




TERRADON

CONTRACT #1 PROJECT UPDATES



west virginia department of environmental protection

CONTRACT #1 PROJECT SITES

- ▣ Algoma Refuse and Portals
 - ▣ Greenbrier Hollow Refuse (Phase II)
 - ▣ Drews Creek Dangerous Impoundment
 - ▣ Crany Mine Dump (Phase II)
 - ▣ Gilliam Refuse Pile
 - ▣ Crumpler (Scott) Draining Portal
 - ▣ Indian Creek (Dillon) Portals
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ALGOMA REFUSE AND PORTALS

OVERVIEW

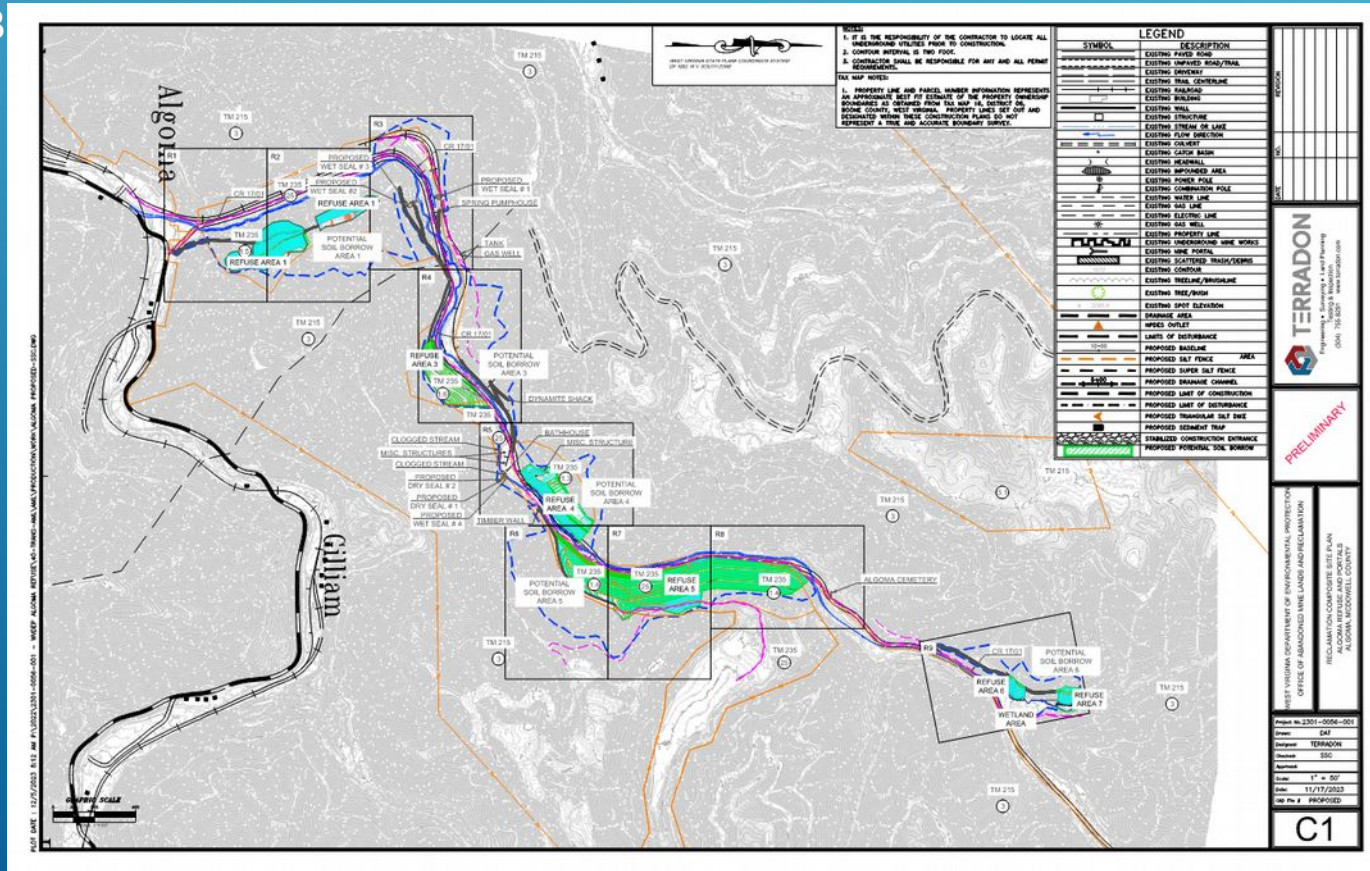
MCDOWELL COUNTY, WV

- ALGOMA IS THE LARGEST SITE OF THE 7 IN CONTRACT #1
- HAS 7 INDIVIDUAL REFUSE PILES IN NEED OF REGRADING
- 6 STRUCTURES IN NEED OF DEMOLITION
- 4 DRAINING PORTALS AND 2 DRY PORTALS



ALGOMA STATUS REPORT

- SURVEY COMPLETED
- GEOTECHNICAL NEARING COMPLETION
- REFUSE DESIGN NEARLY COMPLETE PENDING STABILITY ANALYSIS
- MOST PORTAL RECLAMATION DESIGN COMPLETE WITH SOME WORK LEFT ON THE MAJOR DRAINING PORTAL
- OVERALL DESIGN PACKAGE NEARING 60% COMPLETION
- ENVIRONMENTAL ASSESMENT IN PROGRESS WITH AGENCY COORDINATION SUB



POTENTIAL CONSTRUCTION ISSUES AND CONCERNS

- REFUSE PILES 1,2, AND #6 MAY REQUIRE 1.5:1 SLOPES AND COULD BE DIFFICULT TO CONSTRUCT
- LARGE DRAINING PORTAL COULD BE AN ISSUE, MAY REQUIRE ARCHED CULVERT WITH A GATE
- GASLINE RUNNING UP REFUSE PILE #7 WILL NEED RELOCATED
- ON SITE SOIL BORROW IS MINIMAL / NON EXISTENT



GREENBRIER HOLLOW REFUSE (PHASE II)

OVERVIEW

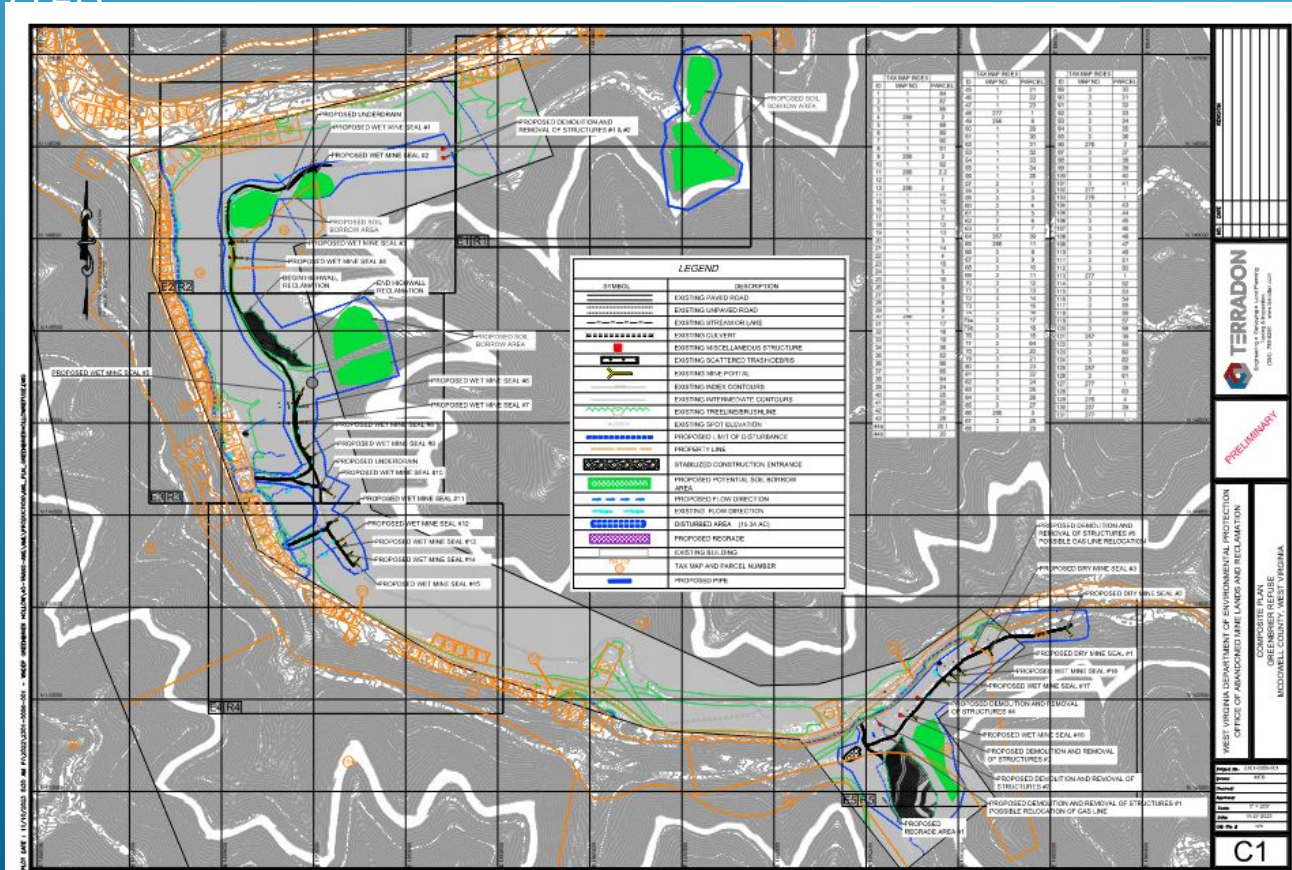
MCDOWELL COUNTY, WV

- GREENBRIER IS THE 2ND LARGEST SITE OF THE 7' IN CONTRACT #1
- 1 LARGE REFUSE PILE TO REGRADE
- 6 STRUCTURES TO DEMOLISH
- 1 60' LONG HIGHWALL TO BACKFILL
- 19 DRAINING PORTALS AND 3 DRY PORTALS



GREENBRIER STATUS REPORT

- SURVEY 95% COMPLETE
- GEOTECHNICAL NOT STARTED
- REFUSE DESIGN NEARLY COMPLETE
- HIGHWALL DESIGN COMPLETE WORKING ON MATERIAL BALANCE
- PORTAL RECLAMATION DESIGN NEARING COMPLETION
- OVERALL DESIGN PACKAGE NEARING 60% COMPLETE
- ENVIRONMENTAL ASSESMENT IN PROGRESS WITH AGENCY COORDINATION SUBMITTED



POTENTIAL CONSTRUCTION ISSUES AND CONCERNS

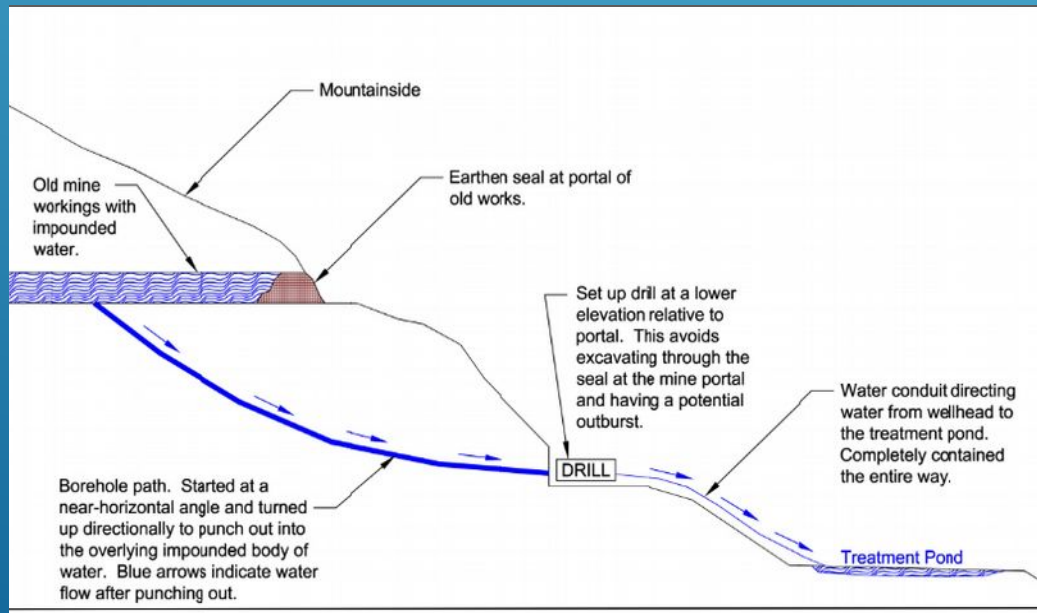
- THE DRAINING PORTALS ALONG THE BENCH AREA ARE PRODUCING A LARGE AMOUNT OF WATER AND COULD CAUSE DIFFICULTY DURING CONSTRUCTION.
- THE COMMUNITY BELOW THE BENCH AREA GET THEIR WATER FROM THE MINE AND THIS WATER SOURCE MUST BE MAINTAINED
- GASLINE BELOW THE REFUSE AREA MAY NEED RELOCATED
- ON SITE SOIL BORROW IS MINIMAL



DREWS CREEK DANGEROUS IMPOUNDMENT OVERVIEW

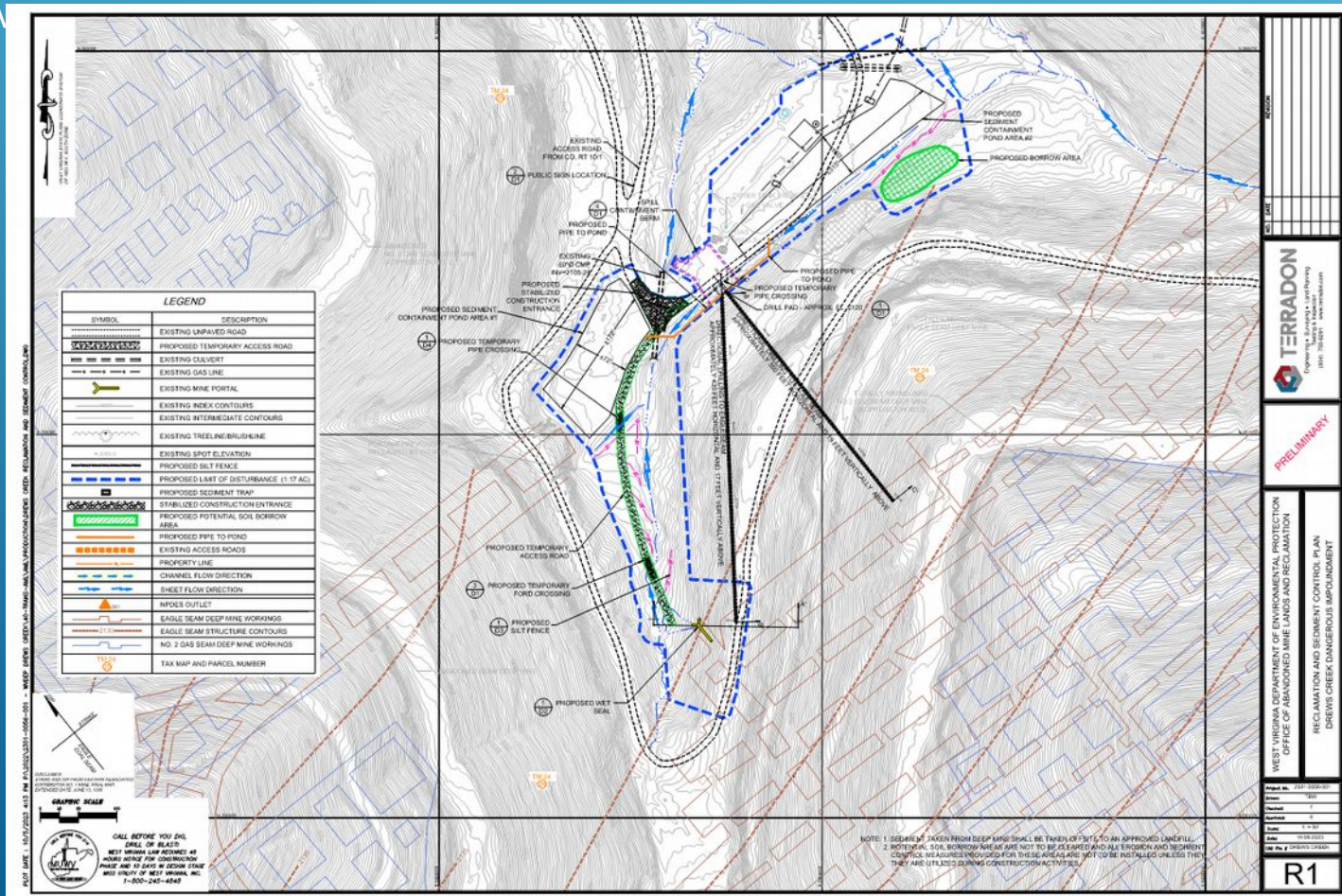
RALEIGH COUNTY, WV

- 1 DRAINING PORTAL
- 2 DIRECTIONAL BORINGS TO DEWATER THE MINE
- 1 GEOTUBE (SEDIMENT BAG) TO CONTAIN SEDIMENT FROM THE MINE DISCHARGE



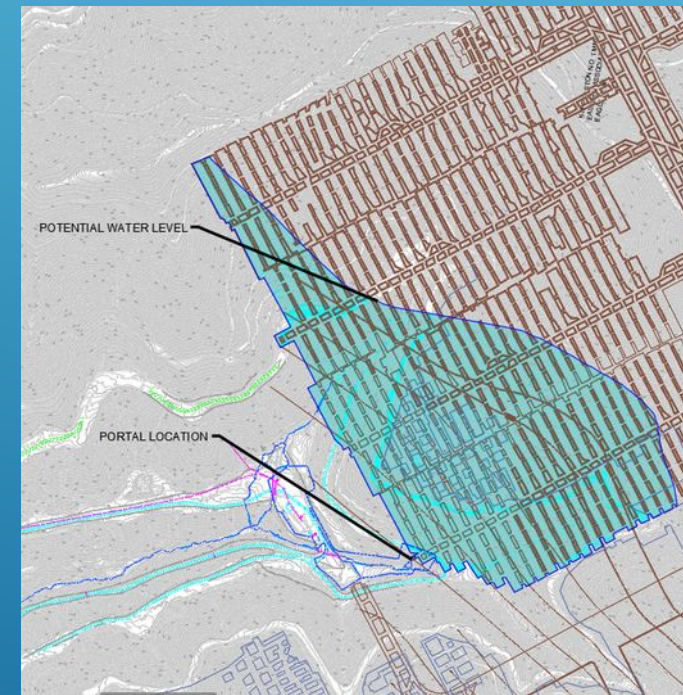
DREWS CREEK STATUS REPORT

- SURVEY COMPLETE
 - GEOTECHNICAL COMPLETE WITH ONE PIEZOMETER INSTALLED
 - PIEZOMETER SHOWED 30' OF HEAD FROM THE IMPOUNDED WATER
 - PORTAL RECLAMATION DESIGN NEARING COMPLETION
 - OVERALL DESIGN PACKAGE IS 60% COMPLETE
 - ENVIRONMENTAL ASSESMENT IN PROGRESS WITH AGENCY COORDINATION
- SUBM



POTENTIAL CONSTRUCTION ISSUES AND CONCERNS

- THE DRAINING PORTAL IS IMPOUNDING MILLIONS OF GALLONS OF WATER
- DIRECTIONAL DRILL SUBCONTRACTOR WILL NEED TO BE UTILIZED
- THE MINE CONTAINS A LARGE AMOUNT OF SEDIMENT AND GEOTUBES (SEDIMENT BAGS) WILL NEED TO BE UTILIZED TO FILTER DISCHARGE FROM THE MINE.
- BECAUSE OF THE SEDIMENT BAGS, DEWATERING THE MINE COULD BE A SLOW PROCESS
- THE SITE IS CONSTRAINED BY GAS LINES AND HIGHWALLS SO WORK AREAS WILL BE TIGHT



CRANY MINE DUMP (PHASE II) OVERVIEW

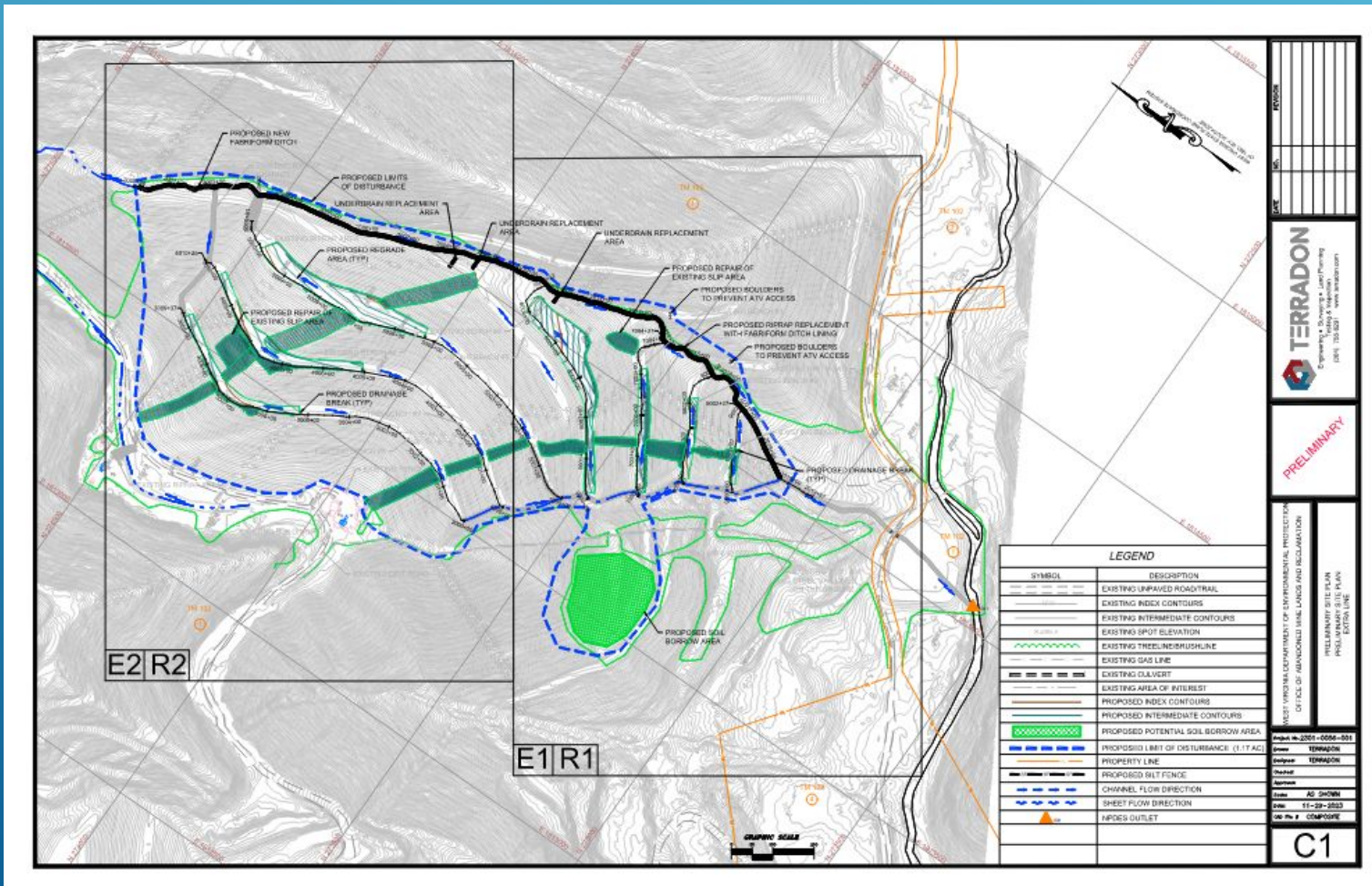
WYOMING COUNTY, WV

- LARGE REFUSE AREA PREVIOUSLY RECLAIMED AND NOW RESEMBLES A VALLEY FILL
- 7 BENCHES TO REGRADE IN ORDER TO CORRECT DRAINAGE ISSUES
- 2 ATV TRAILS ON THE FILL NEED RECLAIMED. THESE PATHS HAVE LEAD TO EROSION ISSUES
- 2 SLIP AREAS TO REPAIR
- 3 CLOGGED UNDERDRAINS TO REPLACE
- RIGHT SIDE GROIN DITCH TO BE REPAIRED



CRANY STATUS REPORT

- SURVEY COMPLETE
- GEOTECHNICAL NOT STARTED
- GRADING DESIGN IS NEARING COMPLETION
- OVERALL DESIGN PACKAGE IS NEARLY 60% COMPLETE
- ENVIRONMENTAL ASSESMENT IN PROGRESS WITH AGENCY COORDINATION SUBMITTED



POTENTIAL CONSTRUCTION ISSUES AND CONCERNS

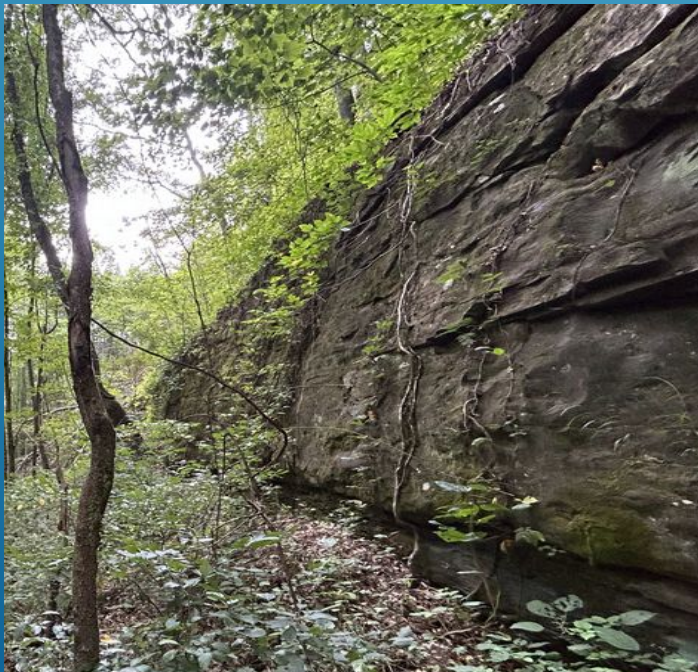
- THE TOTAL DEPTH OF THE 3 CLOGGED UNDERDRAINS IS NOT KNOWN. HOWEVER, AFTER COMPARING SURVEY DATA AND EXISTING MAPPING THEY DO NOT APPEAR TO BE VERY DEEP.
- GASLINES RUNNING UP THE LEFT SIDE OF THE FILL COULD RESTRICT ASSESS TO PROPOSED BORROW SITE.



GILLIAM REFUSE PILE OVERVIEW

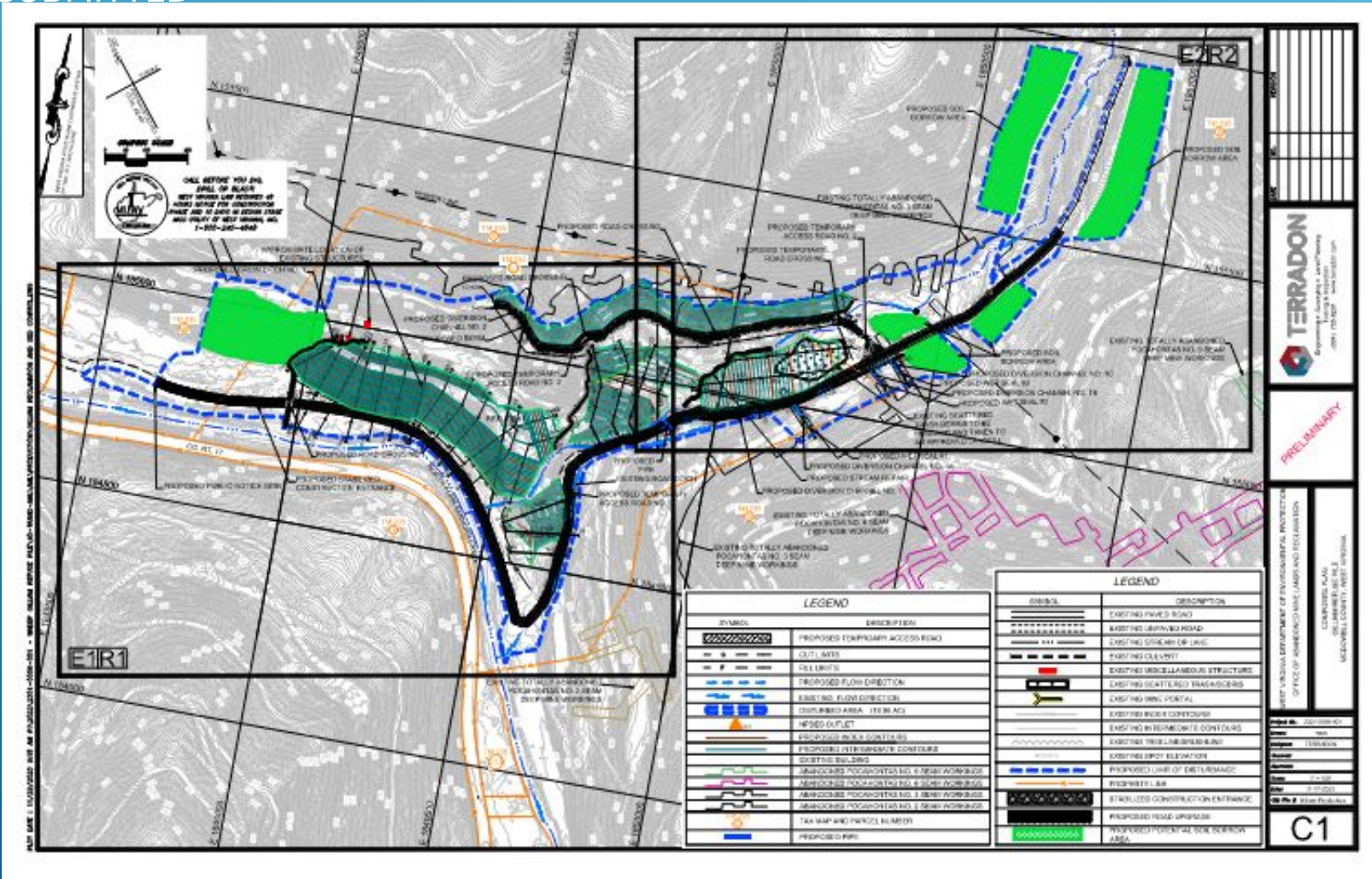
MCDOWELL COUNTY, WV

- 4 REFUSE AREAS TO REGRADE
- 3 DRAINING PORTALS TO SEAL
- 1 HIGHWALL TO RECLAIM
- 1 ACCESS ROAD TO CONDUCT SPOT IMPROVEMENTS ON
- THE HOLLOW THAT RUNS THROUGH THE PROJECT IS BADLY ERODED AND NEEDS REPAIR



GILLIAM STATUS REPORT

- SURVEY IN PROCESS THIS WEEK
- GEOTECHNICAL TO BEGIN THIS MONTH
- GRADING DESIGN IS NEARING COMPLETION
- OVERALL DESIGN PACKAGE IS 60% COMPLETE AND READY FOR INTERNAL REVIEW
- ENVIRONMENTAL ASSESMENT IN PROGRESS WITH AGENCY COORDINATION SUBMITTED



POTENTIAL CONSTRUCTION ISSUES AND CONCERNS

- FINDING SOIL TO RECLAIM REFUSE AREAS MAY BE DIFFICULT
- SITE HAS BEEN USED AS A DUMP AND MUST BE CLEANED UP



CRUMPLER (SCOTT) DRAINING PORTAL OVERVIEW

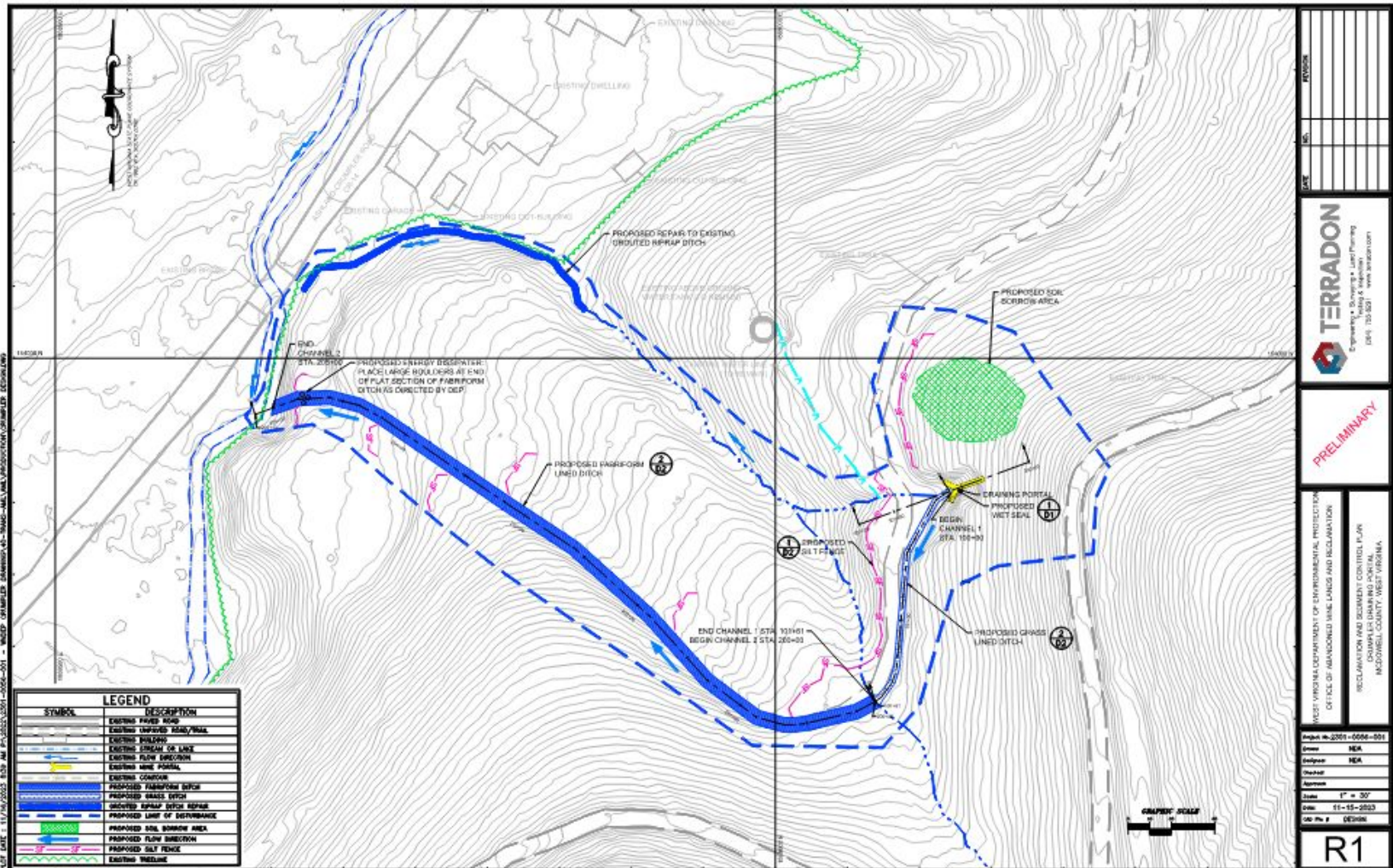
MCDOWELL COUNTY, WV

- 1 WETSEAL
- 1 CHANNEL TO REROUTE WATER AWAY FROM THE RESIDENCE BELOW
- 1 PREVIOUSLY GROUTED CHANNEL TO REPAIR



CRUMPLER STATUS REPORT

- SURVEY NOT STARTED
- GEOTECHNICAL NOT STARTED AS ROE IS NOT FINALIZED
- OVERALL DESIGN PACKAGE IS 60% COMPLETE AND HAS BEEN SENT TO DEP FOR REVIEW
- ENVIRONMENTAL ASSESMENT IN PROGRESS WITH AGENCY COORDINATION



POTENTIAL CONSTRUCTION ISSUES AND CONCERNS

- NONE NOTED



INDIAN CREEK (DILLON) PORTALS OVERVIEW

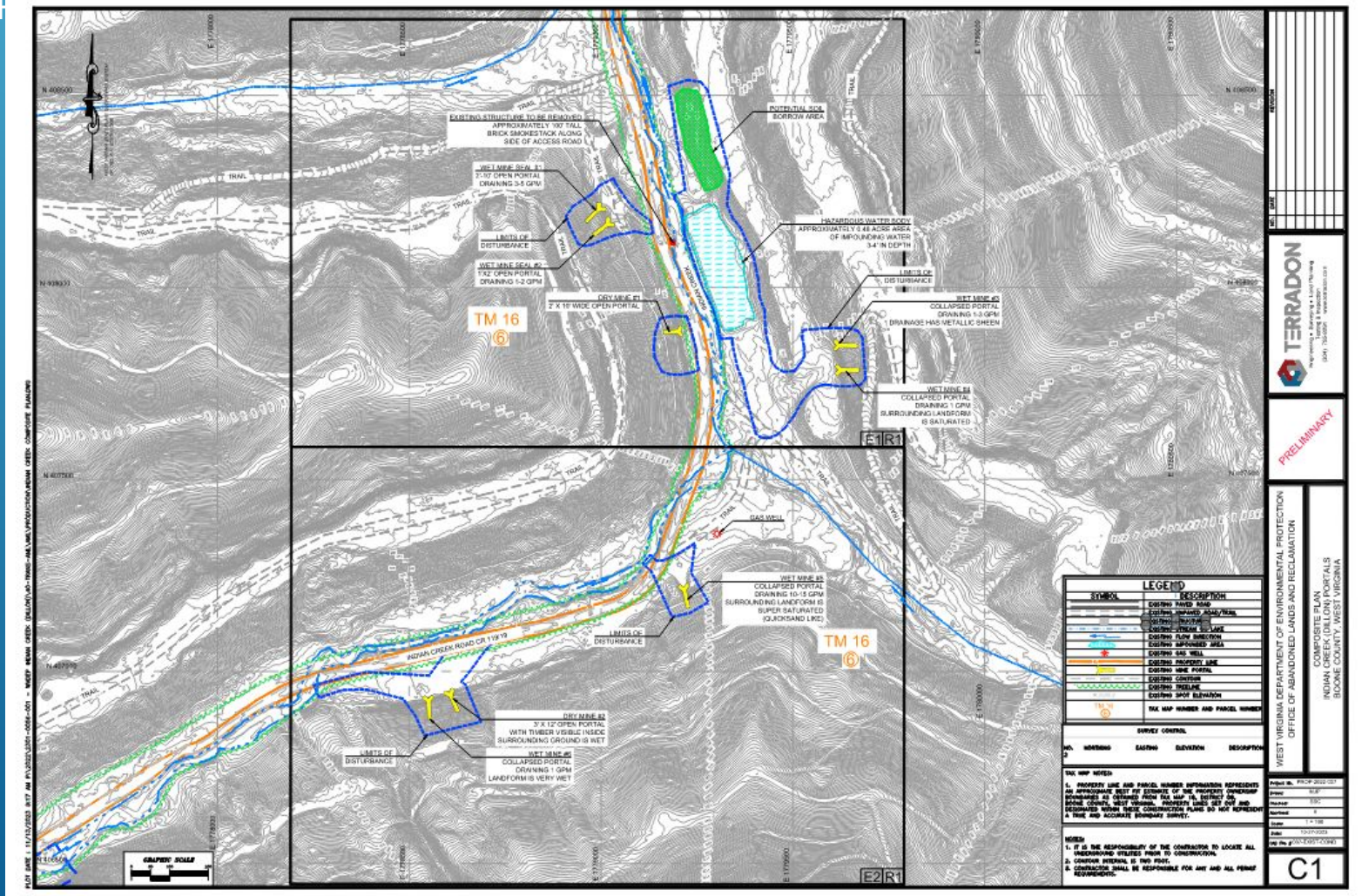
BOONE COUNTY, WV

- 1 ABANDONED MINE POND TO BE FILLED IN (DRY AT TIME OF SURVEY)
- 6 WET SEALS AND 2 DRY SEALS TO INSTALL
- DUE TO THE BAT SURVEY SEVERAL PORTALS WILL BE CHANGED TO BAT GATES
- 1 EXISTING SMOKESTACK TO BE DEMOLISHED AND LIKELY USED TO FILL THE POND



INDIAN CREEK STATUS REPORT

- SURVEY COMPLETE
- GEOTECHNICAL COMPLETE WITH 2 PIEZOMETERS INSTALLED
- PIEZOMETERS P-1 AND P-2 HAD 3-5' OF HEAD EACH
- OVERALL DESIGN PACKAGE IS 60% COMPLETE BUT STILL NEEDS UPDATED TO NEW DEP STANDARDS
- ENVIRONMENTAL ASSESSMENT COMPLETE



POTENTIAL CONSTRUCTION ISSUES AND CONCERNS

- SMOKESTACK HAS BEEN UNDERCUT BY RECENT STORM EVENTS AND HAS THE POTENTIAL TO COLLAPSE INTO THE STREAM
- PORTALS 1 AND 2 HAVE COLLAPSED INTERNALLY MAKING EXCAVATION AND INSTALLATION OF WETSEALS POTENTIALLY HAZERDOUS.



QUESTIONS?

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