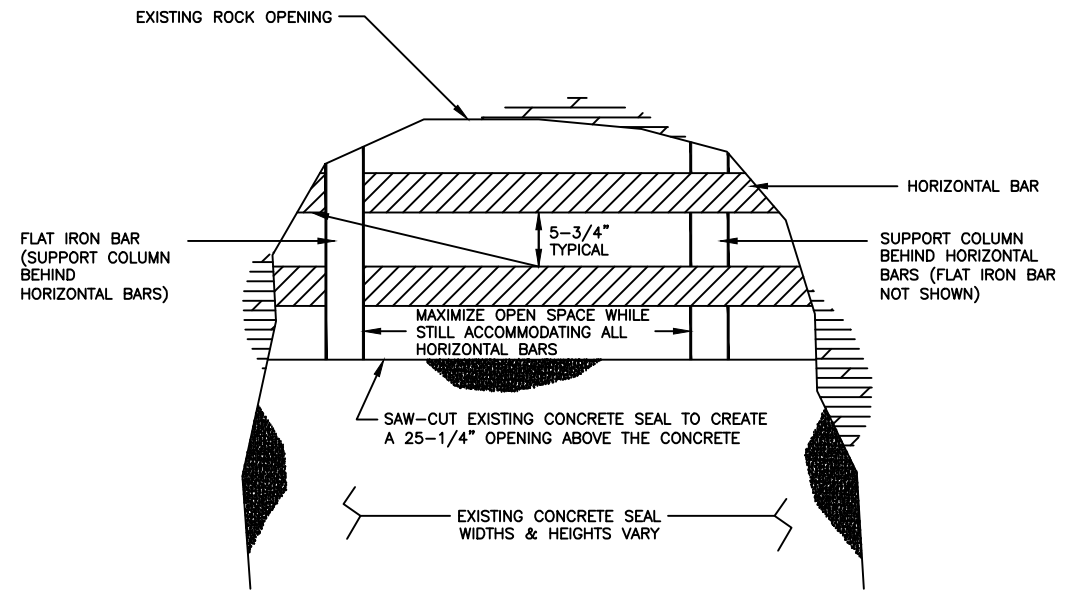


**D**  
12 TYPICAL ROCK FILL ADIT CLOSURE  
NOT TO SCALE

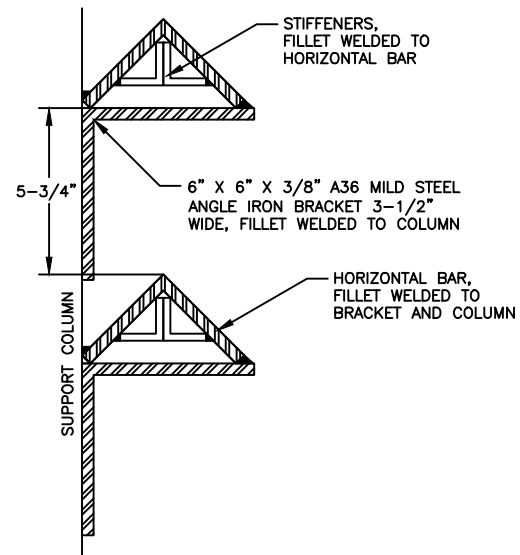
Drawn By: V.P. \_\_\_\_\_ Date: 12/2017  
Checked By: \_\_\_\_\_



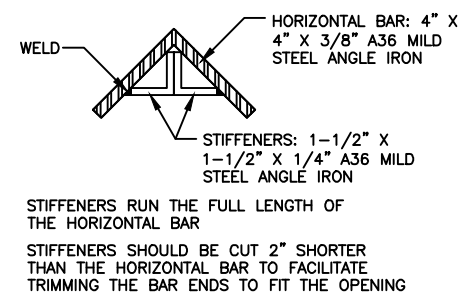
A  
12 SIDE VIEW  
NOT TO SCALE



B  
12 FRONT VIEW  
NOT TO SCALE



C  
12 HORIZONTAL BAR SPACING DETAIL  
NOT TO SCALE



D  
12 HORIZONTAL BAR STIFFENER DETAIL  
NOT TO SCALE

Date: 12/2017

Drawn By: J. Patel

Checked By: