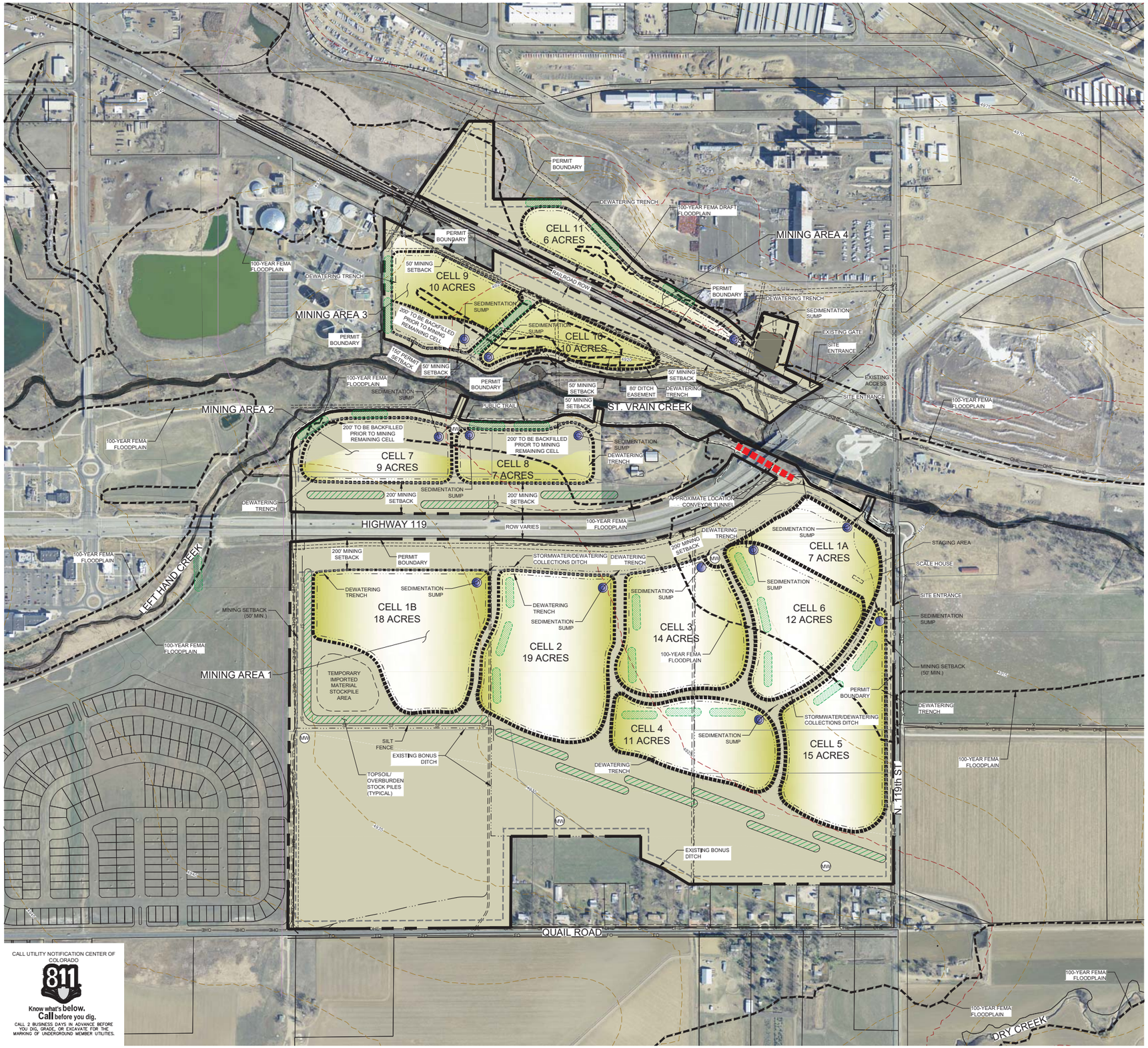


CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

Know what's below. Call before you dig.

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

NORTH

300 0 300 600 900

(IN FEET)
1 inch = 300 ft.

LEGEND:

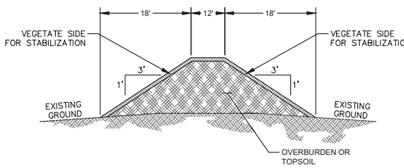
- PERMIT BOUNDARY
- EXISTING PARCELS
- EXISTING DITCH CENTERLINE
- EXISTING 5 FOOT CONTOUR (4876)
- EXISTING 25 FOOT CONTOUR (4700)
- EXISTING MONITORING WELL LOCATION
- TEMPORARY TOPSOIL/OVERBURDEN STOCKPILE USED IN CONCURRENT RECLAMATION
- TOPSOIL/OVERBURDEN STOCKPILE

NOTES:

1. THE PROPOSED IRWIN/THOMAS MINE PERMIT AREA IS COMPRISED OF 4 DISTINCT MINING AREAS SEPARATED BY COLORADO HIGHWAY 119, ST. VRAIN CREEK, AND THE BURLINGTON NORTHERN AND SANTA FE (BNSF) RAILROAD. MINING AREA 1 IS LOCATED SOUTH OF HWY 119, MINING AREA 2 IS NORTH OF HWY 119 AND SOUTH OF ST. VRAIN CREEK, MINING AREA 3 IS NORTH OF ST. VRAIN CREEK AND SOUTH OF THE BNSF RAILROAD, AND MINING AREA 4 IS NORTH OF THE RAILROAD.
2. THE PROPOSED PERMIT BOUNDARY ENCOMPASSES APPROXIMATELY 295.6 ACRES WITH ONLY ABOUT 138 ACRES CURRENTLY PLANNED FOR MINING. HOWEVER, THE AFFECTED LAND BOUNDARY ESSENTIALLY FOLLOWS THE PERMIT BOUNDARY TO ALLOW FOR RECLAMATION ACTIVITIES AND FUTURE POTENTIAL MINING OPERATIONS.
3. AREAS NOT DISTURBED BY MINING MAY BE DISTURBED BY ACCESS ROADS, MATERIAL CONVEYING, STOCKPILES, OR OTHER MINING RELATED ACTIVITIES. THE REMAINING AREA WILL CONSIST OF SETBACKS AND ROAD AND UTILITY RIGHT-OF-WAYS.
4. SETBACKS FROM THE MINE PIT TOP OF SLOPE TO THE PROPOSED PERMIT BOUNDARY OR MAN-MADE STRUCTURES NOT OWNED BY THE APPLICANT WILL BE 50 FEET OR GREATER.
5. ITEMS OWNED BY THE APPLICANT OR PROPERTY OWNER LOCATED WITHIN THE PERMIT AREA SUCH AS UN-IMPROVED ROADS, IRRIGATION LATERALS, FENCES, WATER WELLS AND ASSOCIATED PUMPS, AND OTHER STRUCTURES MAY BE REMOVED OR RELOCATED DURING MINING AND RECLAMATION.
6. TEST PITS HAVE VERIFIED THAT COMMERCIAL DEPOSITS OF SAND AND GRAVEL EXIST UP TO 25 FEET BELOW THE SURFACE OF THE GROUND.
7. MINING IS EXPECTED TO ENCOUNTER GROUNDWATER WITHIN FIVE FEET OF THE GROUND SURFACE. THE DEPOSIT WILL BE DRY MINED USING DEWATERING TRENCHES AND PUMPS.
8. DURING MINING ADJACENT TO THE ST. VRAIN CREEK RIPARIAN AREA, PRECAUTIONS WILL BE TAKEN TO NOT DISTURB THE CREEK CHANNEL AND DESIRABLE VEGETATION.
9. A MINE OFFICE/SCALE HOUSE TRAILER WILL BE ESTABLISHED NEAR SITE ENTRANCES BOTH NORTH AND SOUTH OF ST. VRAIN CREEK.
10. BEST MANAGEMENT PRACTICES WILL BE USED TO LIMIT DISCHARGE OF STORMWATER AND SEDIMENT ONTO ADJACENT PROPERTIES AND WATERWAYS.

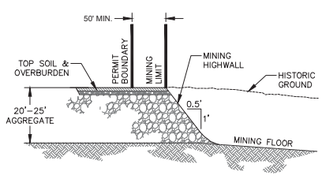
MINING SEQUENCE NOTES:

1. IN MA1, MINING CELL 1A SHALL BE MINED FIRST. THE SOUTHWEST SIDE OF THE CELL SHALL EXTEND A MINIMUM OF 500 FEET FROM THE ST. VRAIN CREEK PEDESTRIAN PATH. THE CELL SHALL BE MINED AND BACKFILLED PRIOR TO ADDITIONAL MA1 MINING WITHIN THE ST. VRAIN CREEK JURISDICTIONAL 100-YEAR FLOODPLAIN. MINING AND BACKFILLING OF CELL 1A SHALL OCCUR DURING THE NON-FLOOD PRONE SEASON OF OCTOBER THROUGH APRIL.
2. THE SCALE HOUSE AND STAGING AREA IN MA1 MAY BE ESTABLISHED ON THE MINED AND BACKFILLED AREA WITHIN CELL 1A.
3. IN MA2 AND MA3, THE AREAS OF THE MINING CELLS CLOSEST TO ST. VRAIN CREEK SHALL BE MINED FIRST. THE MINE CELL AREAS WITHIN 200 FEET OF THE CREEK SHALL BE MINED AND BACKFILLED DURING THE NON-FLOOD SEASON OF OCTOBER THROUGH APRIL.
4. PRIOR TO AFFECTING LAND WITHIN MA2, MA3, OR MA4, THE DIVISION OF RECLAMATION, MINING AND SAFETY (THE DIVISION) SHALL BE NOTIFIED IN WRITING AND APPROPRIATE PERMIT REVISIONS CONSISTENT WITH THE ALTERNATIVE MINING AND RECLAMATION PLANS SHALL BE SUBMITTED FOR APPROVAL.
5. IF COMPLETED MINE CELL SIDE SLOPES ARE TO BE WITHIN A RESERVOIR OR POND, THE DIVISION SHALL BE NOTIFIED FOR INSPECTION PRIOR TO FILLING THE RESERVOIR/POND WITH WATER.
6. IF SOIL TESTING IS NECESSARY FOR RECLAMATION, TEST RESULTS AND ANY PROPOSED SOIL AMENDMENTS SHALL BE SUBMITTED TO THE DIVISION.
7. PRIOR TO MINING IN MA3 AND MA4, MONITORING WELLS SHALL BE INSTALLED AND MONITORED FOR FIVE QUARTERS TO ESTABLISH BASELINE GROUNDWATER ELEVATIONS.
8. IF OFF-SITE BACKFILL MATERIAL IS TO BE IMPORTED, THE DIVISION SHALL BE NOTIFIED ACCORDING TO THE MINERAL RULES AND REGULATIONS RULE 3.1.5(9)



TYPICAL BERMING SECTION

N.T.S.



TYPICAL MINING SECTION
AT PERMIT BOUNDARY

N.T.S.

No.	Revisions:	By:	Date:

Blue Earth Solutions, LLC
P.O. Box 2427
Fort Collins, Colorado 80522
blueearth solutions
WILLIAM SCHENDERLEIN

IRWIN/THOMAS MINE

AGGREGATE INDUSTRIES - WCR, Inc.

BOULDER COUNTY, COLORADO

REGULAR 112 PERMIT APPLICATION

EXHIBIT C-4
PRE-MINING MAP

Date:	September, 2016
Job No:	590-008
Drawn:	C. Snowdon
Design:	B. SCHENDERLEIN
Checked:	B. SCHENDERLEIN
Scale:	1" = 300'
Sheet:	4 Of: 5

DRAWING FILENAME: I:\590-008 Ag Industries\Work Files\Layout\Layout\590-008_Exhibit C-4 Mining Map.dwg LAYOUT NAME: C-4 DATE: Oct 16, 2016 - 3:13pm CAD OPERATOR: cindy
LIST OF XREFS: [Del-008_Cover.dwg] [Del-008_Cover2.dwg] [Del-008_Cover3.dwg] [Del-008_Cover4.dwg] [Del-008_Cover5.dwg]