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DESCRIPTION

TITLE SHEET

LEGEND

PROFILE

SITE PLAN

BORE LOG(S) SOIL TEST RESULTS SITE PHOTOGRAPH

SHEET NO.

5-6

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STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION **DIVISION OF HIGHWAYS** GEOTECHNICAL ENGINEERING UNIT

STRUCTURE SUBSURFACE INVESTIGATION

COUNTY WAYNE

PROJECT DESCRIPTION BRIDGE NO. 264 ON SR 1117 (THUNDER SWAMP RD.) OVER THUNDER SWAMP STATE PROJECT REFERENCE NO. 8 B-4840

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 1991 707-6805. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

CENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABDRATORY SAMPLE DATA AND THE IN SITU (IM-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS NIDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS INTO COLLIBATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISTY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

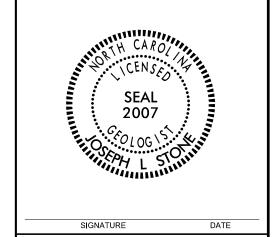
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 1. THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.

 2. BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

_	NCDOT PERSONNEL
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INVESTIGATED BY	NCDOT
DRAWN BY	L. STONE PG
CHECKED BY	S. HUDSON PG
SUBMITTED BY _	J.L. STONE PG
DATE AUGU	ST 2018





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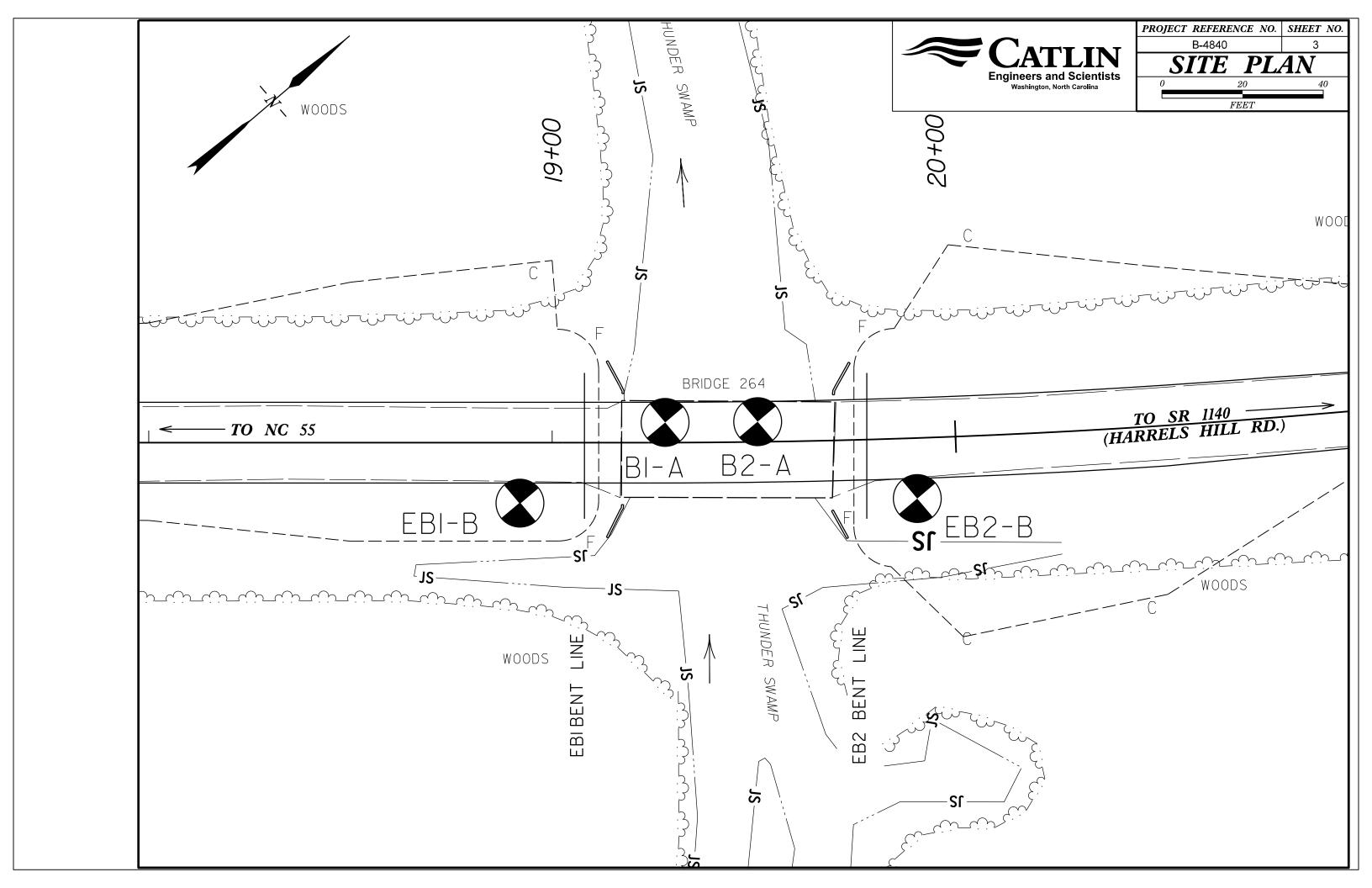
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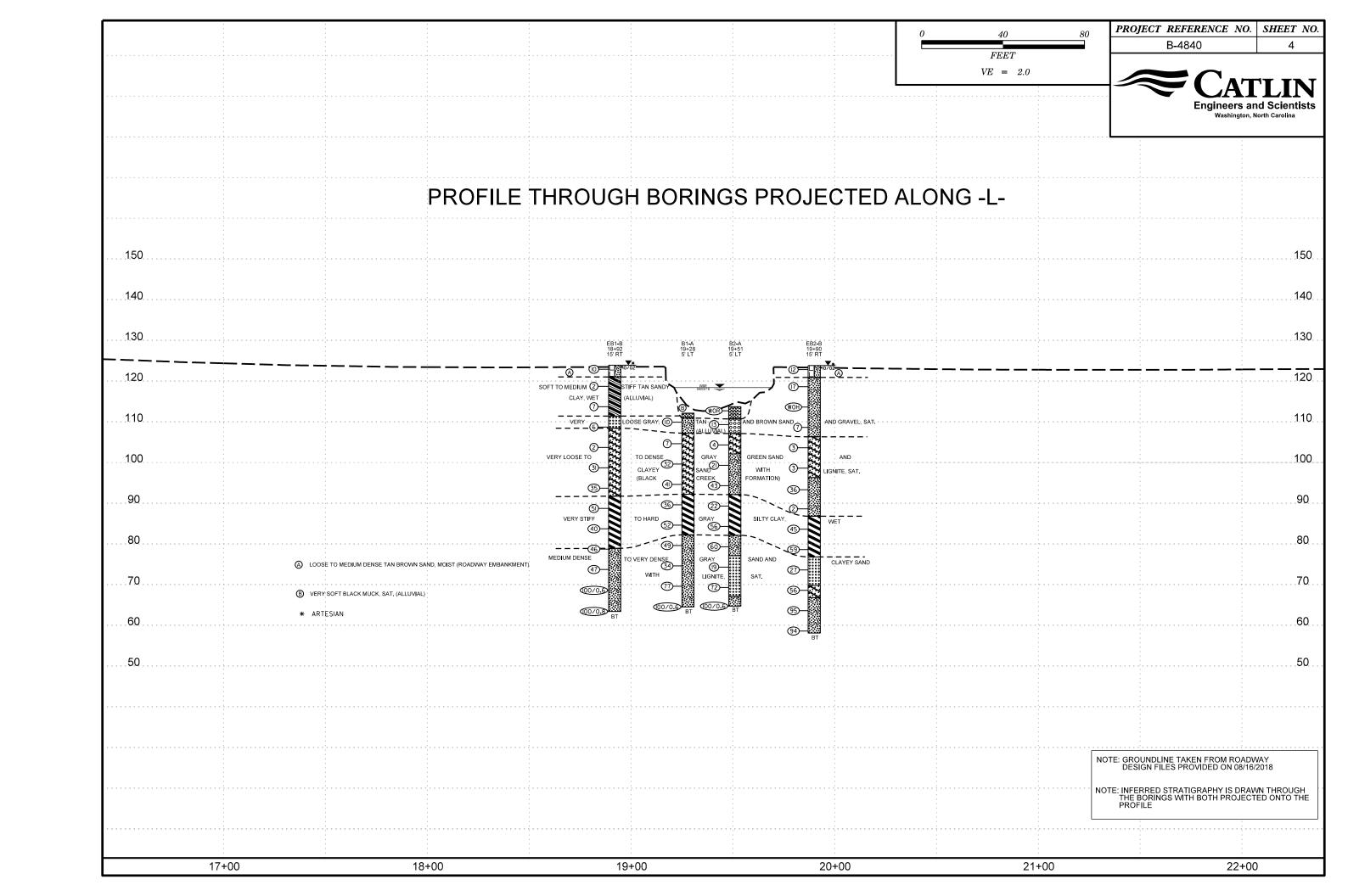
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

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SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT	WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.	HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION	<u>UNIFORMLY GRADED</u> - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. <u>GAP-GRADED</u> - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.	SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60	AQUIFER - A WATER BEARING FORMATION OR STRATA.
IS BASED ON THE AASHTO SYSTEM, BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH	ANGULARITY OF GRAINS	BLOWS IN NON-COASTAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE,	THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS:	ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:	ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING
VERY STIFF.GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6 SOIL LEGEND AND AASHTO CLASSIFICATION	ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.	WEATHERED NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > ROCK (WR) 100 BLOWS PER FOOT IF TESTED.	A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.
CENERAL CRANIII AR MATERIALS SILT-CLAY MATERIALS	MINERALOGICAL COMPOSITION	FINE TO COARSE CRAIN IGNEOUS AND METAMORPHIC ROCK THAT	ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND
CLASS. (\$35% PASSING *200) (>35% PASSING *200) ORGANIC MATERIALS	MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC.	PROCE (CB). WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE,	SURFACE.
GROUP A-1 A-3 A-2 A-4 A-5 A-6 A-7 A-1, A-2 A-4, A-5	ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.	UNE ISS, GABBRU, SCHIST, ETC.	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
CLASS. A-1-6 A-1-6 A-2-4 A-2-5 A-2-6 A-2-7 A-7-6 A-3 A-6, A-7	COMPRESSIBILITY	NON-CRYSTALLINE ROCK (NCR) SEDIMENTARY ROCK THAT WOULD VEILD SET REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
SYMBOL 0000 d00000 0000000000000000000000000	SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50	COASTAL PLAIN COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD	CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED
% PASSING SILT-	HIGHLY COMPRESSIBLE LL > 50	SEDIMENTARY ROCK SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED (CP) SHELL BEDS, ETC.	BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
*10 50 MX GRANULAR CLAY MUCK, SOILS SOILS PEAT	PERCENTAGE OF MATERIAL	WEATHERING	DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT
*200 15 MX 25 MX 10 MX 35 MX 35 MX 35 MX 35 MX 35 MX 36 MN 36 MN 36 MN 36 MN 36 MN 36 MN	GRANULAR SILT - CLAY ORGANIC MATERIAL SOILS SOILS OTHER MATERIAL	FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER	ROCKS OR CUTS MASSIVE ROCK.
MATERIAL	TRACE OF ORGANIC MATTER 2 - 3% 3 - 5% TRACE 1 - 10% LITTLE ORGANIC MATTER 3 - 5% 5 - 12% LITTLE 10 - 20%	HAMMER IF CRYSTALLINE.	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
PASSING *40 40 MX 41 MN	MODERATELY ORGANIC 5 - 10% 12 - 20% SOME 20 - 35%	VERY SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, (V SLI.) CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF	DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE
PI 6 MX NP 10 MX 10 MX 11 MN 11 MN 10 MX 10 MX 11 MN 11 MN 11 MN MOREPATE HIGHLY	HIGHLY ORGANIC > 10% > 20% HIGHLY 35% AND ABOVE	OF A CRYSTALLINE NATURE.	LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
GROUP INDEX 0 0 0 4 MX 8 MX 12 MX 16 MX NO MX AMOUNTS OF SOLIS	GROUND WATER	SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO	FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
USUAL TYPES STONE FRAGS. FINE SILTY OR CLAYEY SILTY CLAYEY MATTER	▼ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING	(SLI.) 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
OF MAJOR GRAYEL, AND SAND GRAYEL AND SAND SOILS SOILS	STATIC WATER LEVEL AFTER 24 HOURS	MODERATE SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM
CEN RATING FAIR TO	<u> </u>	(MOD.) GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS	PARENT MATERIAL.
AS SUBGRADE EXCELLENT TO GOOD FAIR TO POOR POOR UNSUITABLE	SPRING OR SEEP	DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.	FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ;PI OF A-7-6 SUBGROUP IS > LL - 30	-	MODERATELY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE
CONSISTENCY OR DENSENESS	MISCELLANEOUS SYMBOLS	SEVERE AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH (MOD. SEV.) AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK.	FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
PRIMARY SOIL TYPE COMPACTNESS OR RANGE OF STANDARD RANGE OF UNCONFINED PENETRATION RESISTENCE COMPRESSIVE STRENGTH	ROADWAY EMBANKMENT (RE) 25/025 DIP & DIP DIRECTION	IF TESTED, WOULD YIELD SPT REFUSAL	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO
CONSISTENCY (N-VALUE) (TONS/FT ²)	₩ITH SOIL DESCRIPTION → OF ROCK STRUCTURES	SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT	ITS LATERAL EXTENT.
GENERALLY VERY LOOSE < 4 LOOSE 4 TO 10	SOIL SYMBOL SOIL SYMBOL SOIL SYMBOL SPT ONT TEST BORING INSTALLATION	(SEV.) REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN.	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
GRANULAR LOOSE 4 TO 10 GRANULAR MEDIUM DENSE 10 TO 30 N/A MATERIAL MEDIUM DENSE 10 TO 30 N/A	M 1	IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF	MOTILED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS, MOTILING IN SOILS
DENSE	ARTIFICIAL FILL (AF) OTHER HOUSE BORING CONE PENETROMETER THAN ROADWAY EMBANKMENT AUGER BORING CONE PENETROMETER	VERY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE	USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
VERY DENSE	INFERRED SOIL BOUNDARY - CORE BORING SOUNDING ROD	SEVERE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK (V SEV.) REMAINING, SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
GENERALLY SOFT 2 TO 4 0.25 TO 0.5	MW - TECT DODING	VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. <u>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</u>	RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
SILT-CLAY MEDIUM STIFF 4 TO 8 0.5 TO 1.0 MATERIAL STIFF 8 TO 15 1 TO 2	INFERRED ROCK LINE MONITORING WELL WITH CORE	COMPLETE ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS	ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF
(COHESIVE) VERY STIFF 15 TO 30 2 TO 4	TTT ALLUVIAL SOIL BOUNDARY A PIEZOMETER INSTALLATION - SPT N-VALUE	ALSO AN EXAMPLE.	ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
HARD > 30 > 4		ROCK HARDNESS	SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT
TEXTURE OR GRAIN SIZE	RECOMMENDATION SYMBOLS	VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES	ROCK.
U.S. STD. SIEVE SIZE 4 10 40 60 200 270	□ UNCLASSIFIED EXCAVATION - □ UNCLASSIFIED EXCAVATION -	SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.	SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND
	UNDERCOT AND UNDERCOT AND TO BE		DELATIVELY THIN COMPARED WITH ITS LATERAL EVIENT THAT HAS BEEN EMPLACED BARALLEL TO
OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053	UNDERCOT UNSUITABLE WASTE	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED	RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053 BOULDER COBBLE GRAYEL COARSE FINE SILT CLAY (PLDR) COB (CR) SAND SAND (CL) (CL)	UNDERCUT UNSUITABLE WASTE SHALLOW UNDERCUT UNDERCUT	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. <u>SLICKENSIDE</u> - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT
OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053 BOULDER (BLDR.) COBBLE (COB.) GRAVEL (GR.) COARSE SAND SAND SAND (CSL.) SILT CLAY (CL.)	UNDERCUT UNSUITABLE WASTE SHALLOW UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL ABBREVIATIONS	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD EXCAPATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. <u>SLICKENSIDE</u> - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.
OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053 BOULDER (BLDR.) COBBLE (COB.) GRAVEL (GR.) COARSE SAND (CSE. SD.) FINE SAND (F. SD.) SILT (SL.) CLAY (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005	UNDERCUT UNSUITABLE WASTE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL ABBREVIATIONS AR - AUGER REFUSAL UNDERCUT UNDERCUT UNDERCUT USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL ABBREVIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK, COUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF
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OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053 BOULDER (BLDR.) COBBLE (COB.) GRAVEL (GR.) COARSE SAND (CSE. SD.) FINE SAND (F SD.) SILT (SL.) CLAY (CL.) GRAIN MM 305 75 SIZE IN. 12 3 75 2.0 0.25 0.05 0.005 0.005 SOIL MOISTURE - CORRELATION OF TERMS	UNDERCUT UNSUITABLE WASTE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL ACCEPTABLE DEGRADABLE ROCK ABBREVIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST WEA WEATHERED MICA MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST NP - NON PLASTIC 76 - DRY UNIT WEIGHT	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB, HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER, SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053 BOULDER (BLDR.) COBBLE (COB.) GRAVEL (GR.) COARSE SAND (CSE. SD.) FINE SAND (F SD.) SILT (SL.) CLAY (CL.) GRAIN MM 305 75 2.0 0.25 0.25 0.05 0.005 SIZE IN. 12 3 3 0.25 0.25 0.05 0.005	UNDERCUT UNSUITABLE WASTE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL ACCEPTABLE DEGRADABLE ROCK SHALLOW UNDERCUT UNDERCUT ACCEPTABLE DEGRADABLE ROCK ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS MEA WEATHERED CL CLAY MOD MODERATELY CPT - COME PENETRATION TEST NP - NON PLASTIC CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST MICH TOP 3 FEET OF EMBANKMENT OR BACKFILL VST - VANE SHEAR TEST WEA WEATHERED 7/- UNIT WEIGHT CSE COARSE ORG ORGANIC SAMPLE ABBREVIATIONS	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD EXCAVATED BY KNIFE OR PICK, GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT, HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REDUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL
DPENING (MM)	UNDERCUT UNSUITABLE WASTE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL ACCEPTABLE DEGRADABLE ROCK ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST NP - NON PLASTIC CSE COARSE ORG ORGANIC DHT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST OPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC SF - BUKE JACCETABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL VEA WEATHERED VEA W	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK, GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH DUTSIDE DIAMETER SPLIT SPOON SAMPLER, SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SPEC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL
DPENING (MM)	UNDERCUT UNSUITABLE WASTE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL ACCEPTABLE DEGRADABLE ROCK SHALLOW UNDERCUT UNDERCUT ACCEPTABLE DEGRADABLE ROCK ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS MEA WEATHERED CL CLAY MOD MODERATELY CPT - COME PENETRATION TEST NP - NON PLASTIC CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST MICH TOP 3 FEET OF EMBANKMENT OR BACKFILL VST - VANE SHEAR TEST WEA WEATHERED 7/- UNIT WEIGHT CSE COARSE ORG ORGANIC SAMPLE ABBREVIATIONS	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK, COUGES OR GROOVES TO 08.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 08.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE, CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES 1 INCH	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB, HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
DPENING (MM)	SHALLOW UNDERCUT UNSUITABLE WASTE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL ABBREVIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST MEA WEATHERED MICA MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY CT UNIT WEIGHT CSE COARSE ORG ORGANIC DT ONDER PENETRATION TEST NP - NON PLASTIC CSE COARSE ORG ORGANIC DT DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK SP SUIL SILT, SILTY ST SHELBY TUBE FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT, SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY
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DPENING (MM)	SHALLOW UNDERCUT UNSUITABLE WASTE UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK ABBREVIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST BORING TERMINATED MICA MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY 7- UNIT WEIGHT CPT - COMP PENETRATION TEST NP - NON PLASTIC CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST PMT - PRESSUREMETER TEST DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK D- VOID RATIO F - FINE SL SILT, SILTY ST - SHELBY TUBE FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK FRAC FRACTURED, FRACTURES TRIAXIAL RT - RECOMPACTED TRIAXIAL	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK, COUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING BEDDING IERM THICKNESS	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. JOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: CHISELED SQUARE IN WHEEL GUARD
DPENING (MM)	UNDERCUT UNSUITABLE WASTE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL ACCEPTABLE DEGRADABLE ROCK ABBREVIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST WEA WEATHERED CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST NP - NON PLASTIC CSE COARSE ORG ORGANIC DIATOMETER TEST PHT - PRESSURMETER TEST OF CSE COARSE ORG ORGANIC DIATOMETER TEST SAP SAPROLITIC S - BULK OP - VOID RATIO SD SAND, SANDY SS - SPLIT SPOON F - FINE SL SILT, SILTY ST - SHELBY TUBE FRACT FRACTURED, FRACTURES TCR - TRICONE REFUSAL RT - RECOMPACTED TRIAXIAL FRACS FRAGMENTS W - MOISTURE CONTENT COR - CALIFORNIA BEARING	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK, GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT, SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE, CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDEND THICKNESS VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDEND THICKNESS	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH DUTSIDE DIAMETER SPLIT SPOON SAMPLER, SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF STRATA MAD EXPRESSED AS A PERCENTAGE. TOPSOIL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: CHISELED SQUARE IN WHEEL GUARD -L- STA. 19+88 12'LT
DPENING (MM)	SHALLOW UNDERCUT UNSUITABLE WASTE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL ABBREVIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST MED MEDIUM WEAL - WEATHERED MICA MICACEOUS WEAL - WEATHERED CL CLAY MOD MODERATELY 7 - UNIT WEIGHT CSE COARSE ORG ORGANIC DT - DILATOMETER TEST DT - DYNAMIC PENETRATION TEST NP - NON PLASTIC CSE COARSE ORG ORGANIC DT - DILATOMETER TEST PMT - PRESSUREMETER TEST DT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK E - VOID RATIO SD SAND, SANDY SS - SPLIT SPOON F - FINE SL SILT, SILTY ST - SHELBY TUBE FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK FRAC FRACTURED, FRACTURES TCR - TRICOME REFUSAL RT - RECOMPACTED TRIAXIAL FRACS FRAGMENTS W - MOISTURE CONTENT CBR - CALIFORNIA BEARING HI HIGHLY V - VERY RATIO BRILL UNITS: ADVANCING TOOLS: HAMMER TYPE:	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK, COUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT, SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE, CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING VERY WIDE MORE THAN 10 FEET WIDE MODERATELY CLOSE 1 TO DETACH HAND SPECT THICKLY BEDDED 0.16 - 1.5 FEET	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: CHISELED SOUARE IN WHEEL GUARD -L - STA, 19+88 12' LT ELEVATION: 125.0 FEET
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DPENING (MM)	UNDERCUT UNDERCUT SHALLOW UNDERCUT ACCEPTABLE DEGRADABLE ROCK ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MCA MED- MEDIUM MCA MICACCOUS MCA MICACCOUS MCA MICACCOUS MCA MICACCOUS MCA WEATHERED CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OMC ORGANIC DMT - DILATOMETER TEST DMT - DULATOMETER TEST DMT - DILATOMETER TEST DMT - SHAND, SANDY SS - SPLIT SPOON SS - SPLIT SPOO	CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE, CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES 1 INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE, CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM VERY WIDE MORE THAN 10 FEET WIDE 3 TO 10 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 0.16 - 1.5 FEET CLOSE 0.16 TO 1 FOOT VERY THINLY BEDDED 0.03 - 0.16 FEET THINLY BEDDED 0.03 - 0.16 FEET THINLY LAMINATED 0.0008 FEET INDURATION FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. RUBBING WITH FINGER FREES NUMBEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: CHISELED SOUARE IN WHEEL GUARD -L - STA, 19+88 12' LT ELEVATION: 125.0 FEET
DPENING (MM)	UNDERCUT UNDERCUT SHALLOW UNDERCUT UNDERCUT ACCEPTABLE DEGRADABLE ROCK ACCEPTABLE DEGRADABLE ROCK ACCEPTABLE DEGRADABLE ROCK ACCEPTABLE DEGRADABLE ROCK ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MCA MICACEOUS WEA WEATHERED CL CLAY MOD MEDIUM WST - VANE SHEAR TEST WEA WEATHERED - VOID RATIO CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST DMT - POLLATOMETER TEST DMT - DILATOMETER TEST DMT - STILL TORSE SOL - SAPPOLITIC S - BULK S - BULK S - BULK S - SPLIT SPOON S - ROCK FRAC FRACTURED, FRACTURES TOR - TRICONE REFUSAL RATIO EQUIPMENT DRILL UNITS: CME-45C CME-45C CLAY BITS WAND ADVANCER B* HOLLOW AUGERS B* HOLLOW AUGERS WADVANCER WADVANCER HAND TOOLS: HAND TOOLS: POST HOLE DIGGER HAND TOOLS: POST HOLE DIGGER HAND TOOLS: POST HOLE DIGGER HAND AUGER TRICONE TINGO-CARB. COURTINE DOOL COURTINE DOOL COURTINE DOOL COURTINE DOOLS: POST HOLE DIGGER HAND AUGER TRICONE TINGO-CARB.	CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK, COUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT, SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARPED WITH KNIFE, CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES 1 INCH OR MODE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING VERY WIDE MODERATELY CLOSE 1 TO 3 FEET MODERATELY CLOSE 1 TO 3 FEET MODERATELY CLOSE 1 TO 3 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY LAMINATED VERY TILCKLY BEDDED 0.03 - 0.03 - 0.03 FEET THICKLY LAMINATED VERY CLOSE LESS THAN 0.16 FEET THICKLY LAMINATED VERY CLOSE LESS THAN 0.16 FEET THICKLY LAMINATED VERY LAMINATED TO SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; INDURATED INDURATED CRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE;	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB, HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: CHISELED SOUARE IN WHEEL GUARD -L - STA, 19+88 12' LT ELEVATION: 125.0 FEET





PROJECT REFERENCE NO. SHEET GEOTECHNICAL BORING REPORT CATLIN Engineers and Scientists B-4840 5 **BORE LOG** COUNTY: WAYNE COUNTY: WAYNE **WBS:** 17BP.4.R.91 **TIP**: B-4840 **GEOLOGIST:** KEVIN B. MILLER WBS: 17BP.4.R.91 **TIP:** B-4840 **GEOLOGIST:** KEVIN B. MILLER **GROUND WTR (ft)** SITE DESCRIPTION BRIDGE NO. 264 ON -L- (SR 1117) OVER THUNDER SWAMP AT -L- STA. 19+43 SITE DESCRIPTION BRIDGE NO. 264 ON -L- (SR 1117) OVER THUNDER SWAMP AT -L- STA. 19+43 **GROUND WTR (ft) BORING NO.:** EB1-B **STATION**: 18+92 OFFSET: 15 ft RT ALIGNMENT: -L-**STATION**: 19+28 OFFSET: 5 ft LT ALIGNMENT: -L-0 HR. N/A BORING NO.: B1-A 0 HR. N/A **NORTHING:** 531,937 **EASTING**: 2,266,254 COLLAR ELEV.: 123.9 ft TOTAL DEPTH: 60.5 ft **NORTHING:** 531,897 **EASTING:** 2,266,246 24 HR. ARTESIAN COLLAR ELEV.: 112.1 ft TOTAL DEPTH: 47.6 ft 24 HR. N/A DRILL RIG/HAMMER EFF./DATE: B-47 **DRILL METHOD:** Mud Rotary **HAMMER TYPE:** MANUAL DRILL RIG/HAMMER EFF./DATE: B-47 DRILL METHOD: Mud Rotary HAMMER TYPE: MANUAL DRILLER: LWD **START DATE:** 10/23/02 COMP. DATE: 10/24/02 SURFACE WATER DEPTH: N/A **DRILLER:** LWD **START DATE:** 10/23/02 COMP. DATE: 10/24/02 SURFACE WATER DEPTH: 6.8ft ELEV DRIVE DEPTH BLOW COUNT ELEV DRIVE DEPTH **BLOW COUNT** BLOWS PER FOOT **BLOWS PER FOOT** SOIL AND ROCK DESCRIPTION SOIL AND ROCK DESCRIPTION RESULT (ft) (ft) RESULT 0.5ft 0.5ft 0.5ft 0.5ft 0.5ft 0.5ft 75 100 MOI G 75 100 (ft) ELEV. (ft) DEPTH (ft (ft) 115 GROUND SURFACE 123.9 ROADWAY EMBANKMENT **GROUND SURFACE** TAN BROWN SAND, MOIST ALLUVIAL BLACK MUCK, SAT. 110.9 ALLUVIAL 120 110 119.7 -SS-8 TAN SANDY CLAY, MOIST TO WET A-2-4(0 GRAY SAND, SAT. SS-14 A-6(2) COASTAL PLAIN GRAY CLAYEY SAND WITH LIGNITE, SAT. (BLACK CREEK FORMATION) 115 114.7 SS-9 A-2-6(0100.6 + 11.5 TAN SAND, SAT. 110 109.7 14 SS-15 A-3(0) COASTAL PLAIN GRAY CLAYEY SAND WITH LIGNITE, SAT. (BLACK CREEK FORMATION) 95.6 + 16.5 105 104.7 + 19.2 SS-16 A-2-6(0 A-2-6(0) 90.6 100 15 99.7 + 24.2 SS-11 A-7-5(6) 85.6 + 26.5 26 A-2-6(0) GRAY SILTY CLAY, WET 32.2 GRAY SAND, SAT. 25 24 89.7 -SS-18 A-7-6(22) 75.6 + 36.5 14 20 16 24 28 79.7 SS-13 20 GRAY SAND, SAT, A-7-5(16) 65.6 75 52 48/0.1 74.7 BORING TERMINATED AT ELEVATION SS-20 64.5 ft IN VERY DENSE SAND 69.7 + 54.2 22 33 67/0.1 64.7 + 59.2 30 45 55/0.3 SS-21 BORING TERMINATED AT ELEVATION 63.4 ft IN VERY DENSE SAND ARTESIAN HEAD ELEVATION = 126.6'

PROJECT REFERENCE NO. SHEET GEOTECHNICAL BORING REPORT CATLIN Engineers and Scientists B-4840 6 **BORE LOG** COUNTY: WAYNE COUNTY: WAYNE **WBS:** 17BP.4.R.91 **TIP**: B-4840 **GEOLOGIST:** KEVIN B. MILLER **WBS:** 17BP.4.R.91 **TIP:** B-4840 **GEOLOGIST:** KEVIN B. MILLER **GROUND WTR (ft)** SITE DESCRIPTION BRIDGE NO. 264 ON -L- (SR 1117) OVER THUNDER SWAMP AT -L- STA. 19+43 SITE DESCRIPTION BRIDGE NO. 264 ON -L- (SR 1117) OVER THUNDER SWAMP AT -L- STA. 19+43 **GROUND WTR (ft)** BORING NO.: B2-A **STATION**: 19+51 OFFSET: 5 ft LT ALIGNMENT: -L-**STATION**: 19+90 OFFSET: 15 ft RT ALIGNMENT: -L-0 HR. N/A BORING NO.: EB2-B 0 HR. N/A **EASTING**: 2,266,268 **NORTHING:** 531,973 COLLAR ELEV.: 113.7 ft TOTAL DEPTH: 49.0 ft **NORTHING:** 531,955 COLLAR ELEV.: 123.8 ft TOTAL DEPTH: 65.7 ft **EASTING:** 2,266,308 24 HR. ARTESIAN 24 HR. N/A DRILL RIG/HAMMER EFF./DATE: B-47 **DRILL METHOD:** Mud Rotary HAMMER TYPE: MANUAL DRILL RIG/HAMMER EFF./DATE: B-47 DRILL METHOD: Mud Rotary HAMMER TYPE: MANUAL DRILLER: LWD **START DATE:** 10/22/02 COMP. DATE: 10/23/02 SURFACE WATER DEPTH: 5.8ft **DRILLER:** LWD **START DATE:** 10/28/02 COMP. DATE: 10/29/02 SURFACE WATER DEPTH: N/A ELEV DRIVE DEPTH BLOW COUNT ELEV DRIVE DEPTH **BLOW COUNT** BLOWS PER FOOT **BLOWS PER FOOT** SAMP. # SOIL AND ROCK DESCRIPTION SOIL AND ROCK DESCRIPTION RESULT (ft) (ft) RESULT 0.5ft 0.5ft 0.5ft 0.5ft 0.5ft 0.5ft 75 100 MOI G 75 100 (ft) ELEV. (ft) DEPTH (ft (ft) 125 **GROUND SURFACE GROUND SURFACE** 123.8 113.7 + 0.0 WOR WOR WOR ROADWAY EMBANKMENT ALLUVIAL BLACK MUCK, SAT. TAN BROWN SAND, MOIST 110 110.3 120 ----ALLUVIAL TAN SAND AND GRAVEL, SAT. 119.6 -GRAY TAN AND BROWN SAND, SAT. A-2-4(0 COASTAL PLAIN 105.3 GRAY SAND AND CLAYEY SAND WITH 115 114.6 + 9.2 SS-2 LIGNITE, SAT. (BLACK CREEK WOH WOH WOH SS-23 A-2-6(0) FORMATION) A-2-4(0 100 100.3 13.4 110 109.6 + 14.2 SS-3 SS-24 A-2-4(0) COASTAL PLAIN 19 104.6 + 19.2 GRAY GREEN SAND AND CLAYEY SAND WITH LIGNITE, SAT. (BLACK CREEK SS-25 A-2-6(0 FORMATION) GRAY SILTY CLAY, WET 90 90.3 7 23.4 100 99.6 SS-4 A-7-5(23 85.3 94.6 + 29.220 14 22 A-2-4(0 GRAY SAND, SAT. 80.3 90 25 35 89.6 A-2-4(0)36.6 GRAY SILTY CLAY, WET _____ 37.0 75.3 SS-6 19 26 SS-27 A-7-6(0) 70.3 † 43.4 30 42 79.6 + 44.2 46.6 GRAY SAND AND CLAYEY SAND WITH 65.3 + 48.4 75 BORING TERMINATED AT ELEVATION SS-28 A-3(0) 64.7 ft IN VERY DENSE SAND 14 42 SS-29 A-2-6(1 65 32 63 A-2-4(0 60 59.6 + 64.2 32 53 41 BORING TERMINATED AT ELEVATION 58.1 ft IN VERY DENSE SAND ARTESIAN HEAD ELEVATION = 124.6'

PROJECT REFERENCE NO.	SHEET NO.
B-4840	7

	EB1-B SOIL TEST RESULTS														
SAMPLE NUMBER OFF	OFFSET	STATION	DEPTH	AASHTO		ВΙ		% BY W	/EIGHT		% PASSING SIEVES			%	%
	OFFSET	STATION	INTERVAL	CLASS.	L.L.	P. I.	C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-14	15 ft RT	18+92	4.2 - 5.7	A-6(2)	33	14	22.8	40.3	8.7	28.2	100	90	41	-	-
SS-15	15 ft RT	18+92	14.2 - 15.5	A-3(0)	20	NP	54.6	36.6	0.7	8.1	83	60	9	-	-
SS-16	15 ft RT	18+92	19.2 - 20.7	A-2-6(0)	35	15	68.0	16.7	1.1	14.1	95	50	16	-	-
SS-17	15 ft RT	18+92	29.2 - 30.7	A-2-6(0)	33	13	49.2	19.8	12.9	18.1	76	52	25	-	-
SS-18	15 ft RT	18+92	34.2 - 35.7	A-7-6(22)	60	32	1.0	39.9	24.8	34.3	100	99	69	49	-
SS-19	15 ft RT	18+92	44.2 - 45.4	A-7-5(16)	55	25	14.7	27.6	27.4	30.2	100	96	66	-	-
SS-20	15 ft RT	18+92	49.2 - 50.7	A-2-4(0)	22	NP	52.0	32.6	6.4	9.1	100	87	18	-	-
SS-21	15 ft RT	18+92	59.2 - 60.5	A-2-4(0)	22	NP	50.8	39.5	4.6	5	100	81	12	-	-

	B1-A SOIL TEST RESULTS														
SAMPLE	OFFSET	STATION	DEPTH	AASHTO	L.L.	ВΙ		% BY W	% PASSING SIEVES			%	%		
NUMBER	OFFSET	STATION	INTERVAL	CLASS.		P. I.	C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-8	5 ft LT	19+28	1.2 - 2.7	A-2-4(0)	21	NP	30.4	61.6	1.9	6	100	96	13	-	-
SS-9	5 ft LT	19+28	6.5 - 8.0	A-2-6(0)	36	14	59.5	19.8	4.6	16.1	94	55	20	-	-
SS-10	5 ft LT	19+28	16.5 - 18.0	A-2-6(0)	32	14	53.2	20.8	7.9	18.1	90	60	25	-	-
SS-11	5 ft LT	19+28	21.5 - 23.0	A-7-5(60)	97	64	1.8	27.4	24.4	46.4	100	99	83	52	-
SS-12	5 ft LT	19+28	31.5 - 33.0	A-2-4(0)	18	NP	64.4	28.0	3.5	4	100	81	11	-	-
SS-13	5 ft LT	19+28	41.5 - 43.0	A-2-4(0)	21	NP	65.5	23.7	4.7	6	100	74	12	-	-

	B2-A SOIL TEST RESULTS														
SAMPLE	OFFSET	STATION	DEPTH	AASHTO	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			%	%
NUMBER		OTATION	INTERVAL	CLASS.	L.L.	F . I.	C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-1	5 ft LT	19+51	3.4 - 4.9	-	-	-	87.9	5.8	0.2	6	81	19	5	-	_
SS-2	5 ft LT	19+51	8.4 - 9.9	A-2-6(0)	36	14	59.7	21.0	7.3	12.1	96	56	20	-	-
SS-3	5 ft LT	19+51	13.4 - 14.9	A-2-4(0)	29	10	55.8	22.6	5.4	16.1	97	66	23	-	-
SS-4	5 ft LT	19+51	23.4 - 24.9	A-7-5(23)	60	30	6.7	28.2	22.8	42.3	96	93	73	54	-
SS-5	5 ft LT	19+51	33.4 - 34.9	A-2-4(0)	23	NP	43.8	39.7	6.5	10.1	100	90	20	-	-
SS-6	5 ft LT	19+51	38.4 - 39.9	A-3(0)	17	NP	75.9	18.3	0.7	5	100	74	6	-	-
SS-7	5 ft LT	19+51	48.4 - 49.0	A-2-4(0)	24	NP	44.2	42.8	5.9	7.1	100	89	14	-	-

	EB2-B SOIL TEST RESULTS														
SAMPLE	OFFSET	STATION	DEPTH	AASHTO		P. I.		% BY W	EIGHT		% PASSING SIEVES			%	%
NUMBER	OIIOLI	OTATION	INTERVAL	CLASS.	L.L.	F. I.	C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-22	15 ft RT	19+90	4.2 - 5.7	A-2-4(0)	20	NP	19.7	66.6	5.7	8	100	94	20	-	-
SS-23	15 ft RT	19+90	9.2 - 10.7	A-2-4(0)	57	NP	16.9	59.8	15.3	8	100	92	27	-	-
SS-24	15 ft RT	19+90	14.2 - 15.7	A-2-4(0)	26	4	19.9	56.8	9.3	14	99	90	30	-	-
SS-25	15 ft RT	19+90	19.2 - 20.7	A-2-6(0)	35	16	61.4	21.3	9.3	8	98	59	19	-	-
SS-26	15 ft RT	19+90	29.2 - 30.7	A-2-4(0)	32	10	59.8	17.7	8.5	14	93	57	22	-	-
SS-27	15 ft RT	19+90	39.2 - 40.7	A-7-6(0)	52	25	2.6	35.3	22	40.1	100	99	71	55	-
SS-28	15 ft RT	19+90	49.2 - 50.7	A-3(0)	21	NP	73.2	19.0	2.8	5	100	75	8	-	-
SS-29	15 ft RT	19+90	54.2 - 55.7	A-2-6(1)	35	16	36.3	32.9	18.8	12	99	85	34	-	-
SS-30	15 ft RT	19+90	59.2 - 60.7	A-2-4(0)	21	NP	27.3	50.6	14.1	8	99	90	24	-	-

B-4840 8

SITE PHOTO

BRIDGE NO. 264 ON SR 1117 OVER THUNDER SWAMP



LOOKING EAST TOWARD END BENT 2