

CONSTRUCTION PLANS FOR HOME OFFICE MINE

LARIMER COUNTY, COLORADO

PREPARED FOR:

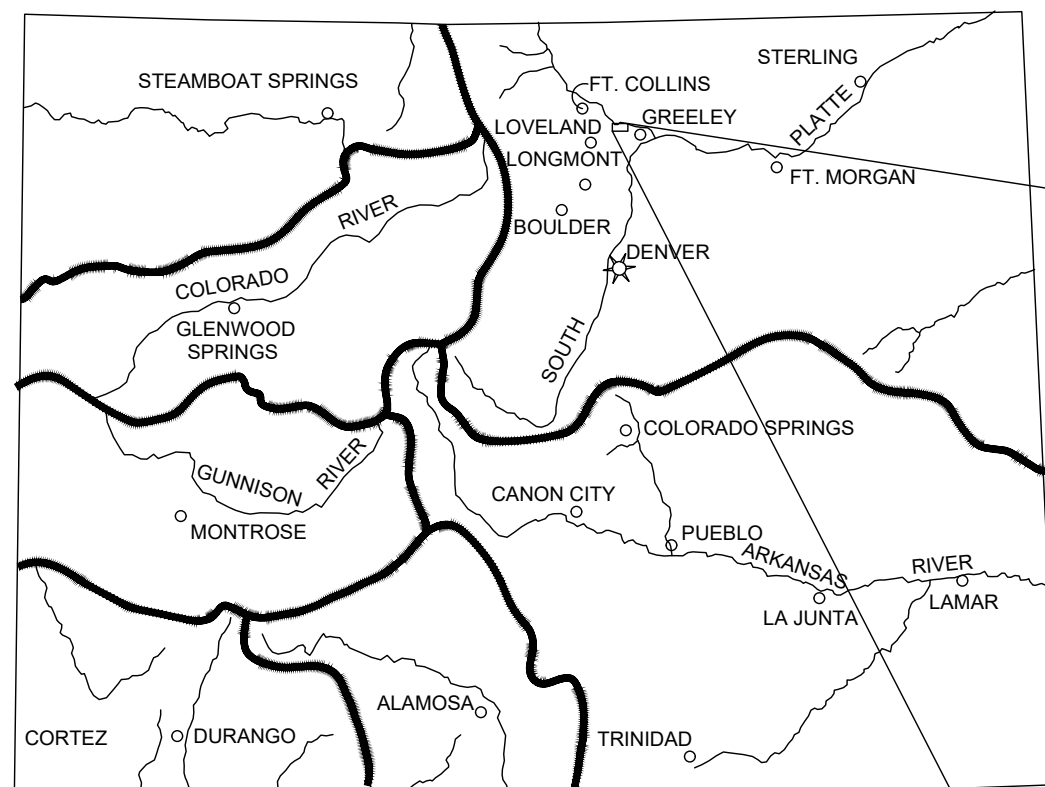
MARTIN MARIETTA

1800 NORTH TAFT HILL ROAD

FORT COLLINS, COLORADO 80521

WATER DIVISION NO. 1, WATER DISTRICT NO. 3

LARIMER COUNTY, COLORADO



STATE OF COLORADO PROJECT LOCATION MAP

SCALE: NONE



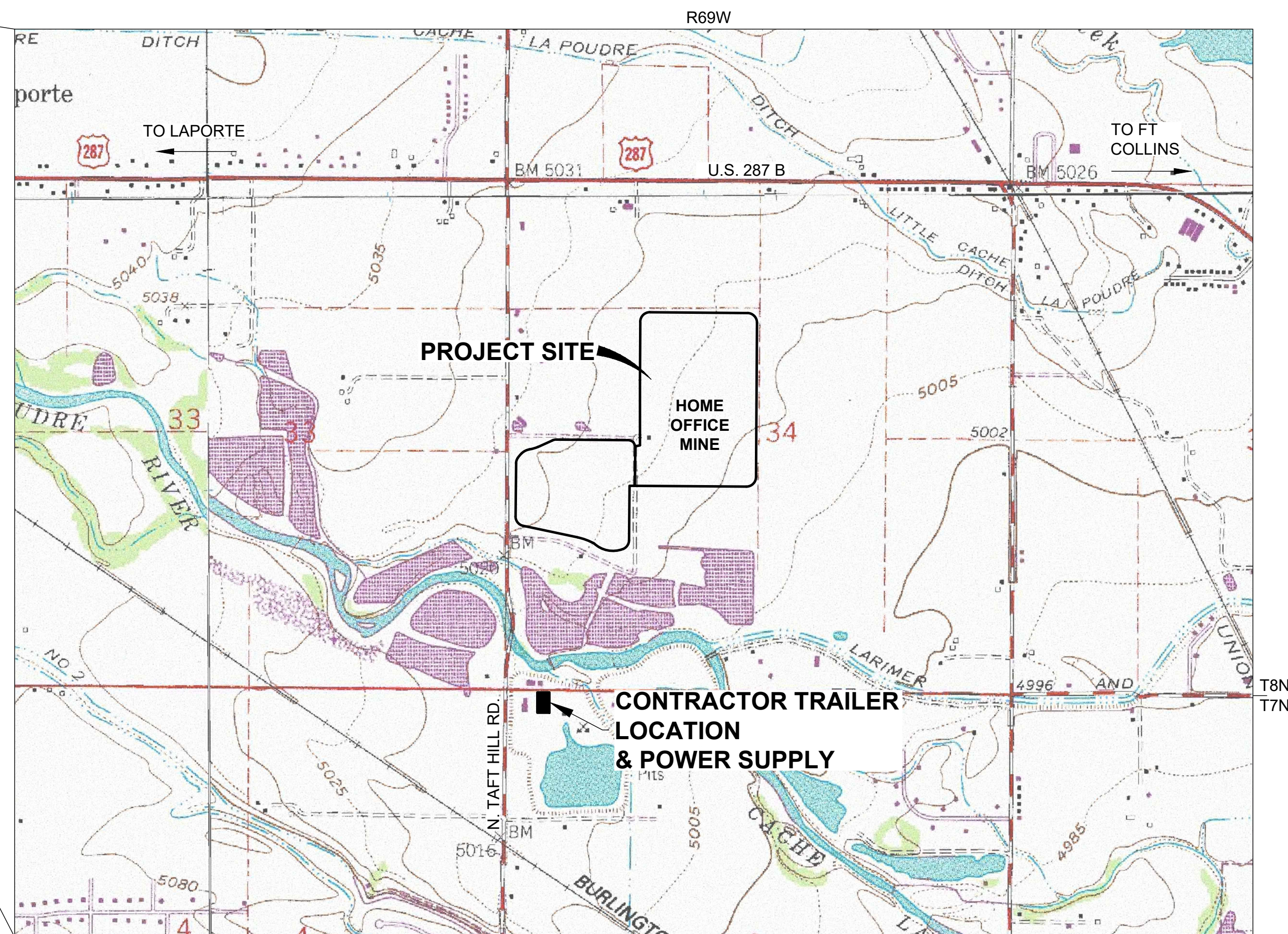
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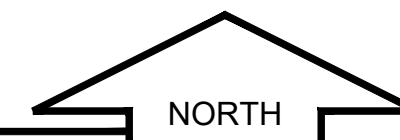
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WRITTEN SCALES ON PLAN ARE FOR FULL SIZED 22" x 34" PLANS AND DO NOT APPLY TO REDUCED PLAN SETS.



PROJECT VICINITY MAP

SCALE: 1"=1000'



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

DEERE & AULT CONSULTANTS, INC. ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL AND VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

SHEET INDEX:

- | | |
|---|---|
| 1 | COVER SHEET |
| 2 | SUMMARY LOGS OF EXPLORATORY TESTHOLES |
| 3 | SUMMARY LOGS OF EXPLORATORY TESTPITS |
| 4 | GENERAL PLAN & EXISTING CONDITIONS |
| 5 | NORTH UNDERDRAIN EXTENSION PLAN AND PROFILE |
| 6 | DETAILS |



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NORTH UNDERDRAIN EXTENSION

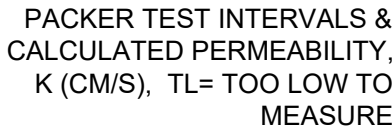
COVER SHEET

PROJECT: DA494019.00

DATE: ---

SHEET
OF 6

	CLAY: MEDIUM STIFF, SILTY, LOCALLY SANDY, FINE TO MEDIUM GRAINED, MOIST, TO WET BROWN TO DARK BROWN , MODERATELY PLASTIC TO PLASTIC, LOCALLY ROOTS
	CLAYEY SAND & GRAVEL: LOOSE TO MEDIUM DENSE, SILTY, FINE TO MEDIUM GRAINED, LOCAL SMALL GRAVEL, DRY TO WET, LIGHT BROWN TO DARK BROWN, LOW TO MODERATELY PLASTIC, LOCAL PLANT ROOTS (SC)
	SILTY SAND & GRAVEL: LOOSE TO MEDIUM DENSE, CLAYEY, BROWN, DRY, NON TO VERY LOW PLASTIC, LOCAL ROOTS PRESENT
	SAND: LOOSE, POORLY GRADED, FINE TO MEDIUM GRAINED, MOIST, GRAYISH BROWN
	SAND & GRAVEL: MEDIUM DENSE TO VERY DENSE, SANDY GRAVEL TO GRAVELLY SAND, LOCAL COBBLES, WELL GRADED, FINE TO COARSE GRAINED SAND, SMALL GRAVEL UP TO 8 INCH GRAVEL, ROUNDED GRAVEL AND COBBLES, DRY TO WET, PINKISH BROWN TO LIGHT BROWN TO TANISH BROWN (SW, GW, GM)
	WEATHERED CLAYSTONE: STIFF (SOILS), VERY LOW TO LOW STRENGTH BEDROCK, DRY TO SLIGHTLY MOIST, VERY FINE SAND, MOTTLED BROWN TO BROWNISH TAN, LOCAL IRON STAINING, MIXTURE OF BEDROCK COLORS, MODERATELY PLASTIC, BLOCKY
	CLAYSTONE: HARD TO VERY HARD (SOILS), VERY LOW TO LOW STRENGTH BEDROCK, DRY TO SLIGHTLY MOIST, SANDY, VERY FINE SAND, GRAY TO DARK GRAY, LOW TO MODERATELY PLASTIC, LOCAL SHALE THINLY BEDDED, BLOCKY
	SANDSTONE: HARD (SOILS), LOW TO MODERATE STRENGTH BEDROCK, DRY TO SLIGHTLY MOIST, CLAYEY, VERY FINE SAND, LIGHT GRAY TO GRAY, LOCAL SHALE THINLY BEDDED, BLOCKY, FRESH

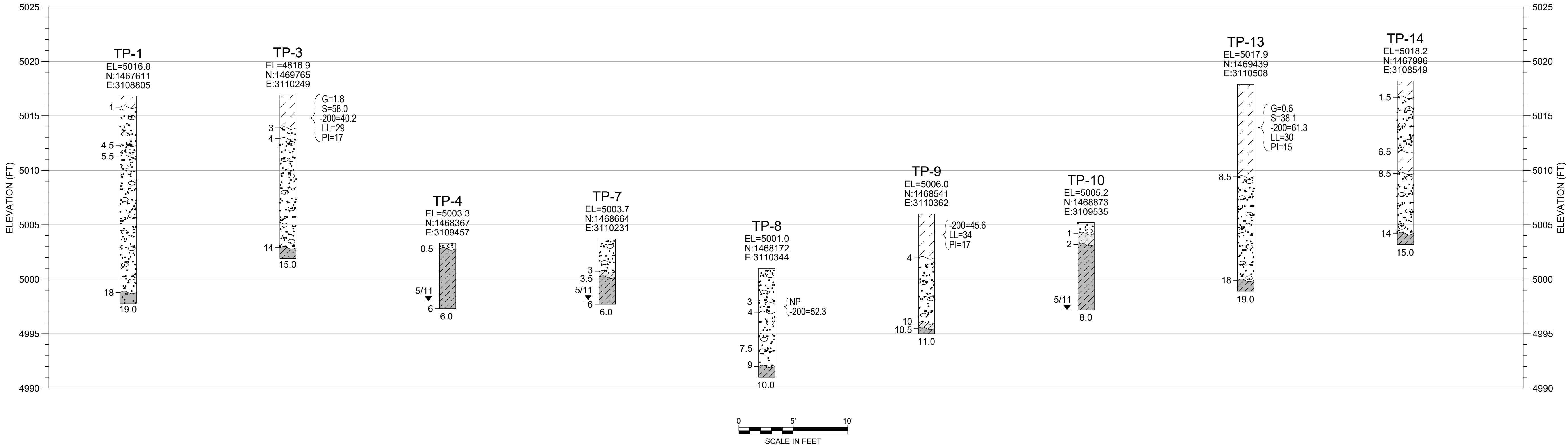


1. EXPLORATORY BORINGS HO-1 THROUGH HO-10 WERE DRILLED 5/7/18 THROUGH 5/9/18, BORINGS HO-12 THROUGH HO-14 WERE DRILLED ON 4/22/21 AND HO-11 WAS DRILLED ON 5/25/21 USING A TRUCK-MOUNTED CME 75 DRILL RIG. BORINGS WERE DRILLED WITH 4.25-INCH I.D. HOLLOW STEM AUGERS.
2. EXPLORATORY TEST PITS WERE EXCAVATED ON 5/11/18 USING A 350LC HITACHI BACKHOE.
3. ALL EXPLORATORY BORING LOCATIONS AND ELEVATIONS WERE SURVEYED BY KING SURVEYORS FOR THE GEOTECHNICAL INVESTIGATION LOCATIONS AND ELEVATIONS FOR ALL OTHER TEST PITS WERE INTERPOLATED FROM THE SURVEYED GROUND SURFACE.
4. TP 1, 4, 7, 10 & 14 LOCATIONS AND ELEVATIONS WERE SURVEYED BY KING SURVEYORS ON 5/17/18
5. LINES BETWEEN MATERIALS REPRESENT APPROXIMATE BOUNDARIES BETWEEN TYPES AND TRANSITIONS MAY BE GRADUAL.
6. GROUNDWATER LEVELS WERE MEASURED AT THE TIME OF DRILLING. GROUNDWATER LEVELS MAY FLUCTUATE SEASONALLY AND DUE TO SITE MINING AND DEWATERING OPERATIONS.
7. LAB TESTING:
 - G = % GRAVEL BY WEIGHT
 - S = % SAND BY WEIGHT
 - 200 = % BY WEIGHT PASSING THE #200 SIEVE (FINES)
 - LL = LIQUID LIMIT
 - PI = PLASTICITY INDEX
 - NP = NON PLASTIC MATERIAL
8. STOCKPILE SAMPLE TESTING SUMMARY:

TP-2 { G=0.6 S=50.3 -200=49.1 LL=27 PI=7	TP-5 { G=5.5 S=41.2 -200=53.3 LL=32 PI=15 %ORGANIC=2.3	TP-11 { G=15.3 S=46.7 -200=38.0 LL=25 PI=10
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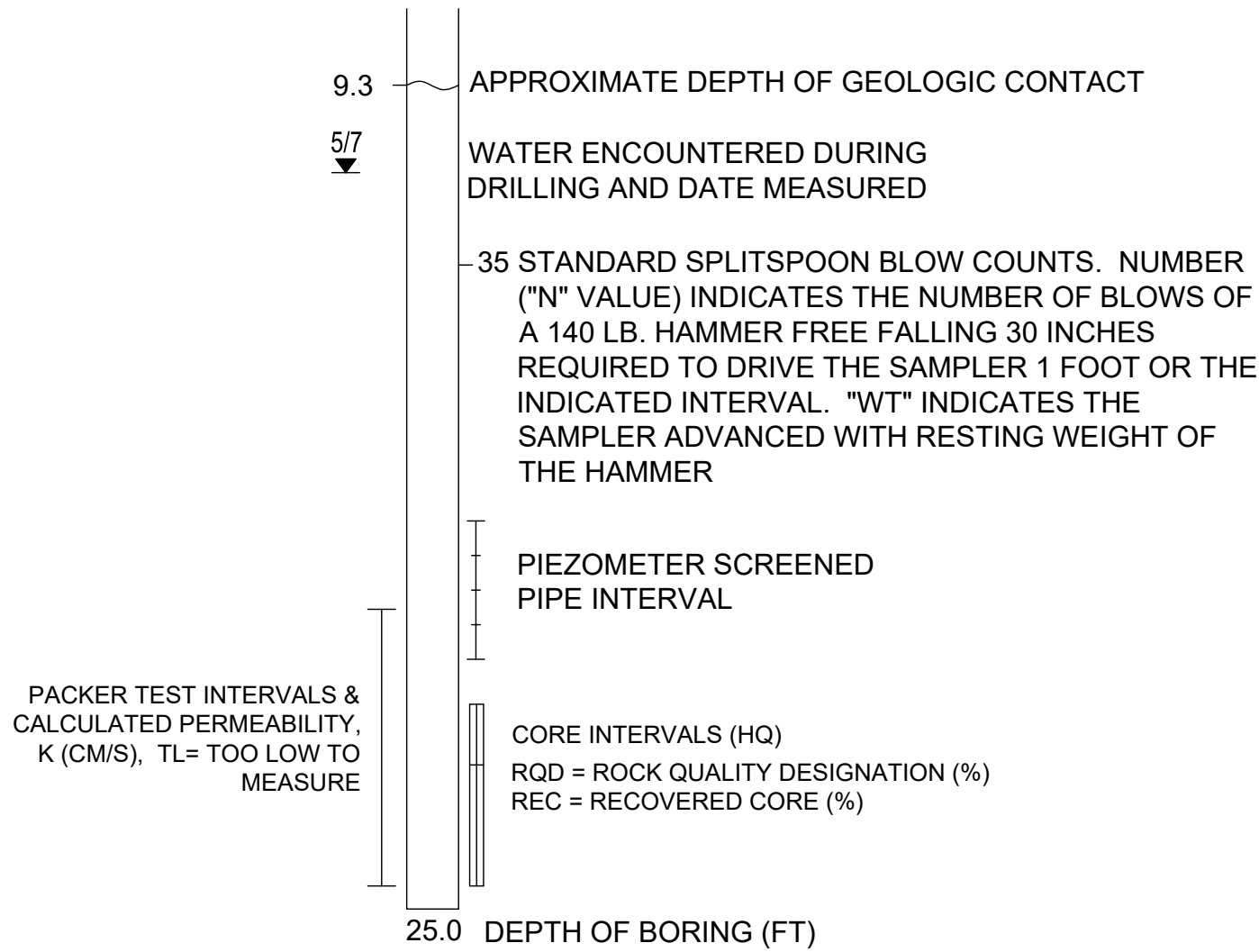
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U:\0484 MARTIN MARIETTA\0484.019 HOME OFFICE MINECAD\WORKING\UNDERDRAIN_NORTH_EXTENSION\NINE SUMMARY LOGS.DWG



LEGEND:

- CLAY: MEDIUM STIFF, SILTY, LOCALLY SANDY, FINE TO MEDIUM GRAINED, MOIST TO WET, BROWN TO DARK BROWN, MODERATELY PLASTIC TO PLASTIC, LOCALLY ROOTS
- CLAYEY SAND & GRAVEL: LOOSE TO MEDIUM DENSE, SILTY, FINE TO MEDIUM GRAINED, LOCAL SMALL GRAVEL, DRY TO WET, LIGHT BROWN TO DARK BROWN, LOW TO MODERATELY PLASTIC, LOCAL PLANT ROOTS (SC)
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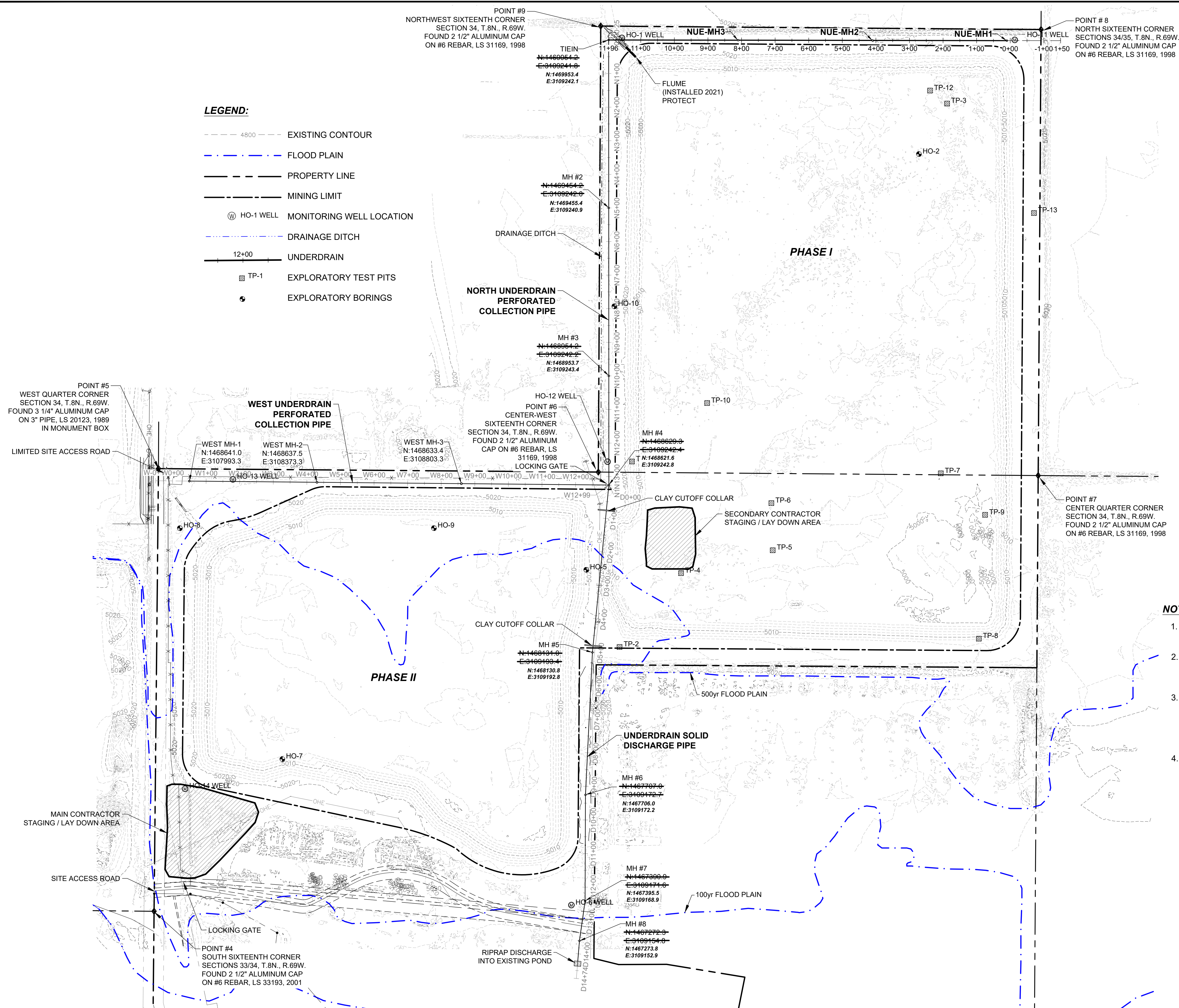
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- TP 1, 4, 7, 10 & 14 LOCATIONS AND ELEVATIONS WERE SURVEYED BY KING SURVEYORS ON 5/17/18
- LINE BETWEEN MATERIALS REPRESENT APPROXIMATE BOUNDARIES BETWEEN TYPES AND TRANSITIONS MAY BE GRADUAL.
- GROUNDWATER LEVELS WERE MEASURED AT THE TIME OF DRILLING. GROUNDWATER LEVELS MAY FLUCTUATE SEASONALLY AND DUE TO SITE MINING AND DEWATERING OPERATIONS.
- LAB TESTING:
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DESIGNED BY: SAR	DRAWN BY: ITR	CHECKED BY: ---	FOR REVIEW 1	5-31-23
SUSAN A. RAINEY				
STATE PROFESSIONAL ENGINEER NO. XXXX				
DATE: XXXX				
DESCRIPTION			REV	DATE
HOME OFFICE MINE				
NORTH UNDERDRAIN EXTENSION				
SUMMARY LOGS OF EXPLORATORY TESTPITS				
PROJECT: DA494019.00				
DATE: ---				
SHEET 3 OF 6				

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NOTES:

1. ALL UTILITIES TO BE LOCATED, VERIFIED & POT HOLED AS NECESSARY BY CONTRACTOR.
2. TRAFFIC ON LIMITED SITE ACCESS ROAD TO BE COORDINATED WITH ADJACENT PROPERTY OWNERS & ONLY ALLOWED DURING STANDARD WORK HOURS.
3. SURVEY CONTROL PROVIDE BY KING SURVEYOR'S. COORDINATE VALUES ARE THAT OF THE COLORADO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM 1983/92. TO CONVERT TO GROUND (MODIFIED) SCALE ABOUT POINT 0,0 AT A FACTOR OF 1.00026675 (0.99973332)
4. VERTICAL DATUM: NAVD 88.

POINT #	NORTHING	EASTING	DESCRIPTION
1	1466019.4650	3110502.4980	S. 1/4 COR, SEC
2	1466033.7797	3109189.4328	W. 1/16 COR, SEC34
3	1466042.3880	3107875.3510	SW. COR, SEC34
4	1467360.3495	3107888.3763	S. 1/16 COR, SEC 34
5	1468678.1520	3107901.4000	W. 1/4 COR, SEC 34
6	1468667.8170	3109210.9885	CENTER W. 1/16 COR, SEC 34
7	1468657.4820	3110520.5770	CENTER 1/4 COR, SEC 34
8	1469985.2060	3110529.0260	N. 1/16 COR, SEC 34
9	1469995.6070	3109218.1910	NW. 1/16 COR, SEC 34

NOTE: POINT # 1,2,3 ARE NOT SHOWN ON THIS PAGE. THEY ARE SOUTH OF THE SITE.

HOME OFFICE MINE
NORTH UNDERDRAIN EXTENSION

**GENERAL PLAN &
EXISTING CONDITIONS**



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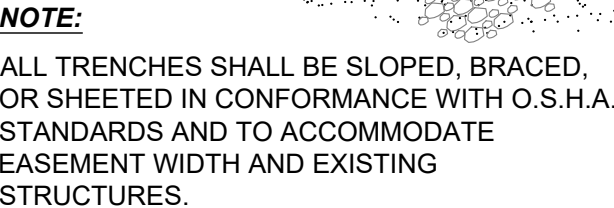
DATE:	DRAWN BY:	CH
	ITR	

SUSAN A. RAINEY

1	FOR REVIEW	SAR	5-31-23
REV	DESCRIPTION		DATE



- GENERAL NOTES:**
1. MANHOLES ARE FABRICATED TO MEET OR EXCEED THE FOLLOWING SPECIFICATIONS:
CONCRETE: 28 DAY COMPRESSIVE STRENGTH OF 4,500 PSI
REINFORCING: ASTM C-478
 2. OPENINGS CORED OR CAST AS REQUIRED.
 3. WATERPROOFING IS REQUIRED WHERE GROUNDWATER IS PRESENT.



TYPICAL SLOTTED UNDERDRAIN PIPE TRENCH DETAIL



PROJECT: DA494019.00		HOME OFFICE MINE		 Schnabel ENGINEERING 6445 Shiloh Road, Suite A / Alpharetta, GA 30005 / Phone: 770-781-8008 / Fax: 770-781-8003 / schnabel-eng.com		1 FOR REVIEW		SMR 5-31-23					
DATE: ----		NORTH UNDERDRAIN EXTENSION											
SHEET 6 OF 6		DETAILS				DESIGNED BY: SAR		DRAWN BY: ITR		CHECKED BY: ----			
						SUSAN A. RAINEY							
						DATE: _____							
						STATE PROFESSIONAL ENGINEER NO. XXXXX				REV		DESCRIPTION	
												DATE	