CONTRACT: C201776 ID: K-3807

NOTE: SEE SHEET 1A FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

CONTENTS

LINE	STATION	PLAN	PROFILE	XSECT
-L1-	10+00.00 to 39+00.00	4-6, 8	9-10	15-40
-L2-	10+21.17 to 20+04.02	5, 8	10	41-50
-L3-	10+00.00 to 59+50.00	5-8	11-12	51-88
-L4-	10+42.36 to 22+27.22	7	13	
-L5-	10+27.81 to 23+72.59	7	14	

SAMPLE SHEET (SHEET 89)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

ROADWAY SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 37331.1.1 K-3807 F.A. PROJ. STP-1306(15)

COUNTY RANDOLPH

PROJECT DESCRIPTION I-73/74 AND U.S. 220 BYPASS NORTHBOUND AND SOUTHBOUND REST AREAS SOUTH OF SEAGROVE

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	K-3807	1	89

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
37331.2.1	IMS-73(12)	P.E., R/W
37331.3.1	IMS-73(12)	CONSTR.

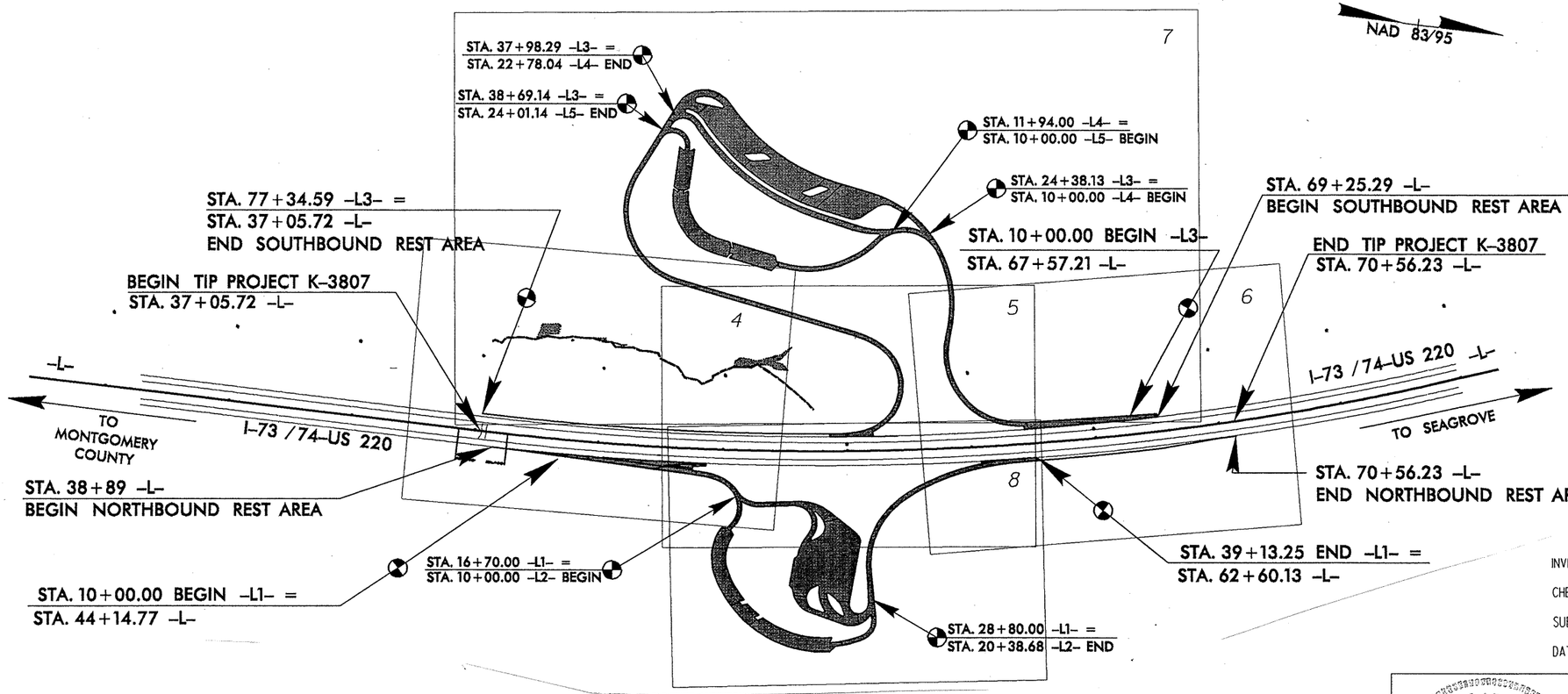
CAUTION NOTICE

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 (919) 250-4088. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

GENERAL 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 LABORATORY SAMPLE DATA AND THE IN SITU (IN-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 INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDIN 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 SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FC ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED BY THE SUBSURFACE INFORMATION.

NAD 83/95



PERSONNEL
J.K. STICKNEY
C.L. SMITH
T.C. McCALL

INVESTIGATED BY *J.E. BEVERLY*
CHECKED BY *C.B. LITTLE*
SUBMITTED BY *C.B. LITTLE*
DATE

NORTH CAROLINA LICENSED SEAL 3-10-99 GEOLOGIST CLINTON B. LITTLE

DRAWN BY: *J.K. McCLURE*

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

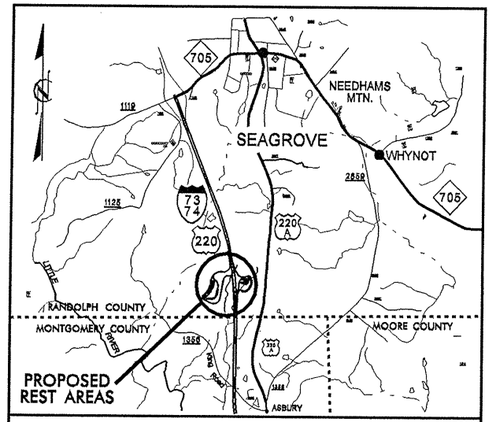
NOTE - BY HAVING REQUESTED THIS INFORMATION THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

09/08/99

TIP PROJ.: K-3807

PROJECT: 37331.1.1

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

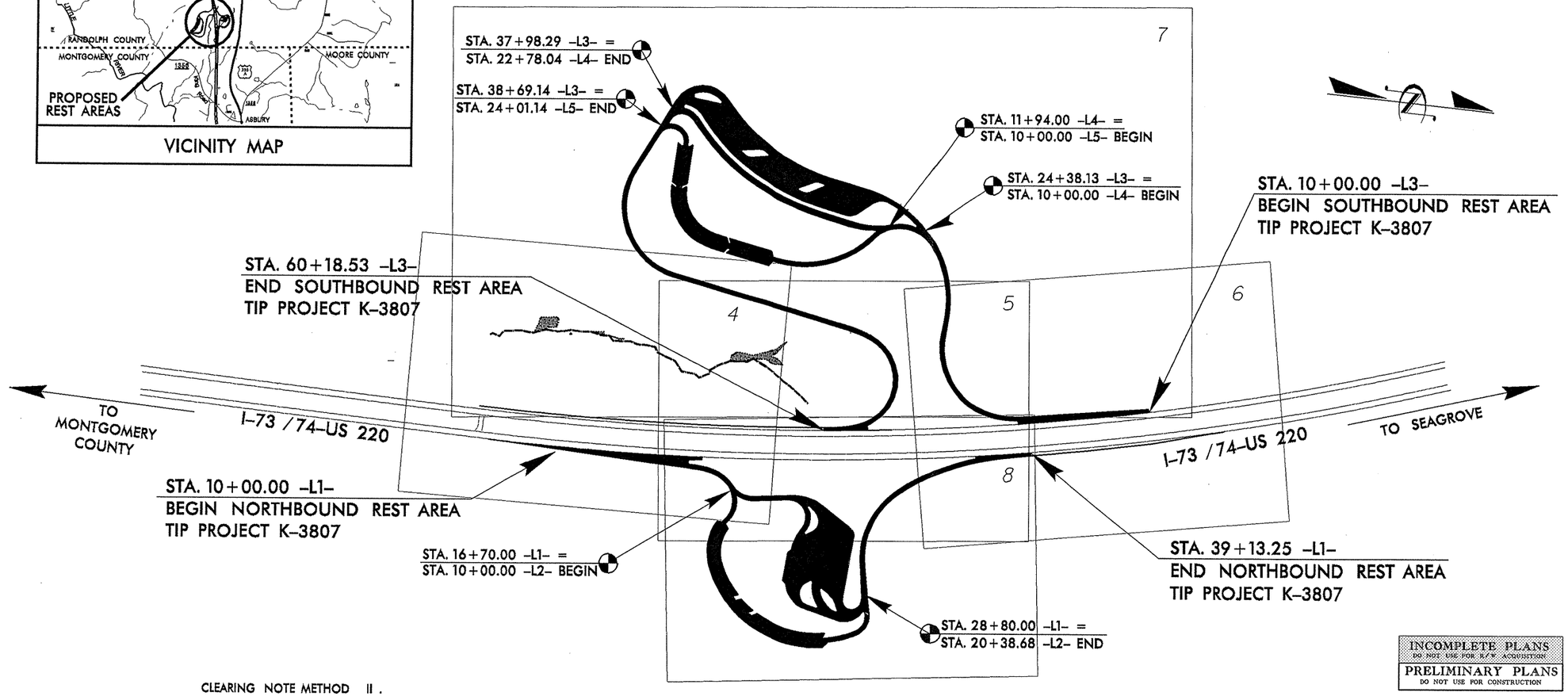
RANDOLPH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	K-3807	1A	89

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34911.1.1	STP-1306(15)	P.E., R/W

LOCATION: SOUTH OF SEAGROVE — I-73/74 AND U.S. 220 BYPASS NORTHBOUND AND SOUTHBOUND REST AREAS

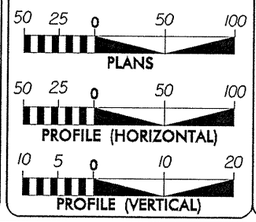
TYPE OF WORK: GRADING, DRAINAGE, PAVING, TRAFFIC CONTROL AND SIGNING



CLEARING NOTE METHOD II .

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2004 = n/a
ADT 2030 = 2,200
DHV = 11 %
D = 55 %
T = 35 % *
V = 30 MPH

* TTST 20% DUAL 15%

PROJECT LENGTH

LENGTH ROADWAY F.A.PROJECT STP-1306(8) = 4 MI
TOTAL LENGTH STATE PROJECT 34911JJ = 4 MI

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., NC 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
DECEMBER 16, 2005

LETTING DATE:
MAY 15, 2007

JIMMY GOODNIGHT
PROJECT ENGINEER

TIM GOINS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR *DATE*

18-JAN-2007 08:32
d:\projects\k3807_geo_rdwy_randolph\cadd_geotech\PlanProf\K3807_GEO_Inv_01A_rdy_tsh.dgn
jmccluree
AT GEH22410

PROJECT REFERENCE NO.	SHEET NO
K-3807	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

SOIL IS CONSIDERED TO BE THE 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 ACCORDING TO STANDARD PENETRATION TEST (AASHTO T206, ASTM D-1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE:

VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)					SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1		A-3	A-2		A-4	A-5	A-6	A-7	A-1, A-2 A-3	A-4, A-5 A-6, A-7	
	A-1-a	A-1-b		A-2-4	A-2-5 A-2-6 A-2-7				A-7-5 A-7-6			
SYMBOL												
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN 10 MX	35 MX	35 MX 35 MX 35 MX	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
LIQUID LIMIT PLASTIC INDEX	6 MX		NP	40 MX 10 MX	41 MN 10 MX 40 MX 10 MX 41 MN 11 MN	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
GROUP INDEX	0		0	0	4 MX	8 MX	12 MX	16 MX	No MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND		SILTY SOILS		CLAYEY SOILS				
GEN. RATING AS A SUBGRADE	EXCELLENT TO GOOD					FAIR TO POOR				FAIR TO POOR	POOR	UNSUITABLE

PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE	<4	N/A
	LOOSE	4 TO 10	
	MEDIUM DENSE	10 TO 30	
	DENSE	30 TO 50	
	VERY DENSE	>50	
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT	<2	<0.25
	SOFT	2 TO 4	0.25 TO 0.50
	MEDIUM STIFF	4 TO 8	0.5 TO 1.0
	STIFF	8 TO 15	1 TO 2
	VERY STIFF	15 TO 30	2 TO 4
	HARD	>30	>4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE	4	10	40	60	200	270
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 SIZE	MM	305	75	2.0	0.25	0.05	0.005
	IN.	12	3				

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
LL — LIQUID LIMIT (PLASTIC RANGE (PI))	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
PL — PLASTIC LIMIT		
OM — OPTIMUM MOISTURE SL — SHRINKAGE LIMIT	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

PLASTICITY

	PLASTICITY INDEX (PI)	DRY STRENGTH
NONPLASTIC	0-5	VERY LOW
LOW PLASTICITY	6-15	SLIGHT
MED. PLASTICITY	16-25	MEDIUM
HIGH PLASTICITY	26 OR MORE	HIGH

COLOR

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

GRADATION

WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.
UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO POORLY GRADED)
GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LIQUID LIMIT LESS THAN 31
MODERATELY COMPRESSIBLE	LIQUID LIMIT EQUAL TO 31-50
HIGHLY COMPRESSIBLE	LIQUID LIMIT GREATER THAN 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%
MODERATELY ORGANIC	5 - 10%	12 - 20%
HIGHLY ORGANIC	>10%	>20%

OTHER MATERIAL	
TRACE	1 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
HIGHLY	35% AND ABOVE

GROUND WATER

- WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
- STATIC WATER LEVEL AFTER 24 HOURS
- PW — PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
- SPRING OR SEEP

MISCELLANEOUS SYMBOLS

- ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
- SOIL SYMBOL
- ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
- INFERRED SOIL BOUNDARY
- INFERRED ROCK LINE
- ALLUVIAL SOIL BOUNDARY
- 25/025 — DIP & DIP DIRECTION OF ROCK STRUCTURES
- SOUNDING ROD
- SPT CPT DPT DMT VST PMT — TEST BORING
- AUGER BORING
- CORE BORING
- MW — MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- SPT N-VALUE
- REF — SPT REFUSAL

SAMPLE DESIGNATIONS
S - BULK SAMPLE
SS - 9PLIT SPOON SAMPLE
ST - SHELBY TUBE SAMPLE
RS - ROCK SAMPLE
RT - RECOMPACTED TRIAXIAL SAMPLE
CBR - CALIFORNIA BEARING RATIO SAMPLE

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
CL. - CLAY
CPT - CONE PENETRATION TEST
CSE. - COARSE
DMT - DILATOMETER TEST
DPT - DYNAMIC PENETRATION TEST
e - VOID RATIO
F - FINE
FOSS. - FOSSILIFEROUS
FRAC. - FRACTURED, FRACTURES
FRAGS. - FRAGMENTS
HI. - HIGHLY
MED. - MEDIUM
MICA. - MICACEOUS
MOD. - MODERATELY
NP - NON PLASTIC
ORG. - ORGANIC
PMT - PRESSUREMETER TEST
SAP. - SAPROLITIC
SD. - SAND, SANDY
SL. - SILT, SILTY
SLI. - SLIGHTLY
TCR - TRICONE REFUSAL
w - MOISTURE CONTENT
V - VERY
VST - VANE SHEAR TEST
WEA. - WEATHERED
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] MOBILE B-___
- [ ] BK-51
- [ ] CME-45C
- [X] CME-550
- [ ] PORTABLE HOIST
- [ ] _____
- [ ] _____

ADVANCING TOOLS:
- [ ] CLAY BITS
- [X] 6" CONTINUOUS FLIGHT AUGER
- [X] 8" HOLLOW AUGERS
- [ ] HARD FACED FINGER BITS
- [X] TUNG.-CARBIDE INSERTS
- [ ] CASING [ ] W/ ADVANCER
- [ ] TRICONE _____" STEEL TEETH
- [ ] TRICONE _____" TUNG.-CARB.
- [ ] CORE BIT
- [ ] _____

HAMMER TYPE:
- [X] AUTOMATIC
- [ ] MANUAL

CORE SIZE:
- [ ] -B_____
- [ ] -N_____
- [ ] -H_____

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [ ] HAND AUGER
- [ ] SOUNDING ROD
- [ ] VANE SHEAR TEST
- [ ] _____

ROCK DESCRIPTION

HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT IF TESTED, WOULD YIELD SPT REFUSAL. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. IN NON-COASTAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.
ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:

WEATHERED ROCK (WR)	NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
CRYSTALLINE ROCK (CR)	FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
NON-CRYSTALLINE ROCK (NCR)	FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YEILD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
COASTAL PLAIN SEDIMENTARY ROCK (CP)	COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

WEATHERING

FRESH	ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
VERY SLIGHT (V SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
SLIGHT (SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MODERATE (MOD.)	SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.
MODERATELY SEVERE (MOD. SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. *IF TESTED, WOULD YIELD SPT REFUSAL*
SEVERE (SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. *IF TESTED, YIELDS SPT N VALUES > 100 BPF*
VERY SEVERE (V SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. *IF TESTED, YIELDS SPT N VALUES < 100 BPF*
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 ALSO AN EXAMPLE.

ROCK HARDNESS

VERY HARD	CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
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 SOFT	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	SPACING
VERY WIDE	MORE THAN 10 FEET
WIDE	3 TO 10 FEET
MODERATELY CLOSE	1 TO 3 FEET
CLOSE	0.16 TO 1 FEET
VERY CLOSE	LESS THAN 0.16 FEET

BEDDING

TERM	THICKNESS
VERY THICKLY BEDDED	> 4 FEET
THICKLY BEDDED	1.5 - 4 FEET
THINLY BEDDED	0.16 - 1.5 FEET
VERY THINLY BEDDED	0.03 - 0.16 FEET
THICKLY LAMINATED	0.008 - 0.03 FEET
THINLY LAMINATED	< 0.008 FEET

INDURATION

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF THE MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.

FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.

AQUIFER - A WATER BEARING FORMATION OR STRATA.

ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.

ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC.

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 SURFACE.

CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.

COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.

CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTA LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.

DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.

DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.

FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.

FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.

FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.

FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.

FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.

JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.

LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.

LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.

MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.

PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF A INTERVENING IMPERVIOUS STRATUM.

RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.

ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN A EXPRESSED AS A PERCENTAGE.

SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.

SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO 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 WIT 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 LENGT OF STRATUM AND EXPRESSED AS A PERCENTAGE.

STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY T TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.

TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK:

ELEVATION: FT

NOTES:

REVISED 02/23/06

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

P.O. BOX 25201, RALEIGH, N.C. 27611-5201

LYNDO TIPPETT
SECRETARY

February 16, 2007

STATE PROJECT:	37331.1.1 (K-3807)
F.A. PROJECT:	STP – 1306(15)
COUNTY:	Randolph
DESCRIPTION:	I-73/74 and US 220 Bypass Northbound and Southbound Rest Areas South of Seagrove
SUBJECT:	Geotechnical Report - Inventory

This report presents the findings of the Geotechnical Investigation for the proposed northbound and southbound rest areas along I-73/74 and US 220 bypass. The location of the rest areas is just north of the Montgomery County line and just south of the city of Seagrove. The site of the rest area is heavily wooded and is higher in elevation than much of the surrounding area. The northbound rest area is defined by alignments -L1- and -L2- where as the southbound rest area is defined by alignments -L3-, -L4-, and -L5-.

The geotechnical field investigation for this project was conducted between the months of May and October of 2006. An ATV mounted CME 550X drill machine with automatic drop hammer was utilized to perform test borings along the proposed corridor. The following survey lines, building locations, and hazardous spill basins are addressed in this inventory report:

Line	Station
-L1-	10+00 – 39+13.25
-L2-	10+00 – 20+38.68
-L3-	10+00 – 60+18.53
-L4-	10+00 – 22+78.04
-L5-	10+00 – 24+01.14
NBL Rest Area Buildings	Left of -L1- 22+00 – 22+50
SBL Rest Area Buildings	Right of -L5- 19+90 – 20+20
NBL Hazardous Spill Basin #1	-L2- 12+35, 97' RT
NBL Hazardous Spill Basin #2	-L2- 14+30, 99' RT
SBL Hazardous Spill Basin #1	-L3- 52+41, 33' LT
SBL Hazardous Spill Basin #2	-L3- 54+57, 92' LT

Sheet 2A

Areas of Special Geotechnical Interest:

1. *Groundwater:*

Groundwater was encountered sporadically throughout the course of this investigation. The majority of holes drilled were dry after 24 hours. Where groundwater was encountered it was generally deep within residual soils. Following are known instances where groundwater was found at or above proposed grade.

Alignment	Station Range
-L1-	28+00 – 32+00
-L2-	13+25 – 14+25
-L2-	15+25 – 15+75
-L3-	21+00 – 22+50

2. *Crystalline Rock:*

During the course of this investigation there were many instances where crystalline rock was encountered. Rock locations were generally defined by auger refusal. Elevations and depths where rock occurs are quite erratic across the site. Rock outcrops were noted sporadically across the site. The erratic rock line depicted on profiles and cross sections is likely due to the uneven weathering of the parent rock types and/or the presence of large boulders. Following is a list of areas where rock is known to occur at or above proposed grade.

Alignment	Station Range
-L1-	29+50 – 30+25
-L1-	30+75 – 31+25
-L1-	32+25 – 39+00
-L2-	14+25 – 16+60
-L3-	16+00 – 21+50

3. *High PI Soils:* (PI's 26 or greater)

Several instances of high PI clays were noted during this investigation. Most samples returning high PI values were obtained in the upper 6 feet of residual soils. PI values for clay soils range from 11 to 59. Known occurrences of high PI clays are as follows:

Station Location	Appx. Depth Interval (feet)	High PI Value/Range (26+)
-L1- 21+00 – 24+00	0 – 6	32 – 39
-L2- 10+00 – 13+00	5 – 18	37
-L2- 17+00 – 18+00	18 – 20	27
-L3- 18+10 – 21+00	0 – 6	29
-L3- 31+00 – 36+00	0 – 6	30
-L3- 41+00 – 59+50	0 – 6	26 – 59
-L4- 16+50 – 19+00	12 – 16 & 28 – 31	26

4. *Alluvial Soils / Wet Areas:*

There were few areas containing alluvial soils along the project corridor. No permanent creeks or streams bisect the project. There are several wet weather drainage features incised into the slopes at both NBL and SBL rest area locations. None of the drainage features or alluvial areas should be of special concern.

5. *Artificial Fill Soils:*

A large area of artificial fill exists within the NBL rest area. The fill is the result of an abandoned borrow pit that was dumped in for years by local residents. According to locals, the pit was originally dug as a borrow source during the construction of US 220. Afterward, the property owner opened up the land to the local population as a dumpsite and the hole was subsequently filled back in with a mixture of soil and debris. Nobody knows the exact contents of the fill however our test borings showed wood, nails, roofing tiles, tin, plastic, etc. The fill encompasses an area of approximately 16,000 square yards essentially in-between alignments -L1- and -L2-. Fill thickness varies but is know to be close to 30 feet deep in places. Proposed construction features impacted by the fill are the entrance ramps and parking areas along -L2- stations 15+00 – 18+75, and -L1- stations 17+60 – 19+50. Picnic and recreation areas as well as the rest area buildings will also fall within the fill area. An estimate of the fill extent is delineated on plan view sheet #8.

Physiography/Geology:

The project area is located in southern Randolph County just north of the Montgomery County border. The city of Seagrove lies just to the north. The proposed sites are along the top of a local hill range resulting in steeply sloping topography in much of the area. Steep side slopes were cut into the hills during construction for 4 lane US 220. Approximate elevation range is 650 – 770 feet across the site.

Geologically this site is part of the Carolina Slate Belt and is underlain by Cenozoic age felsic metavolcanic rock types.

Soil Properties:

1. *Residual Soils:*

These soils are derived from in place weathering of parent materials. They occur in a variety of consistencies, classifications, and stratigraphic sequences. For this project residual soils are further subdivided into clays, and silts. A classification for sand was not returned in any of our sample data.

Clays were the predominant soil type. They consist primarily of red-tan-brown-yellow medium stiff to stiff sandy silty clay in the AASHTO classifications of A-7-5, A-7-6, and A-6. In most instances clay soils are found throughout the stratigraphic column and appear to be well drained. Based on sample data the plasticity index ranges from 11 to 59 with a corresponding liquid limit range between 34 and 90.

Sheet 2B

Silts consist primarily of white-tan-yellow medium stiff to stiff clayey sandy silt in the AASHTO classifications of A-4 and A-5. Silts were also found throughout the stratigraphic column and were also well drained.

2. *Alluvial Soils:*

Only wet weather drainage features are present on this project. Therefore only 2 instances of alluvium were noted during this investigation. A boring in a small drainage feature between -L3- stations 56+80 and 57+55 encountered 6 feet of gray medium stiff and highly plastic (PI=59) silty clay (A-7-6). The second area lies at the bottom of the artificial fill in a boring located at -L2- station 16+60. Alluvium was encountered at a depth of 28 feet and consists of tan-brown stiff highly plastic (PI=54) silty clay (A-7-5) with root mat. Alluvium at this location is believed to be the result of a buried streambed.

3. *Fill Soils:*

A large area of artificial fill was encountered within the proposed limits of the NBL rest area. This area is described in more detail above. The fill is predominantly soil intermixed with various types of debris such as wood, various metal objects, plastic, roofing tiles, rock fragments and boulders. Soil type was determined to be a very soft to very stiff sandy clayey silt (A-4, A-5) and / or medium stiff to very stiff sandy silty clay (A-7-6). Fill depth is close to 30 feet in some instances.

Rock Properties:

The presence of rock was determined primarily by power auger refusal for this investigation. There were many locations where borings encountered rock at both shallow and deep intervals. The type of rock underlying this region is a felsic metavolcanic variety.

Hazardous Spill Basins:

Four proposed hazardous spill basins were investigated at the request of the NCDOT Hydraulics Unit. Soil at all 4 locations is residual in nature and comprised of stiff sandy silty clay (A-7-5) or stiff sandy silt (A-4). Rock was not encountered at any of these locations. Following is boring data at each of the proposed basins:

Location	Basin Target Elevation	Boring Elevation Achieved	Termination Notes
NBL:			
-L2- 12+35, 97' RT	690'	687.5'	stiff clay (A-7-5)
-L2- 14+30, 99' LT	698'	691.5	stiff silt (A-4)
SBL:			
-L3- 52+41, 33' LT	698'	698.6'	stiff clay (A-7-5)
-L3- 54+57, 92' LT	692'	692.9'	stiff clay (A-7-5)

Rest Area Buildings (NBL):

A total of 4 borings were performed for the NBL building structures. The approximate center point for each of the 2 buildings is -L1- station 22+05, 118' LT and -L1- station 22+72, 115' LT. The 2 borings

Sheet 2C

on the eastern side of the buildings (-L1- 22+00, 100' LT, & 22+50, 105' LT) encountered residual red-tan stiff highly plastic sandy silty clay (A-7-5) and stiff clayey sandy silt (A-4). The 2 borings on the west end of the structures (-L1- 22+00, 135' LT, & 22+50, 140' LT) encountered 1 to 8 feet of artificial fill comprised of gray stiff clayey sandy silt (A-4) with rock fragments. Each of the latter 2 borings terminated by auger refusal on boulders. Termination elevations for each of the borings are as follows:

-L1- Sta. Location	Termination Elevation (feet)	Notes
22+00, 100' LT	699.4	Terminated in residual silt (A-4)
22+00, 135' LT	707.4	Auger refusal on boulder (fill)
22+50, 105' LT	700.2	Terminated in residual clay (A-7-5)
22+50, 140' LT	715.9	Auger refusal on boulder (fill)

Rest Area Buildings (SBL):

Four borings were performed for the SBL building structures. The approximate center point for each of the 2 buildings is -L5- station 20+20, 118' RT and 19+90, 175' RT. Soil types encountered are residual red-tan-brown stiff sandy silty clay (A-7-5) and tan-brown-gray very stiff clayey sandy silt (A-4). Surficial boulders were noted in and around the rest area site. In one instance a hole was relocated due to an encounter with a boulder just below the ground surface. Boring locations and their termination depths are as follows:

-L5- Sta. Location	Termination Elevation (feet)	Notes
19+12, 160' RT	749.4	Terminated in residual silt (A-4)
19+50, 190' RT	768	Auger refusal on boulder
20+25, 115' RT	753.4	Terminated in residual clay (A-7-5)
20+80, 115' RT	754.2	Terminated in residual clay (A-7-5)

Respectfully Submitted,

J.E. Beverly, Project Geo-Engineer

J E Beverly

RD10S01C

EARTHWORK BALANCE SHEET

Volumes in Cubic Yards

PROJECT__ K-3807 COUNTY__ Randolph _____ DATE ___ 17-Dec-07 COMPILED BY: _____ TDG SHEET 3 OF 89 SHEETS

STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
		TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. (+) 20 %		ROCK	SUITABLE	UNSUIT.	TOTAL
L 37+50	57+50	2125				2125	5477		5477	6572	4447				
L1 10+00	30+00	35680	156	466	236	35288	15998	156	15842	19166			16278	702	16980
L1 30+50	43+50	29249	9897			19352	10262	9897	365	10335			18914		18914
L2 11+00	19+41.22	59908	4306	4136	11739	43863	4310	4306	4	4311			43858	15875	59733
	SUBTOTAL	126962	14359	4602	11975	100628	36047	14359	21688	40384	4447		79050	16577	95627
L3 10+00	30+00	35323				35323	14089		14089	16907			18416		18416
L3 30+50	59+48.30	82334				82334	165574		165574	198689	116355				
	SUBTOTAL	117657				117657	179663		179663	215596	116355		18416		18416
	TOTAL	244619	14359	4602	11975	218285	215710	14359	201351	255980	120802		97466	16577	114043
LOSS DUE	TO C&G	-64000				-64000					64000				
ADDITIONAL	UNDERCUT			13033			13033		13033	15640	15640			13033	13033
EARTH WAS	TO REP. BOR										-22863		-22863		-22863
SHLDR.	MATERIAL						2169		2169	2603	2603				
PROJECT	TOTALS	180619	14359	17635	11975	154285	230912	14359	216553	274223	180182		74603	29610	104213
EST. FOR TOPSOIL IN PIT	REPLACE BORROW										9009				
GRAND	TOTALS	180619									189191				
SAY		181200									190000				

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

PROJECT REFERENCE NO.	SHEET NO.
K-3807	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

-L-
PIs Sta 40+67.34
Θs = 0° 30' 00.0"
Ls = 200.00'
LT = 133.33'
ST = 66.67'

PI Sta 63+35.51
Δ = 21° 45' 00.0" (LT)
D = 0° 30' 00.0"
L = 4,350.00'
T = 2,201.50'
R = 11,459.16'

-L1-
PIs Sta 16+09.03
Θs = 49° 49' 20.7"
Ls = 200.00'
LT = 139.03'
ST = 71.87'

-L3-
PI Sta 66+63.42
Δ = 6° 48' 10.9" (RT)
D = 0° 31' 41.5"
L = 1,288.28'
T = 644.90'
R = 10,850.00'
SE = 0.02 FT/FT

S88°21'18"E 632.28'

NAD 83

MARK BRASWELL
DB 1468 PG 622

POT Sta 77+34.59

PT Sta 73+06.81

STEVEN GARNER
DB Z-53 PG 99

REMOVE EXISTING GUARDRAIL
-L- STA. 35+56.35 TO 45+59 LT

K3807-2(GFS) BNG 23+81.29

-L- STA. 42+63.47

EXISTING R/W

RESIDUAL

300' TAPER

1400' ACCELERATION LANE

S 01° 15' 36.8" W

I-73/74 US 220 BYPASS 38' BST SBL

I-73/74 US 220 BYPASS 38' BST NBL

ROADWAY EMBANKMENT

N 21° 02' 01.5" W

US HWY 220

N 17° 35' 40.3" E

150' TAPER

100' TAPER

REMOVE EXISTING GUARDRAIL
-L- STA. 38+89.00 TO 42+30 RT

TIE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL -L- STA. 38+89.00

END PROPOSED GUARDRAIL

TSS1a. 39+34.01

SCS1a. 41+34.01

50' INCR.

300' TAPER

600' DECELERATION LANE

-L1- POT Sta. 10+00.00

TSS1a. 44+70.00

STEVEN GARNER
DB Z-53 PG 99

MONTGOMERY COUNTY

RANDOLPH COUNTY

MARK BRASWELL
DB 1468 PG 622

MATCHLINE -L3- STA. 64+25.00
SEE SHEET 7

MATCHLINE -L1- STA. 15+75.00
SEE SHEET 5

18-JAN-2007 08:58
d:\projects\k3807_geo_rdwy_randolph\eadd_geotech\PlanProf\K3807_GEO_rnv_004_psh4.dgn
mmcintyre

PROJECT REFERENCE NO.	SHEET NO.
K-3807	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-
PI Sta 63+35.51
Δ = 21° 45' 00.0" (LT)
D = 0° 30' 00.0"
L = 4,350.00'
T = 2,201.50'
R = 11,459.16'

-L3-
PI Sta 57+13.80
Δ = 104° 01' 50.9" (RT)
D = 29° 16' 16.9"
L = 355.40'
T = 250.67'
R = 195.74'
SE = SEE PLANS

-L3-
PIs Sta 58+88.17
θs = 0° 30' 37.0"
θs = 29° 17' 20.6"
Ls = 200.00'
LT = 134.12'
ST = 69.65'

RESIDUAL
ROADWAY EMBANKMENT
ARTIFICIAL FILL
PT Sta. 45+63.13
-L3- N 10° 21' 20.1" E
PT Sta. 51+
TS Sta. 52+63.13
SC Sta. 54+63.13
SC Sta. 58+18.53
CS Sta. 60+18.53
N 84° 58' 37.9" W
PC Sta. 21+22.81
PT Sta. 20+72.81
SC Sta. 16+50.00
CS Sta. 14+00.00
MATCHLINE -L- STA. 64+25.00 SEE SHEET 4
MATCHLINE -L- STA. 56+50.00 SEE SHEET 7
MATCHLINE -L- STA. 45+75.00 SEE SHEET 4
-L2- PC Sta. 10+00.00
-L2- PT Sta. 11+08.35
-L2- PC Sta. 12+78.00
SC Sta. 16+70.00
PRC Sta. 18+92.25
PT Sta. 14+91.38
N 7° 42' 26.5" W
N 6° 54' 26.0" W
BL-103 PINC 38+59.65
BL-104 PINC 47+06.53
CS Sta. 37+13.25
SC Sta. 34+58.22
US HWY 220
5' WW ISBW
150' TAPER
100' TAPER
33.3' INC.
25' INC.
35' INC.
NAD 83
BM #2
N 676,874
E 1767,29
ELEVATION = 775.83
BL STATION 47+92 170' RIGHT
RR SPIKE IN BASE OF 12" OAK TREE

REVISIONS

8/17/99

18-JAN-2007 09:21
d:\projects\k3807_geo_rdwy_randolph\caadd_geotech\PlanProf\K3807_GEO_inv_005_psh5.dgn
microwire
07 NEPPALI10

PROJECT REFERENCE NO.	SHEET NO.
K-3807	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

-L-
PI Sta 63+35.51
Δ = 21° 45' 00.0" (LT)
D = 0° 30' 00.0"
L = 4,350.00'
T = 2,201.50'
R = 11,459.16'

-U-
PIs Sta 33+42.48
θs = 5° 41' 23.7"
θs = 11° 51' 22.8"
Ls = 200.00'
LT = 118.45'
ST = 84.27'

PIs Sta 37+79.98
θs = 5° 45' 09.3"
Ls = 200.00'
LT = 133.40'
ST = 66.73'

-L3-
PIs Sta 15+84.20
θs = 20° 06' 13.6"
Ls = 200.00'
LT = 134.20'
ST = 67.46'

PI Sta 19+11.15
Δ = 85° 00' 00.0" (RT)
D = 20° 06' 13.6"
L = 422.81'
T = 261.15'
R = 285.00'
SE = 0.06 FT/FT

DARIN R. CROTTS
DB 1664 PG 295

MARK BRASWELL
DB 1468 PG 622

K.D. HARMON
HEIRS
DB 135 PG 219

RESIDUAL

NAD 83

PCSta. 21+22.81

PTSta. 20+72.81

SCSta. 16+50.00

TSSta. 14+50.00

-L3- POT Sta. 10+00.00

N 84° 58' 37.9" W

MATCHLINE -L- STA. 18+50.00 SEE SHEET 7

MATCHLINE -L- STA. 47+50.00 SEE SHEET 5

MATCHLINE -L- STA. 33+80.00 SEE SHEET 8

REMOVE EXISTING GUARDRAIL
-L- STA. 67+04.00 TO 68+00.00 LT

BEGIN EXISTING GUARDRAIL -L- STA. 68+00.00
TIE PROPOSED ANCHOR UNIT TO EXISTING GUARDRAIL

EXISTING R/W

600' DECELERATION LANE

767' TAPER

150' TAPER

500' ACCELERATION LANE

300' TAPER

I-73/74 US 220 BYPASS 38' BST SBL

I-73/74 US 220 BYPASS 38' BST NBL

ROADWAY EMBANKMENT

BL-104 PINC 47+06.53

BL-105 PINC 57+44.88

S 10° 04' 51.5" E

N 11° 39' 32" W

109.92'
N87°03'57"W

211.88'
S87°03'58"E

ELEVATION = 715.83
N 613874
E 1767539
BL STATION 47+52 (70 RIGHT
RR SPIKE IN BASE OF 12" OAK TREE

SCSta. 34+58.22

CSSta. 37+13.25

SBSSta. 39+13.25

18-JAN-2007 09:22
S:\projects\3360_7_geo_rdu-randolph\cadd_geotech\PlanProf\K3807_GEO_inv_006_psh6.dgn
imp=Linda at REF=2410

PROJECT REFERENCE NO.	SHEET NO.
R-3817	7
STATE PROJECT NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR RIGHT OF WAY ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DIVISIONS

-L3-
PI Sta 6+16.15
Δ = 55°00'00.00" (RT)
D = 10°00'00.0"
L = 550.00'
T = 299.10'
R = 573.00'
SE = SEE PLANS

PI Sta 15+34.03
Δ = 90°00'00.00" (LT)
D = 22°30'00.0"
L = 157.08'
T = 100.00'
R = 255.00'
SE = SEE PLANS

PI Sta 22+34.03
Δ = 90°00'00.00" (RT)
D = 22°30'00.0"
L = 157.08'
T = 100.00'
R = 255.00'
SE = SEE PLANS

PI Sta 36+68.50
Δ = 90°00'00.00" (LT)
D = 45°00'00.0"
L = 78.54'
T = 50.00'
R = 127.32'
SE = SEE PLANS

PI Sta 41+18.50
Δ = 90°00'00.00" (RT)
D = 45°00'00.0"
L = 78.54'
T = 50.00'
R = 127.32'
SE = SEE PLANS

PI Sta 43+68.50
Δ = 90°00'00.00" (LT)
D = 45°00'00.0"
L = 78.54'
T = 50.00'
R = 127.32'
SE = SEE PLANS

PI Sta 47+43.00
Δ = 90°00'00.00" (RT)
D = 45°00'00.0"
L = 78.54'
T = 50.00'
R = 127.32'
SE = 0.05 FT/FT

PI Sta 52+63.33
Δ = 52°16'15.0"
LC = 80.00'
CT = 125.62'
SE = 0.05

-L5-
PI Sta 12+16.85
Δ = 33°16'30.00" (LT)
D = 9°00'00.0"
L = 369.50'
T = 190.59'
R = 637.00'
SE = SEE PLANS

PI Sta 16+34.44
Δ = 58°38'43.3" (RT)
D = 14°19'26.0"
L = 410.00'
T = 223.39'
R = 400.00'
SE = SEE PLANS

PI Sta 21+48.00
Δ = 58°59'00.0" (LT)
D = 14°19'26.0"
L = 410.00'
T = 223.39'
R = 400.00'
SE = SEE PLANS

PI Sta 26+68.04
Δ = 62°59'00.0" (LT)
D = 19°05'00.0"
L = 330.00'
T = 177.71'
R = 300.00'
SE = SEE PLANS

PI Sta 31+24.85
Δ = 90°00'00.0" (RT)
D = 22°30'00.0"
L = 157.08'
T = 100.00'
R = 255.00'
SE = SEE PLANS

PI Sta 34+81.93
Δ = 52°16'15.0"
LC = 80.00'
CT = 125.62'
SE = 0.05

PI Sta 37+43.00
Δ = 90°00'00.00" (RT)
D = 45°00'00.0"
L = 78.54'
T = 50.00'
R = 127.32'
SE = 0.05 FT/FT

PI Sta 40+68.50
Δ = 90°00'00.00" (LT)
D = 45°00'00.0"
L = 78.54'
T = 50.00'
R = 127.32'
SE = SEE PLANS

PI Sta 45+18.50
Δ = 90°00'00.00" (RT)
D = 45°00'00.0"
L = 78.54'
T = 50.00'
R = 127.32'
SE = SEE PLANS

PI Sta 47+43.00
Δ = 90°00'00.00" (RT)
D = 45°00'00.0"
L = 78.54'
T = 50.00'
R = 127.32'
SE = 0.05 FT/FT

PI Sta 52+63.33
Δ = 52°16'15.0"
LC = 80.00'
CT = 125.62'
SE = 0.05

-L5-
PI Sta 12+16.85
Δ = 33°16'30.00" (LT)
D = 9°00'00.0"
L = 369.50'
T = 190.59'
R = 637.00'
SE = SEE PLANS

PI Sta 16+34.44
Δ = 58°38'43.3" (RT)
D = 14°19'26.0"
L = 410.00'
T = 223.39'
R = 400.00'
SE = SEE PLANS

PI Sta 21+48.00
Δ = 58°59'00.0" (LT)
D = 14°19'26.0"
L = 410.00'
T = 223.39'
R = 400.00'
SE = SEE PLANS

PI Sta 26+68.04
Δ = 62°59'00.0" (LT)
D = 19°05'00.0"
L = 330.00'
T = 177.71'
R = 300.00'
SE = SEE PLANS

19.94'
N87°52'45"W

17.42'
28'12"W

582.43'
N88°47'05"W

632.28'
S88°21'18"E

2940.83'
S26°37'34"W

NAD 83

DARIN R. CROTTS
DB 1664 PG 295

PEARL KING
DB 174 PG 573

MARK BRASWELL
DB 1468 PG 622

STEVEN GARNER
DB Z-53 PG 99

EXISTING R/W

RESIDUAL

END PROPOSED GUARDRAIL -L3- STA. 20+75.00

END PROPOSED GUARDRAIL -L3- STA. 19+00.00

ROCK OUTCROP OR BOULDER

FLOAT BOULDERS ON SURFACE RELEASE (NOTHING COMPARENT)

BEGIN PROPOSED GUARDRAIL -L3- STA. 13+50.00

BEGIN PROPOSED GUARDRAIL -L5- STA. 14+00.00

MATCHLINE -L3- STA. 59+25.00 SEE SHEET 5

MATCHLINE -L5- STA. 18+50.00 SEE SHEET 6

109.92'
N87°03'57"W

GRAPHIC SCALE
50 25 0 50 100
PLANS

TIP NO.:	COUNTY:
DESIGNED BY:	
CHECKED BY:	DATE:

PROJECT REFERENCE NO.	SHEET NO.
K-3807	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

PI Sta 16+09.03
Δs = 49° 49' 09.7"
Ds = 200.00'
Lt = 139.03'
ST = 71.97'

PI Sta 17+61.23
Δ = 76° 51' 09.5" (RT)
D = 49° 49' 20.1"
L = 154.25'
T = 91.23'
R = 115.00'
SE = SEE PLANS

PI Sta 19+36.65
Δ = 63° 51' 42.8" (LT)
D = 31° 49' 51.6"
L = 200.94'
T = 112.39'
R = 180.00'
SE = SEE PLANS

PI Sta 24+69.05
Δ = 91° 48' 58.6" (LT)
D = 13° 19' 28.6"
L = 689.07'
T = 443.85'
R = 430.00'
SE = SEE PLANS

PI Sta 27+67.54
Δ = 74° 34' 10.2" (LT)
D = 81° 51' 04.0"
L = 91.07'
T = 53.27'
R = 70.00'
SE = 0.02 FT/FT

PI Sta 10+59.56
Δ = 59° 07' 27.7" (LT)
D = 54° 34' 02.7"
L = 108.35'
T = 59.56'
R = 105.00'
SE = SEE PLANS

PI Sta 14+25.88
Δ = 101° 52' 59.9" (RT)
D = 41° 44' 47.3"
L = 213.38'
T = 147.88'
R = 120.00'
SE = SEE PLANS

PI Sta 31+34.12
Δ = 46° 59' 05.3" (RT)
D = 11° 41' 37.4"
L = 264.05'
T = 139.96'
R = 322.00'
SE = SEE PLANS

PI Sta 33+42.48
Θs = 5° 41' 23.7"
Θs = 17° 51' 22.8"
Ls = 200.00'
LT = 118.45'
ST = 84.27'

PI Sta 35+86.43
Δ = 14° 40' 05.7" (RT)
D = 5° 45' 09.3"
L = 255.03'
T = 128.22'
R = 996.00'
SE = SEE PLANS

PI Sta 37+79.98
Θs = 5° 45' 09.3"
Ls = 200.00'
LT = 133.40'
ST = 66.73'

PI Sta 18+13.28
Δ = 88° 33' 38.4" (LT)
D = 45° 50' 11.8"
L = 193.21'
T = 121.90'
R = 125.00'
SE = 0.02 FT/FT

PI Sta 19+96.77
Δ = 101° 39' 56.3" (LT)
D = 69° 52' 22.4"
L = 154.09'
T = 112.17'
R = 82.00'
SE = 0.02 FT/FT

-L2- PCSta. 10+00.00
-L2- PTSta. 11+08.35
-L2- PCSta. 12+78.00
SCSta. 16+70.00
PRCSta. 18+62.21
PTSta. 14+91.38
-L2- PCCSta. 18+84.59
-L2- PCCSta. 18+59.38
PCCSta. 20+25.20
PCCSta. 27+14.27
PCSta. 29+94.16
-L2- PTSta. 20+38.68
PTSta. 28+05.34
SCSta. 34+58.22
CSSta. 32+58.22
CSSta. 17+43.25
CSSta. 14+70.00

RESIDUAL
ARTIFICIAL FILL
REST ROOM BLDG AND VISITOR CTR (APPROX FF ELEV. 720)
ROADWAY EMBANKMENT
WATAUGA RIVER
MARCH ELEVATION 3,135 FEET
ELEVATION = 715.83 FEET
BASE OF 12" OAK TREE
47+92.170 RIGHT
BM 12
N 613674
BL 1374704
RR 3096

N 7° 42' 26.6" W

MARK BRASWELL
DB 1468 PG 622

N83°41'30"W
449.93'
100.96'

NAD 83

27-FEB-2007 13:35
d:\projects\k3807_geo_rdwy_randolph\cadd_geotech\planprof\k3807_geo_inv_008_psh8.dgn

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
K-3807	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L1-

730 720 710 700 690 680 670 660 650

10 11 12 13 14 15 16 17 18 19 20 21 22

BEGIN GRADE
-L1- STA 10+00
EL = 674.7

EXISTING I-73/74 US 220 BYPASS NBL

(+)3.1228%

(+)2.0781%

ROADWAY EMBANKMENT (FILL) OVER RESIDUAL

PI = 12+30.00
EL = 678.35'
VC = 150'
K = 144

RESIDUAL

(+)2.0781%

PI = 15+50.00
EL = 685.00'
VC = 400'
K = 102

SS-1
SS-2
SS-3

16+00 -L1- 10.00 RT.

4 (PI=15)
13 (PI=25)
7 (PI=14)
BT
DRY
(6/30/06)

YELLOW-ORANGE TO TAN-YELLOW SOFT TO STIFF MOIST LOW TO MED. PLASTIC SANDY SILTY CLAY (A-7-6)

RESIDUAL

(+)6.0000%

ARTIFICIAL FILL

9
5
BT
DRY
(6/30/06)

ARTIFICIAL FILL
TAN-BRN-GRAY STIFF MOIST SANDY CLAYEY SILT (A-6) TO GRAY MED. STIFF MOIST CLAYEY SANDY SILT (A-4) W/WOOD & SMALL LAYER OF ROCK FILL

18+90 -L1- 5.00 LT.

(+)2.0000%

PI = 19+50.00
EL = 709.00'
VC = 400'
K = 100

RESIDUAL

SS-6
SS-7
SS-8

22+00 -L1- CL

11 (PI=35)
7 (PI=22)
13 (PI=14)
11
BT
DRY
(6/30/06)

RESIDUAL

RED-BRN & RED-YELLOW-BRN TO TAN-YELLOW STIFF MOIST TO WET HIGH TO LOW PLASTIC SANDY SILTY CLAY (A-7-5)

-L1-

PI = 29+00.00
EL = 728.00'
VC = 590'
K = 81

SS-11
SS-12

28+10 -L1- 13.00 RT.

29+00 -L1- 30.00 RT.

10 (PI=25)
11 (PI=25)
3
5
05/06
BT

RESIDUAL

(+)2.0000%

TAN-YELLOW-WHITE STIFF MOIST TO WET SANDY SILTY CLAY (A-7-5)

(-)15.2933%

CRYSTALLINE ROCK

RESIDUAL
RED-ORANGE TO TAN-YELLOW-WHITE STIFF MOIST SANDY SILTY CLAY (A-7-5)

30+50 -L1- CL

05/06

AR
WEATHERED ROCK (SEV. WEATH. CRYSTALLINE ROCK)

CRYSTALLINE ROCK

RESIDUAL
GRAY-BRN-WHITE TO TAN-YELLOW-WHITE STIFF MOIST SANDY SILTY CLAY (A-7-6, A-7-5)

31+60 -L1- CL

05/06
BT

CRYSTALLINE ROCK

W/LAYERS OF WEATHERED ROCK

32+60-L1- CL

AR
NM
(6/06)

RESIDUAL

AR
DRY
(6/06)

WEATHERED ROCK (SEV. WEATH. CRYSTALLINE ROCK)

RESIDUAL
TAN-YELLOW-WHITE STIFF MOIST SANDY SILTY CLAY (A-7-6)

33+40 -L1- CL

PI = 35+00.00
EL = 696.24'
VC = 400'
K = 71

34+60 -L1- CL

W/LAYERS OF WEATHERED ROCK 2.0-5.3

AR
NM
(6/06)

RESIDUAL

CRYSTALLINE ROCK

(-)15.2933%

(+)0.3034%

697.24

714.00

SS-27
SS-28

22+50 -L1- 105.00 LT.

5 (PI=39)
4 (PI=11)
BT
DRY
(6/06)

RESIDUAL
RED-ORANGE-YELLOW TO TAN-YELLOW-WHITE MED. STIFF MOIST TO WET HIGH TO LOW PLASTIC SANDY SILTY CLAY (A-7-5)

SS-9
SS-10

25+02 -L1- 12.00 LT.

6 (PI=22)
8
7 (PI=17)
BT
DRY
(6/30/06)

RESIDUAL
RED-ORANGE TO TAN-BRN MED. STIFF MOIST MED. PLASTIC SANDY SILTY CLAY (A-7-5)

RED-ORANGE TO TAN-YELLOW STIFF TO MED. STIFF MOIST MED. PLASTIC SANDY SILTY CLAY (A-7-5)

740 730 720 710 700 690 680 670

22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

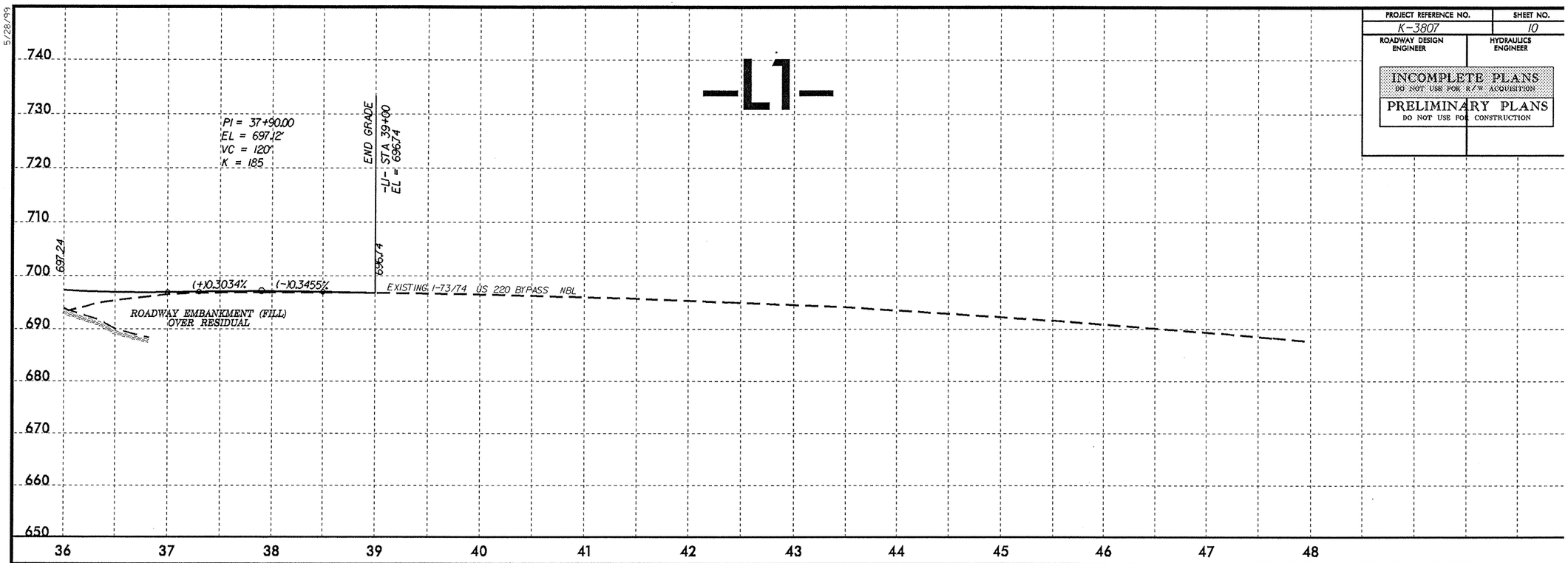
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
K-3807	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

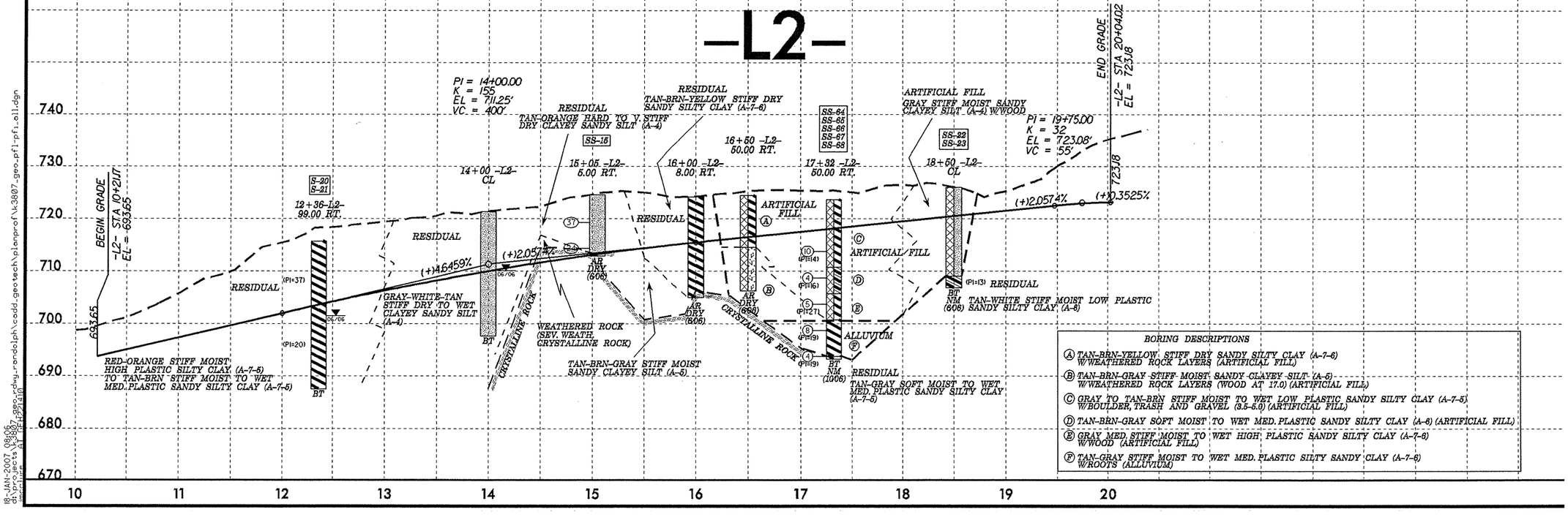
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L1-



-L2-



BORING DESCRIPTIONS

- (A) TAN-BRN-YELLOW STIFF DRY SANDY SILTY CLAY (A-7-6) W/WEATHERED ROCK LAYERS (ARTIFICIAL FILL)
- (B) TAN-BRN-GRAY STIFF MOIST SANDY CLAYEY SILT (A-6) W/WEATHERED ROCK LAYERS (WOOD AT 17.0) (ARTIFICIAL FILL)
- (C) GRAY TO TAN-BRN STIFF MOIST TO WET LOW PLASTIC SANDY SILTY CLAY (A-7-5) W/BOULDER, TRASH AND GRAVEL (3.5-5.0) (ARTIFICIAL FILL)
- (D) TAN-BRN-GRAY SOFT MOIST TO WET MED. PLASTIC SANDY SILTY CLAY (A-6) (ARTIFICIAL FILL)
- (E) GRAY MED. STIFF MOIST TO WET HIGH PLASTIC SANDY SILTY CLAY (A-7-6) W/WOOD (ARTIFICIAL FILL)
- (F) TAN-GRAY STIFF MOIST TO WET MED. PLASTIC SILTY SANDY CLAY (A-7-6) W/ROOTS (ALLUVIUM)

18-JAN-2007 08:06
d:\projects\k3807\geo_rdwy_randolph\cadd_geotech\planprof\k3807_geo_pfl-pfl_all.dgn
microstation A1 (4.2.1.4)

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
K-3807	11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L3-

BEGIN GRADE
-L3- STA 10+00
EL = 691.87

691.87

EXISTING I-73/74 US 220 BYPASS SBL

(+)0.6558%

(-)0.3833%

ROADWAY EMBANKMENT (FILL) OVER RESIDUAL

RESIDUAL

CRYSTALLINE ROCK

PI = 15+00.00
EL = 695.15'
VC = 150'
K = 144

S-62
17+40 -L3-
10.00 RT.

18
18
AR
DRY
(1006)

RESIDUAL
TAN-WHITE
V. STIFF DRY
SANDY CLAYEY SILT
(A-4)

100/.8

(-)0.3833%

(+)7.1111%

PI = 18+00.00
EL = 694.00'
VC = 450'
K = 60

SS-61
19+00 -L3-
12.00 LT.

17
(PI=29)
AR
DRY
(1006)

100/.8

RESIDUAL
RED-BRN V STIFF
MOIST HIGH PLASTIC
SANDY SILTY CLAY (A-7-5)

WEATHERED ROCK
(SEV. WEATH. CRYSTALLINE ROCK)

RESIDUAL

CRYSTALLINE ROCK

21+50 -L3-
5.00 LT.

722.44

100/.9

10/.05
AR

WEATHERED ROCK
(TAN-WHITE SEV. WEATH.
CRYSTALLINE ROCK)

10 11 12 13 14 15 16 17 18 19 20 21 22

PI = 27+00.00
EL = 758.00'
VC = 325'
K = 44

SS-59
SS-60
26+50 -L3-
CL

(-)0.3333%

(+)7.1111%

722.44

24+00 -L3-
10.00 RT.

12
11
BT
DRY
(1006)

RESIDUAL
TAN-ORANGE TO RED-TAN-ORANGE
STIFF MOIST CLAYEY SANDY SILT
& SANDY CLAYEY SILT (A-4)

8
10
BT
DRY
(1006)

TAN-ORANGE TO WHITE-TAN STIFF
MOIST TO DRY CLAYEY SANDY SILT (A-4)

RESIDUAL

SS-57
SS-58
29+00 -L3-
8.00 LT.

14
(PI=21)
13
BT
DRY
(1006)

RED-ORANGE STIFF
MOIST MED. PLASTIC
SANDY, SILTY CLAY (A-7-6)

RED-TAN-ORANGE STIFF
MOIST SANDY CLAYEY SILT (A-4)

SS-56
31+50 -L3-
13.00 RT.

11
11
10/.06
AR
BT
DRY
(1006)

RESIDUAL
RED-ORANGE V. STIFF MOIST
HIGH PLASTIC SILTY CLAY (A-7-6)

TAN-GRAY-WHITE STIFF
MOIST SANDY CLAYEY SILT
(A-5)

PI = 36+00.00
EL = 755.00'
VC = 160'
K = 56

PI = 36+00.00
EL = 755.00'
VC = 160'
K = 56

754.43

(-)0.3333%

(-)13.9915%

SS-64
SS-65
34+00 -L3-
CL

16
(PI=30)
11
(PI=9)
BT
DRY
(1006)

RESIDUAL
RED-ORANGE TO TAN-ORANGE
V. STIFF TO STIFF MOIST
HIGH TO LOW PLASTIC
SILTY CLAY TO SANDY SILTY CLAY
(A-7-6)

760
750
740
730
720
710
700

22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

08-NOV-2007 10:16
C:\Documents and Settings\cluttle\Desktop\K3807 comments\K-3807_geo_pfl-pf_all.dgn
cluttle

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
K-3807	12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L3-

754.43

SS-53
36+50 -L3- CL
(-)13.9154%
(-)10.3333%

SS-40
38+00 -L3- 27.00 LT.

PI = 40+70.00
EL = 740.00'
VC = 200'
K = 140

(-)13.9154%
(-)14.6154%

SS-37
SS-38
42+25 -L3- 6.00 LT.

PI = 44+60.00
EL = 722.00'
VC = 300'
K = 96

45+20 -L3- 12.00 LT.
(-)14.6154%
(-)11.5056%

SS-36
46+80 -L3- 10.00 RT.

716.89

SS-39
40+55 -L3- 6.00 RT.

RESIDUAL
TAN-ORANGE STIFF DRY LOW PLASTIC SILTY CLAY (A-7-5)
(9) (PI=4) (9)
BT DRY (1006)

RESIDUAL
WHITE-TAN STIFF MOIST MED. PLASTIC SANDY SILTY CLAY (A-7-6)
(10) (PI=6) (15)
BT NM (1006)

RESIDUAL
TAN-YELLOW-ORANGE V. STIFF MOIST HIGH PLASTIC SANDY SILTY CLAY (A-7-6)
(15) (PI=34) (9)
BT DRY (1006)

RESIDUAL
TAN-BRN V. STIFF DRY SANDY SILT (A-4)
(23) (26)
BT DRY (1006)

TAN-YELLOW-WHITE STIFF MOIST SANDY CLAYEY SILT (A-4)

RESIDUAL
RED-ORANGE-YELLOW STIFF MOIST HIGH PLASTIC SANDY SILTY CLAY (A-7-6)
(8) (PI=26) (9)
BT DRY (1006)

TAN-YELLOW STIFF MOIST CLAYEY SANDY SILT (A-5)
BT DRY (1006)

36	37	38	39	40	41	42	43	44	45	46	47	48
760												
755												
745												
735												
725												
715												
705												
695												
685												
675												

-L3-

PI = 51+25.00
EL = 712.00'
VC = 500'
K = 295

716.89

SS-34
SS-36
49+50 -L3- 6.00 RT.

RESIDUAL
TAN-YELLOW-ORANGE STIFF TO MED. STIFF MOIST TO WET HIGH PLASTIC SILTY CLAY (A-7-6)

SS-33
52+41 -L3- 30.00 LT.
52+00 -L3- 10.00 RT.

(-)1.5038%
(-)13.1983%

RESIDUAL
RED-ORANGE STIFF MOIST HIGH PLASTIC SILTY CLAY (A-7-6)
TAN-YELLOW STIFF MOIST CLAYEY SANDY SILT (A-5)
(12) (PI=5) (9)
BT DRY (1006)

(15) (PI=58) (10)
BT DRY (1006)

RED-BRN STIFF MOIST SILTY CLAY (A-7-6)
BT NM (1006)

SS-31
SS-32
54+60 -L3- 7.00 LT.

RESIDUAL
(13) (PI=30) (7) (PI=12) (6)
BT DRY (1006)

TAN-YELLOW-ORANGE STIFF TO MED. STIFF MOIST TO WET HIGH TO LOW PLASTIC SANDY SILTY CLAY (A-7-6)

PI = 57+00.00
EL = 693.61'
VC = 300'
K = 118

SS-29
SS-30
57+00 -L3- CL

(-)13.1983%
(-)0.6536%

ALLUVIUM
GRAY MED. STIFF MOIST HIGH PLASTIC SILTY CLAY (A-7-6)
(6) (PI=59) (15) (PI=19)
BT NM (1006)

ALLUVIUM
RESIDUAL
GRAY-BRN V. STIFF MOIST MED. PLASTIC SANDY SILTY CLAY (A-6)

CRYSTALLINE ROCK

END GRADE
-L3- STA 59+50
EL = 691.98

691.98

EXISTING I-73/I-74 US 220 BYPASS SBL

ROADWAY EMBANKMENT (FILL) OVER RESIDUAL

48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
760														
750														
740														
730														
720														
710														
700														
690														
680														
670														
660														

18-JAN-2007 08:08
d:\projects\k-3807\geo_rdwy_randolph\cadd_geotech\planprof\k-3807_geo_pfl-pf_all.dgn
$USER

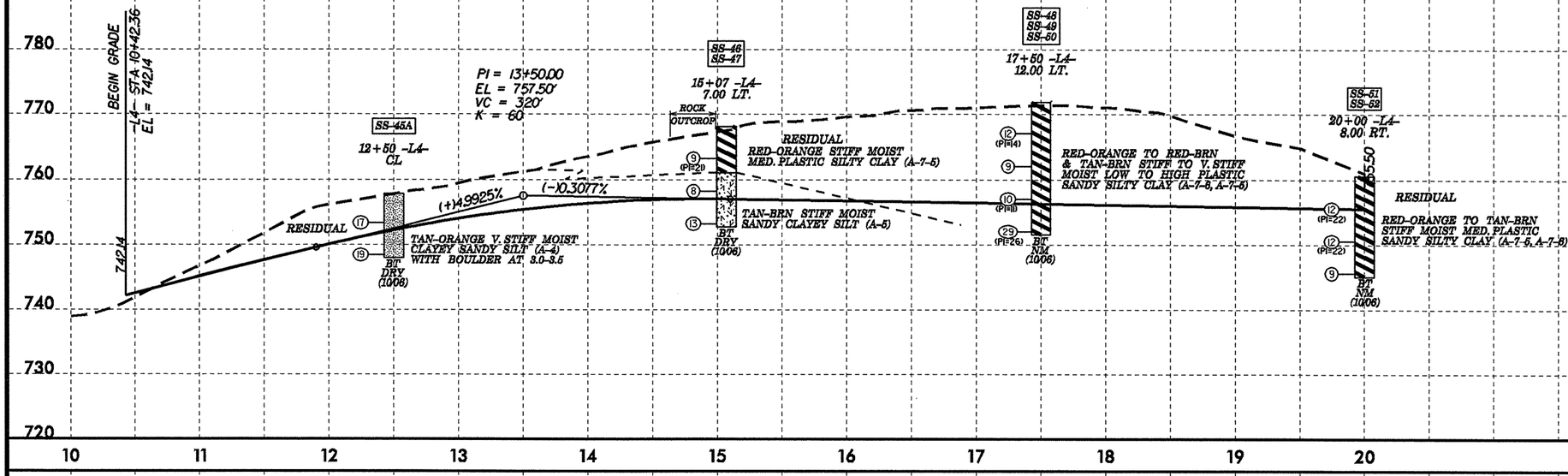
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
K-3807	13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L4-



5/28/99

PROJECT REFERENCE NO.	SHEET NO.
K-3807	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L5-

BEGIN GRADE
-L5- STA 10+27.81
EL = 751.03

PI = 10+80.00
K = 21
EL = 753.36'
VC = 100'

SS-45A

10+61.06 -L5-
15.65 RT.

12+50 -L4-
CL

PI = 11+80.00
EL = 753.05'
K = 22
VC = 50'

PI = 12+60.00
EL = 751.00'
K = 17
VC = 50'

SS-44A

13+10 -L5-
15.00 RT.

SS-44
SS-46

15+60 -L5-
10.00 LT.

SS-43

18+00 -L5-
11.00 LT.

19+12 -L5-
160.00 RT.

19+50 -L5-
190.00 RT.
DRY
(1006)

751.03

(+)0.60%

(-)0.3096%

(-)0.3096%

(-)2.5625%

(-)2.5625%

(+)0.4232%

RESIDUAL
TAN-ORANGE V. STIFF MOIST
CLAYEY SANDY SILT (A-4)
WITH BOULDER AT 3.0-3.5
19
BT
DRY
(1006)

RESIDUAL
WHITE-TAN STIFF TO V. STIFF
DRY CLAYEY SANDY SILT (A-4)
9
16
15
BT
DRY
(1006)

RESIDUAL
RED-ORANGE MED. STIFF
MOIST MED. PLASTIC
SANDY SILTY CLAY (A-7-5)
7
(PI=20)
TAN-ORANGE STIFF MOIST
SANDY CLAYEY SILT (A-5)
9
100/.1
BT
DRY WEATHERED ROCK
(1006) (SEV. WEATH. CRYSTALLINE ROCK)

RESIDUAL
WHITE-TAN STIFF
MOIST LOW PLASTIC
SANDY SILTY CLAY (A-6)
9
(PI=11)
11
BT
DRY
(1006)

RESIDUAL
RED-ORANGE STIFF MOIST
SANDY SILTY CLAY (A-7-5)
AR
RED-BRN MED. STIFF MOIST
SANDY SILTY CLAY (A-7-5)
TAN-BRN-GRAY V. STIFF DRY
CLAYEY SANDY SILT (A-4)
WITH BOULDER
27
20
25
20
BT
NM
(1006)

780
770
760
750
740
730
720

10 11 12 13 14 15 16 17 18 19 20

-L5-

END GRADE
-L5- STA 23+72.59
EL = 747.15

PI = 22+20.00
EL = 755.06'
VC = 100'
K = 18

754.13

(+)0.4232%

(-)5.1872%

747.15

SS-41
SS-42

20+50 -L5-
10.00 LT.

RESIDUAL
RED-BRN STIFF
MOIST MED. PLASTIC
SANDY SILTY CLAY (A-7-5)
8
(PI=18)
TAN-BRN STIFF
MOIST LOW PLASTIC
SANDY SILTY CLAY (A-6)
14
(PI=13)
BT
DRY
(1006)

780
770
760
750
740
730
720

20 21 22 23 24

08-NOV-2007 10:17
C:\Documents and Settings\clittle\Desktop\K3807 comments\K3807_geo_pf1-pf1_a11.dgn
clittle
$$REF226163

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	15

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

720 710 700 690 680 670 660 650

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

0.0200 0.0200

672.54

ROADWAY EMBANKMENT (FILL)

RESIDUAL

4:1

S.S. 660.630

10+50.00

720 710 700 690 680 670 660 650

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

0.0200

671.17

ROADWAY EMBANKMENT (FILL)

RESIDUAL

4:1

S.S. 658.855

10+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

30-NOV-2006 10:2
dl:\projects\k3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_GEO_xs_11.dgn
mcclure
AT GEH22140

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

720 710 700 690 680 670 660 650

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

0.04 0.02 0.02

675.15

4:1

ROADWAY EMBANKMENT (FILL)

RESIDUAL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

S.S. 664.29

RESIDUAL

11+50.00

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

0.061 0.02 0.02

673.82

4:1

ROADWAY EMBANKMENT (FILL)

RESIDUAL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

S.S. 662.121

RESIDUAL

11+00.00

—L/—

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

720 710 700 690 680 670 660 650

30-NOV-2006 10:43
d:\projects\k3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_GEO_xsLL.dgn
imcclure
AT GEH221410

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	17

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

730 720 710 700 690 680 670 660

I-7374 US 220 BYPASS SBL

I-7374 US 220 BYPASS NBL

0.0350 0.0040 0.0040

676.62

4:1

ROADWAY EMBANKMENT (FILL)

RESIDUAL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

S.S. 667.99

RESIDUAL

12+50.00

I-7374 US 220 BYPASS SBL

I-7374 US 220 BYPASS NBL

0.0460 0.0140 0.0140

676.19

4:1

ROADWAY EMBANKMENT (FILL)

RESIDUAL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

S.S. 666.322

RESIDUAL

12+00.00

30-NOV-2006 10:43
dgn: c:\projects\3807_geo_rdwy_randolph\roadd_geotech\xsc\K-3807_GEO_xs_LL.dgn
mcclure GEH222410

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	18

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

730 720 710 700 690 680 670 660

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

0.0100 0.0160 0.0160

677.05

4:1

S.S. 669.307

13+50.00

730 720 710 700 690 680 670 660

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

0.0200 0.0060 0.0060

676.75

4:1

S.S. 668.563

13+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

30-NOV-2006 10:14
d:\projects\3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_GEO_xsi_LL.dgn
microstation
A1_GEH221410

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	19

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

730 720 710 700 690 680 670 660

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

ROADWAY EMBANKMENT (FILL) S.S. 682.334

680.92

0.0360 0.0360

6:1

4:1

RESIDUAL

S.S. 674.853

RESIDUAL

14+50.00

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

ROADWAY EMBANKMENT (FILL)

677.81

0.0090 0.0260 0.0260

4:1

RESIDUAL

S.S. 671.806

RESIDUAL

14+00.00

-L/-

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	20

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

730 720 710 700 690 680 670

I-7374 US 220 BYPASS SBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

I-7374 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

687.10 686.32

0.0400 0.0400

4:1 4:1

684.09

S.S. 684.326

S.S. 682.437

RESIDUAL

15+50.00

I-7374 US 220 BYPASS SBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

I-7374 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

685.20 684.42

0.0400 0.0400

4:1 4:1

680.76

S.S. 683.750

S.S. 676.491

RESIDUAL

15+00.00

—L/—

730 720 710 700 690 680 670

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

30-NOV-2006 10:15
dl:\projects\3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_GEO_xs_LI.dgn
imeiture
AT DEL=221.10

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	21

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

740 730 720 710 700 690 680 670

I-73/74 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

S.S. 698.439

RESIDUAL

698.55

0.0533 0.0534

S.S. 692.653

RESIDUAL

16+50.00

I-73/74 US 220 BYPASS NBL

SS-1
SS-2
SS-3

16+00 -L1-
10.00 RT.

683.24

692.87

680.46

S.S. 690.291

ROADWAY EMBANKMENT (FILL)

ROADWAY EMBANKMENT (FILL)

RESIDUAL

S.S. 683.974

RESIDUAL

(P)=5

(P)=25

(P)=14

RESIDUAL

YELLOW-ORANGE TO TAN-YELLOW
SOFT TO STIFF MOIST
LOW TO MED. PLASTIC
SANDY SILTY CLAY (A-7-5)

BT
DRY
(53006)

RESIDUAL

16+00.00

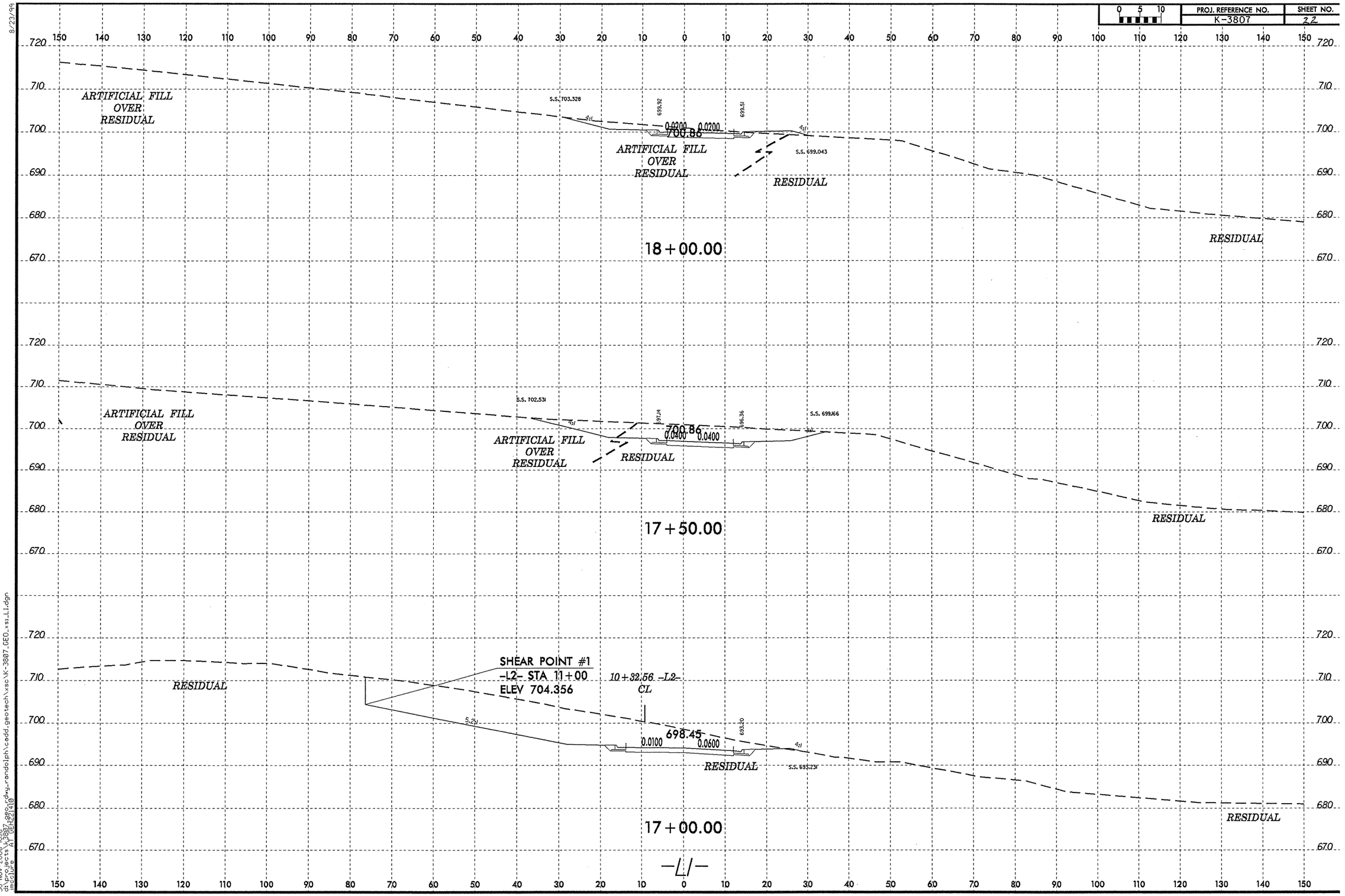
-L1-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

30-NOV-2006 10:15
d:\projects\k3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_GEO_xs1_L1.dgn
imeclure
AT GEH=2:1 VE=1:10

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	2.2



30-NOV-2006,10:06
d:\projects\k3807\geo_rdwy_randolph\cadd_geotech\xsc\K-3807_GEO_xs1_L1.dgn
imcclure
APPROVED

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	23

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

720 710 700 690

ARTIFICIAL FILL OVER RESIDUAL

ARTIFICIAL FILL OVER RESIDUAL

S.S. 704.316

706.40 707.60

4:1 0.0200 0.0200 4:1

700.74

RESIDUAL

19+50.00

S.S. 701.078

RESIDUAL

SS-4
SS-5

18+90 -L1- 5.00 LT.

704.28 705.48

S.S. 704.582

701.45

TAN-BRN-GRAY STIFF MOIST SANDY CLAYEY SILT (A-5) TO GRAY MED. STIFF MOIST CLAYEY SANDY SILT (A-4) W/WOOD & SMALL LAYER OF ROCK FILL

BT DRY (6/2006)

19+00.00

S.S. 693.598

RESIDUAL

720 710 700 690 680

ARTIFICIAL FILL OVER RESIDUAL

S.S. 705.091

702.42 702.42

0.0000 0.0000

700.95

ARTIFICIAL FILL OVER RESIDUAL

RESIDUAL

S.S. 695.680

RESIDUAL

18+50.00

720 710 700 690 680 670

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

30-NOV-2006 10:17
d:\projects\k-3807\dwg_randolph\cadd_geotech\xsc\K-3807_GEO_xs_L1.dgn
mscurtis

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	24

8/23/99

SS-69
SS-70
SS-71
SS-72

21+09.91 -L1-
181.35 LT.
=
16+60 -L2-
220.00 RT.

(8) (PI=17) ARTIFICIAL FILL
TAN-BRN-GRAY & RED-BRN. STIFF TO HARD
(36) MOIST MED. PLASTIC SANDY SILTY CLAY (A-7-6)

(26) (PI=13) RED-BRN V. STIFF MOIST LOW PLASTIC
SANDY SILTY CLAY (A-6) WITH RK FRAGS.

(14) BLACK-GRAY STIFF TO V. SOFT MOIST
(2) SANDY CLAYEY SILT (A-4) WITH TRASH

(9) (PI=54) BT NM (1006) ALLUVIUM
TAN-BRN STIFF MOIST HIGH PLASTIC
SILTY CLAY (A-7-5) WITH ROOTS

RESIDUAL

S.S. 712.410
711.28
4:1
0.0200
716.07
0.0200
712.48
4:1
S.S. 722.175
RESIDUAL

21+00.00

ARTIFICIAL FILL OVER RESIDUAL
RESIDUAL
S.S. 708.985
709.90
4:1
0.0200
711.21
0.0200
711.40
4:1
S.S. 714.566
RESIDUAL
RESIDUAL

20+50.00

ARTIFICIAL FILL OVER RESIDUAL
ARTIFICIAL FILL OVER RESIDUAL
S.S. 704.[illegible]
RESIDUAL
708.28
4:1
0.0200
705.94
0.0200
709.47
4:1
S.S. 708.583
RESIDUAL

20+00.00

—L1—

30-NOV-2006 10:07
dgn=K-3807_geo_cdwg_rondo.plt \cadd_geotech\esc\K-3807_GEO_xs1_L1.dgn
plotter=K_T GEH2251110
include

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	25

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

750 740 730 720 710 700 690

SS-26

22+00 -L1- 135.00 LT.

ARTIFICIAL FILL
GRAY STIFF MOIST
CLAYEY SANDY SILT (A-4)
W/GRAVEL SIZE ROCK

SS-24
SS-25

22+00 -L1- 100.00 LT.

RESIDUAL

ARTIFICIAL FILL

RESIDUAL

RED-ORANGE-YELLOW STIFF MOIST HIGH PLASTIC SANDY SILTY CLAY (A-7-5)

RED-ORANGE-YELLOW MED. STIFF MOIST TO WET CLAYEY SANDY SILT (A-4)

(10) (100/1) AR NM (6/8/06)

CRYSTALLINE ROCK (BOULDER)

(11) (PI=32) (5) BT DRY (6/8/06)

SS-6
SS-7
SS-8

22+00 -L1- CL

720.22

RESIDUAL

S.S. 716.661

4:1

713.40

0.0200

(11) (PI=35) (7) (PI=22) (13) (PI=14) (11) BT DRY (5/30/06)

0.0200

714.60

RED-BRN & RED-YELLOW-BRN TO TAN-YELLOW STIFF MOIST TO WET HIGH TO LOW PLASTIC SANDY SILTY CLAY (A-7-5)

S.S. 733.802

RESIDUAL

22+00.00

S.S. 729.388

RESIDUAL

S.S. 714.709

720.20

RESIDUAL

4:1

713.40

0.0200

0.0200

713.60

ARTIFICIAL FILL OVER RESIDUAL

RESIDUAL

21+50.00

—L1—

30-NOV-2006 10:18
dt:\projects\3807\dgn\randolph\cadd.geotech\xsc\K-3807_GEO_xs_L1.dgn
picture 4 DESCRIPTION

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	26

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

750
740
730
720
710
700
690

S.S. 740.416

RESIDUAL

726.22

RESIDUAL

S.S. 719.367

4:1

719.40

0.0200

0.0200

716.60

4:1

ARTIFICIAL FILL

RESIDUAL

23+00.00

S.S. 738.282

RESIDUAL

724.40

RESIDUAL

S.S. 718.212

4:1

719.40

0.0200

0.0200

716.60

4:1

ARTIFICIAL FILL
GRAY STIFF DRY
CLAYEY SANDY SILT
(A-4)

22+50 -L1-
140.00 LT.

SS-27
SS-28

22+50 -L1-
105.00 LT.

RESIDUAL

AR
NM
(606)
CRYSTALLINE
ROCK
(BOULDER)

RESIDUAL

5
(P)=39

RED-ORANGE-YELLOW TO TAN-YELLOW-WHITE
MED. STIFF MOIST TO WET HIGH TO LOW PLASTIC
SANDY SILTY CLAY (A-7-5)

4
(P)=11

BT
DRY
(606)

22+50.00

-L1-

30-NOV-2006 10:48
c:\projects\k-3807_geo_rdwy_randolph\eddd_geotech\xsc\K-3807_GEO_xsi_L1.dgn

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	27

27

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

750 740 730 720 710

ARTIFICIAL FILL

RESIDUAL

4:1

S.S. 718.718

718.40

0.0200

724.19 RESIDUAL

0.0200

719.60

24+50.00

S.S. 738.379

RESIDUAL

S.S. 719.754

726.48 RESIDUAL

718.60

24+00.00

S.S. 743.831

S.S. 720.231

726.97 RESIDUAL

717.60

23+50.00

S.S. 742.784

700

30-NOV-2006 10:19
d:\projects\3807\geotech\dgn_randolph\coadd_geotech\xsc\K-3807_GEO_xs_L1.dgn
$USER

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	2 8

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

730
720
710

ARTIFICIAL FILL
RESIDUAL
4:1
720.80
0.0200
0.0200
722.20
4:1
721.77
S.S. 721.354
RESIDUAL
S.S. 722.181
26+00.00
RESIDUAL

730
720
710

730
720
710

ARTIFICIAL FILL
RESIDUAL
4:1
720.40
0.0200
0.0200
720.60
4:1
719.20
S.S. 718.957
RESIDUAL
S.S. 719.799
25+50.00
RESIDUAL

740
730
720
710
700
690

SS-9
SS-10
25+02 -L1-
12.00 LT.
ARTIFICIAL FILL
RESIDUAL
4:1
719.40
0.0200
0.0200
720.60
4:1
S.S. 729.290
RESIDUAL
719.26
S.S. 716.412
RESIDUAL
⑥ (P)=22
⑧
⑦ (P)=17
RED-ORANGE TO TAN-BRN
MED. STIFF MOIST MED. PLASTIC
SANDY SILTY CLAY (A-7-5)
BT
DRY
(5/30/06)
25+00.00
—L1—

740
730
720
710
700
690

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

30-NOV-2006 10:20
H:\projects\K-3807_geo_rdwy_randolph\coddgeotech\xsc\K-3807_GEO_ss_L1.dgn
microstation V8 DEH-22140

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	29

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

750
740
730
720
710
760
700

SHEAR POINT #3
-L2- STA 19+41.22
ELEV 723.457

S.S. 730.559

723.43 723.91 4:1

RESIDUAL 730.10

SLOPE VARIES 0.0180 0.0183

27+27.71

RESIDUAL

S.S. 725.325 S.S. 725.793

4:1 723.90 723.30 4:1

725.74

0.0200 0.0200

RESIDUAL

26+67.00

RESIDUAL

S-22
S-23

26+34.02 -L1-
93.28 LT.
=
18+50 -L2-
CL

18+65.64 -L2-
CL

ARTIFICIAL FILL

GRAY STIFF MOIST SANDY CLAYEY SILT (A-4) W/WOOD

RESIDUAL

(PI=13)

BT NM (6/06)

TAN-WHITE STIFF MOIST LOW PLASTIC SANDY SILTY CLAY (A-6)

S.S. T24.555 S.S. T25.86

722.67 723.07 4:1 4:1

0.0200 0.0200

24.66

RESIDUAL

RESIDUAL

26+50.00

30-NOV-2006 10:20
m:\projects\2006\06-221410\engr\randolph\cadd_geotech\vsc\K-3807_GEO_xsL11.dgn

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	30

9/23/99

SHEAR POINT #6
-L2- STA 19+41.22
ELEV 716.48

29+00 -L1-
27.00 LT.

29+00 -L1-
30.00 RT.

737.81
RESIDUAL
TAN-YELLOW-WHITE
STIFF MOIST TO WET
SANDY SILTY CLAY (A-7-5)

732.74

0.0143 0.0143

SLOPE VARIES

05/06

BT

S.S. 744.639

4:1

ARTIFICIAL FILL

RESIDUAL

29+00.00

SHEAR POINT #5
-L2- STA 19+41.22
ELEV 721.64

20+07.97 -L2-
CL

736.05
RESIDUAL

723.49

0.0200 0.0200

SLOPE VARIES

S.S. 743.132

4:1

ARTIFICIAL FILL

RESIDUAL

28+50.00

SHEAR POINT #4
-L2- ℄ STA 19+41.22
ELEV 722.08

19+41.22 -L2-
CL

SS-11
SS-12

28+10 -L1-
13.00 RT.

734.77
RESIDUAL

723.45

0.0266

SLOPE VARIES

0.0200 0.0200

(10) (PI=25)
(11) (PI=25)
(9)
(5)

05/06

BT

RED-ORANGE TO TAN-YELLOW
STIFF TO MED.STIFF MOIST MED. PLASTIC
SANDY SILTY CLAY (A-7-5)

S.S. 744.689

4:1

RESIDUAL

ARTIFICIAL FILL

RESIDUAL

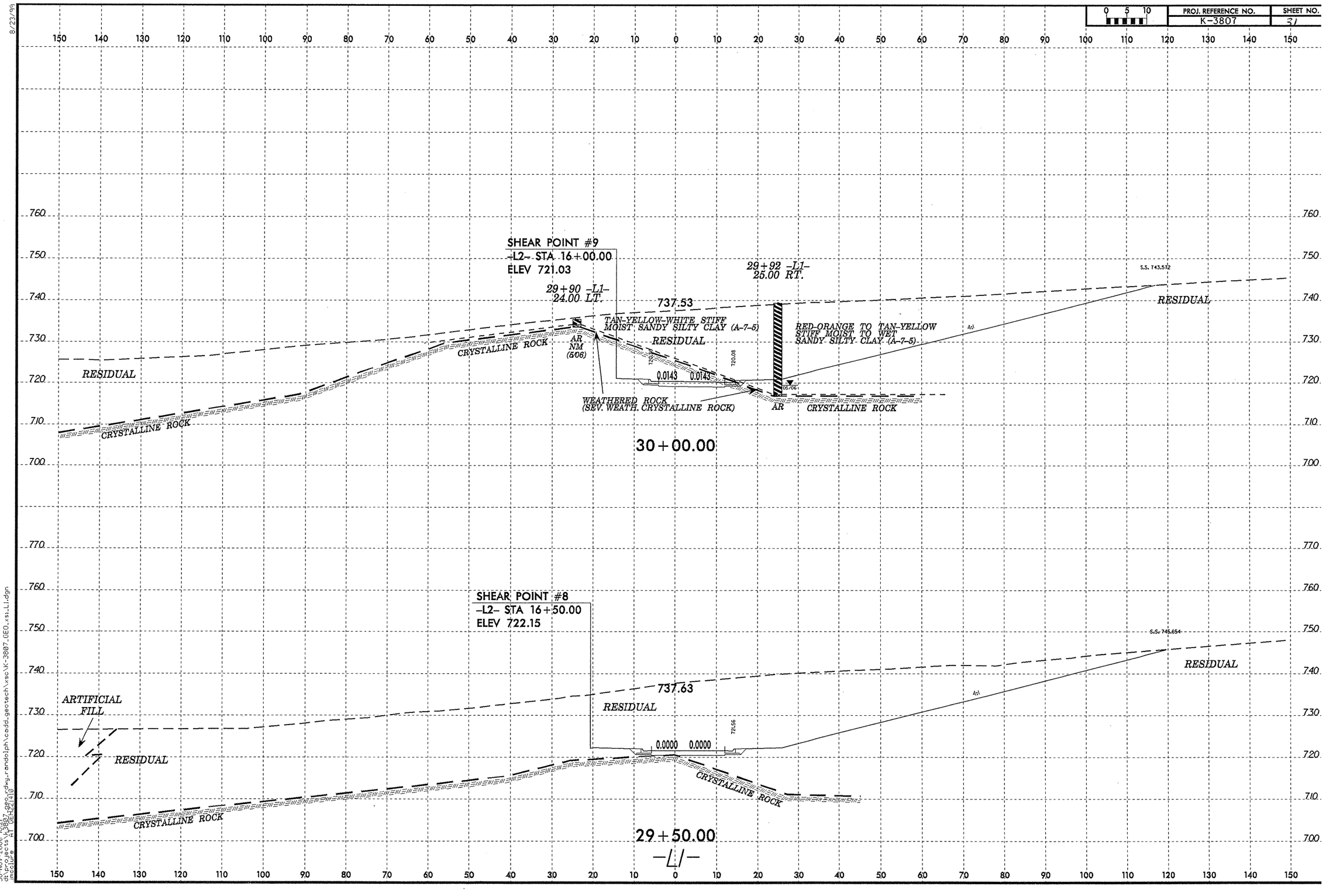
28+00.00

-L/-

30-NOV-2006 10:21
d:\projects\k-3807_geo_ohg_randolph\eddd_geotech\xsc\K-3807_GEO_xs_L1.dgn
mcguire_ts
ALIGNMENT

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	31



30-NOV-2006 10:21
d:\projects\k-3807\geo_rdwg\randolph\coda_geotech\xsec\K-3807_GEO_xsLL1.dgn
default 1:1 0.0142,0.00

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	32

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

750 740 730 720 710 700 690

SHEAR POINT #11
-L2- STA 15+00.00
ELEV 717.50

31+00 -L1-
27.00 LT.

31+00 -L1-
30.00 RT.

WEATHERED ROCK
(SEV. WEATH. CRYSTALLINE ROCK)

S.S. 734.729

RESIDUAL

728.30

RESIDUAL

TAN-YELLOW-WHITE STIFF
MOIST SANDY SILTY CLAY (A-7-6)
RESIDUAL

AR
DRY
(5/06)

SLOPE
VARIES

0.0492 0.0504

TAN-YELLOW-WHITE STIFF
MOIST SANDY SILTY CLAY (A-7-6)

WEATHERED ROCK
(SEV. WEATH. CRYSTALLINE ROCK)

CRYSTALLINE ROCK

BT

CRYSTALLINE ROCK

31+00.00

760 750 740 730 720 710 700 690

S-18
S-19

30+58.13 -L1-
129.54 LT.
=
15+50 -L2-
30.00 LT.

SHEAR POINT #10
-L2- STA 15+50.00
ELEV 716.91

30+50 -L1-
CL

S.S. 737.427

RESIDUAL

735.90

RESIDUAL

RED-ORANGE TO TAN-YELLOW-WHITE
STIFF MOIST SANDY SILTY CLAY (A-7-5)

(PI=16)

TAN-BRN-YELLOW - STIFF
DRY, MED. PLASTIC
SANDY SILTY CLAY (A-7-6)

05/06

718.85

718.28

SLOPE
VARIES

0.0286

TAN-BRN-GRAY STIFF MOIST
SANDY CLAYEY SILT (A-5)

WEATHERED ROCK (SEV. WEATH. CRYSTALLINE ROCK)

AR

CRYSTALLINE ROCK

BT

WEATHERED ROCK (SEV. WEATH. CRYSTALLINE ROCK)

CRYSTALLINE ROCK

30+50.00
-L1-

30-NOV-2006 10:22
d:\projects\3807_980_randolph\cadd_geotech\xsc\K-3807_GEO_xs_L1.dgn
mcclure AT GEH2410

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	33

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

750 740 730 720 710 700 690 680

S-16
S-17

31+82.25 -L1-
107.00 LT.
=
14+30 -L2-
98.00 LT.

RESIDUAL

GRAY-WHITE TO GRAY-WHITE-TAN & TAN-BRN STIFF DRY TO WET CLAYEY SANDY SILT (A-4)

06/06

BT

CRYSTALLINE ROCK

S.S. 721.864

32+00 -L1-
25.00 LT.

RESIDUAL

GRAY-BRN-WHITE TO TAN-YELLOW-WHITE STIFF MOIST TO WET SANDY SILTY CLAY (A-7-6, A-7-5)

4:1

06/06

BT

725.63

712.34

711.20

0.0600 0.0600

32+00.00

S-14

32+00 -L1-
40.00 RT.

RESIDUAL

TAN-YELLOW-WHITE STIFF MOIST CLAYEY SANDY SILT (A-4) W/LAYERS OF WEATHERED ROCK

4:1

AR
DRY
(606)

CRYSTALLINE ROCK

S.S. 739.903

RESIDUAL

S.S. 721.665

31+50 -L1-
CL

725.67

714.85

715.76

RESIDUAL

4:1

0.0571 0.0571

05/06

RESIDUAL

TAN-ORANGE HARD DRY CLAYEY SANDY SILT (A-4)

GRAY-BRN-WHITE TO TAN-YELLOW-WHITE STIFF MOIST SANDY SILTY CLAY (A-7-6, A-7-5)

BT

CRYSTALLINE ROCK

CRYSTALLINE ROCK

S.S. 737.361

RESIDUAL

31+50.00

-L1-

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	24

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

750 740 730 720 710 700 690

RESIDUAL

CRYSTALLINE ROCK

S.S. 718.329

33+00 -L1-
30.00 LT.

AR
NM
(606)

NOTE:
OUTCROPS OF ROCK
ARE VISIBLE ON SURFACE

725.76

TAN-YELLOW-WHITE STIFF MOIST
SANDY SILTY CLAY (A-7-6)

RESIDUAL

CRYSTALLINE ROCK

707.05

705.91

0.0600 0.0600

33+00.00

33+10 -L1-
40.00 RT.

AR
NM
(606)

W/LAYERS OF WEATHERED
ROCK (BOULDERS)

RESIDUAL

CRYSTALLINE ROCK

S.S. 721.793

32+50 -L1-
CL

NOTE:
OUTCROPS OF ROCK
ARE VISIBLE ON SURFACE

725.47

TAN-YELLOW-WHITE STIFF MOIST SANDY SILTY CLAY (A-7-6)

RESIDUAL

W/LAYERS OF WEATHERED ROCK

CRYSTALLINE ROCK

AR
NM
(606)

CRYSTALLINE ROCK

703.69

708.55

0.0600 0.0600

32+50.00

RESIDUAL

CRYSTALLINE ROCK

S.S. 1

-L1-

30-NOV-2006 10:07
dgn=C:\projects\3807_geo_dwg_randolph\roddd_geotech\xsc\K-3807_GEO_xs1_L1.dgn
dsn=C:\projects\3807_geo_dwg_randolph\roddd_geotech\xsc\K-3807_GEO_xs1_L1.dgn
user=DEH2971410

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	35

I-73/74 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

TAN-YELLOW-WHITE STIFF MOIST SANDY SILTY CLAY (A-7-6)

CRYSTALLINE ROCK

WEATHERED ROCK (SEV. WEATH. CRYSTALLINE ROCK)

WEATHERED ROCK (SEV. WEATH. CRYSTALLINE ROCK LAYERED WITH CLAYEY SANDY SILT)

34+00 -L1- 20.00 LT.

S.S. 708.523

712.44

702.45

4:1

0.0600

0.0600

AR

NM

(606)

34+00.00

SS-18

34+05 -L1- 60.00 RT.

(PI=23)

TAN-YELLOW-WHITE STIFF MOIST MED. PLASTIC SANDY SILTY CLAY (A-7-6)

S.S. 729.481

33+40 -L1- CL

S.S. 714.978

712.55

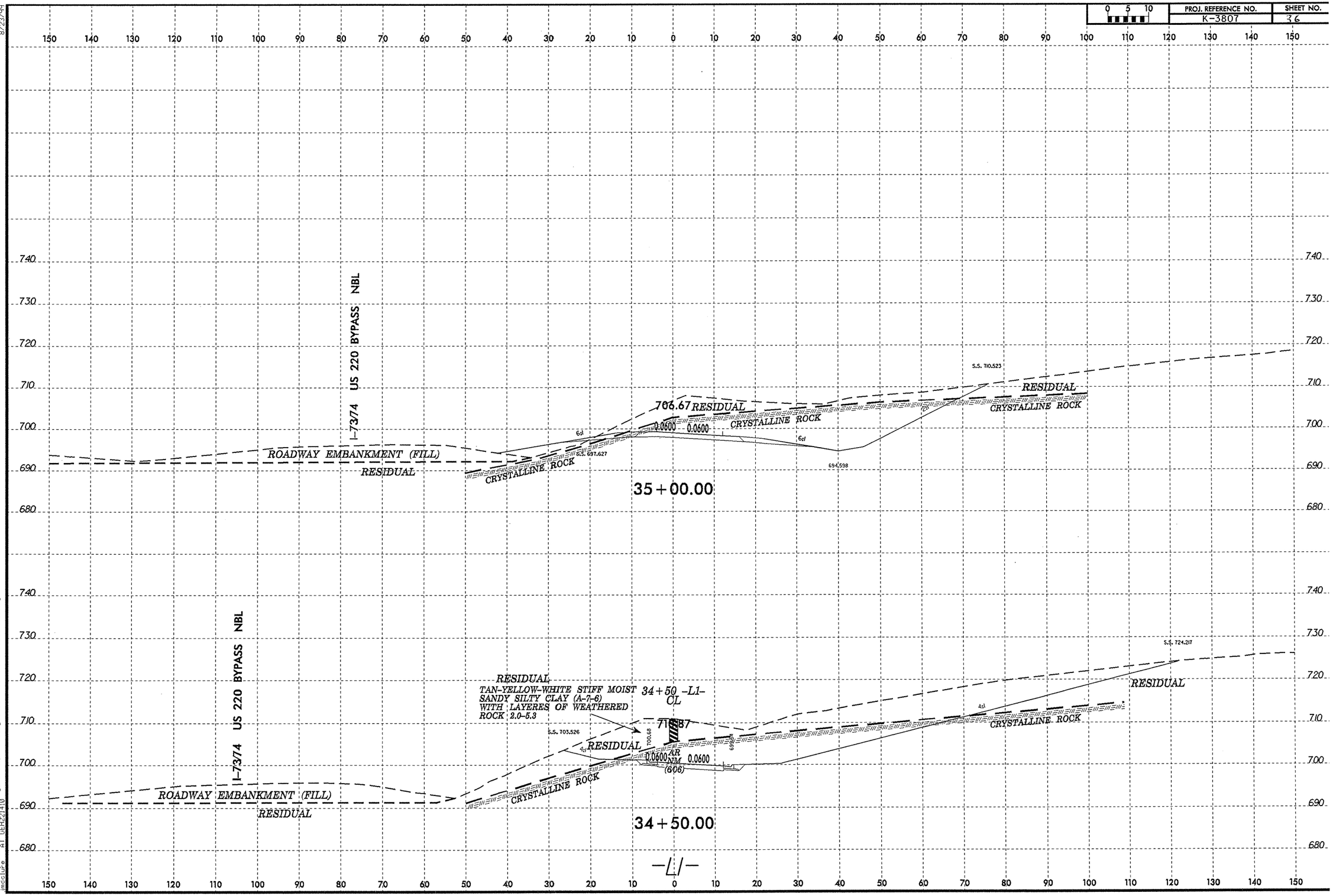
703.55

33+50.00 -L1-

S.S. 734.6

8/23/99

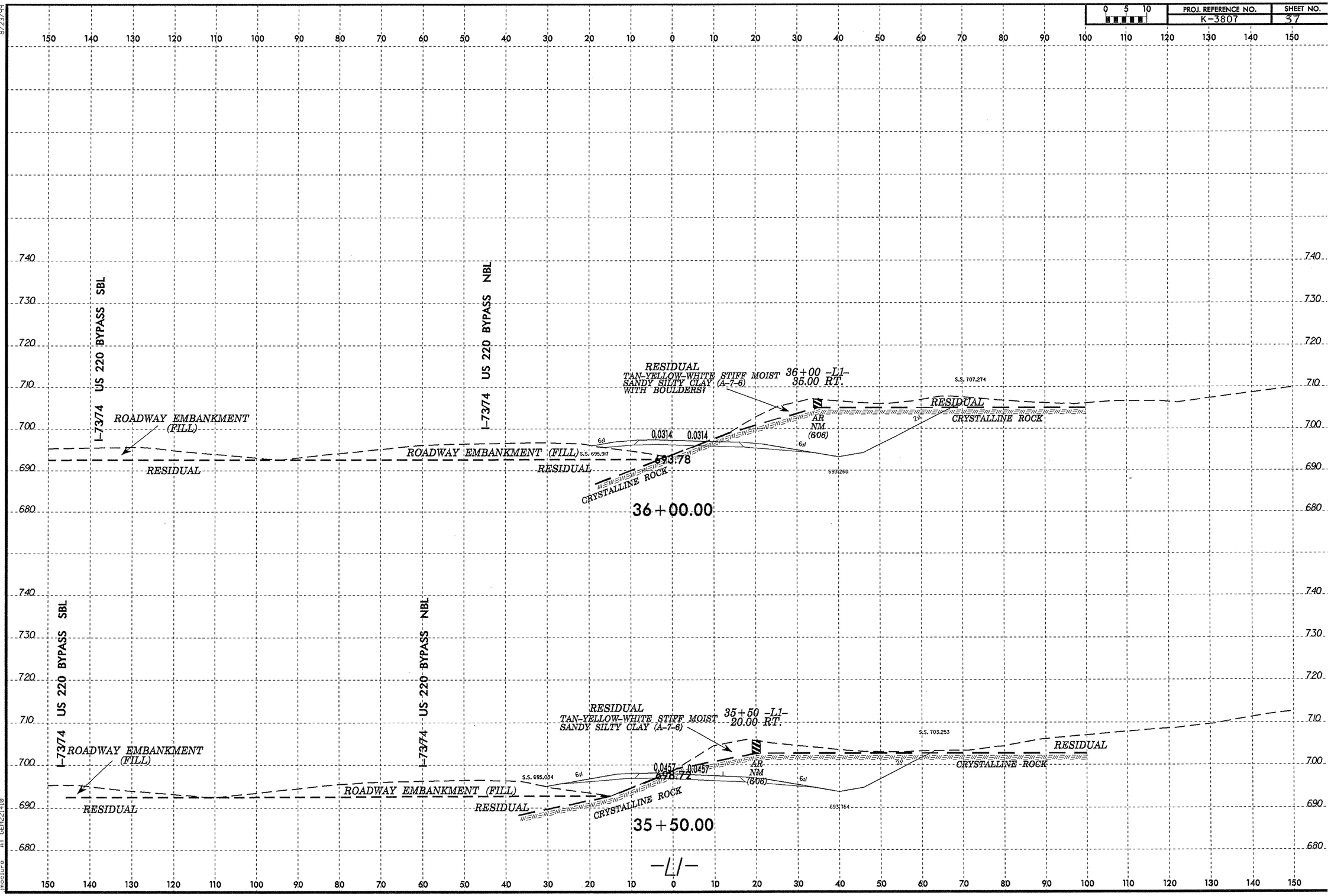
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	36



30-NOV-2006 10:24
dgn=proj\k3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_GEO_xs_L1.dgn
mclure

8/23/99

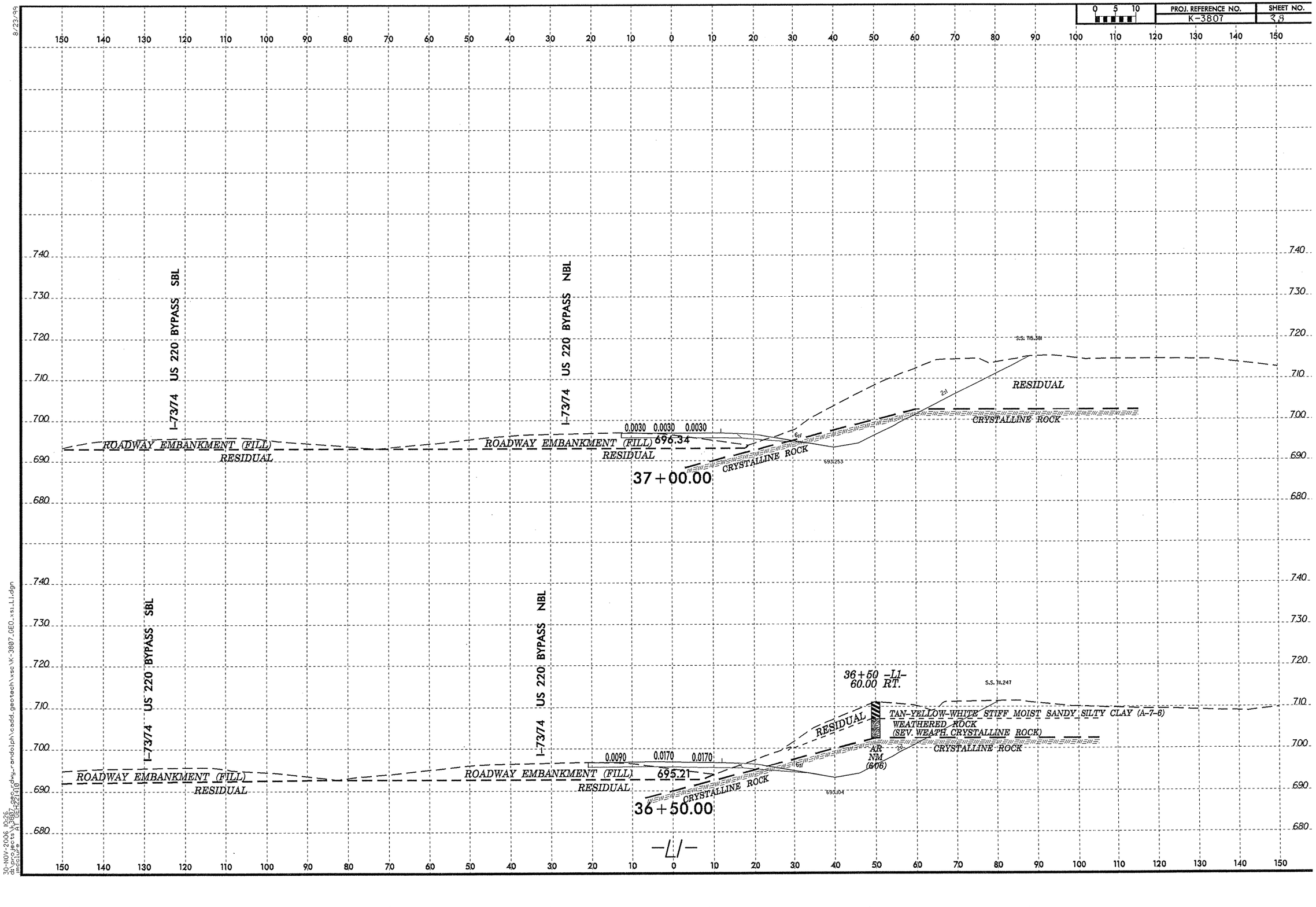
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	37



30-NOV-2006 10:05
d:\projects\3807_geo_rdwy_randolph\cadd_geotech\xso\K-3807_GEO_xs_L1.dgn
imcclure AT DEH221410

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	38



30-NOV-2006 10:26
d:\projects\k-3807\engineering\dwg_randolph\cadd_geotech\xsc\K-3807_GEO_xs_L1.dgn
mmoore at TEST2210

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	39

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

740 730 720 710 700 690 680

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)
RESIDUAL

0.0350 0.0200

696.80

RESIDUAL

CRYSTALLINE ROCK

693.698

S.S. 723.328

RESIDUAL

CRYSTALLINE ROCK

38+00.00

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)
RESIDUAL

0.01 0.01 0.011

686.71

ROADWAY EMBANKMENT (FILL)
RESIDUAL

CRYSTALLINE ROCK

693.565

S.S. 719.178

RESIDUAL

CRYSTALLINE ROCK

37+50.00

-11-

30-NOV-2006 10:26
d:\projects\3807\geo\dwg_randolph\codd_geotech\xsc\K-3807_GEO_xs_LL.dgn
awallace at DEFAULT

740 730 720 710 700 690 680

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	4c

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

740 730 720 710 700 690 680

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)
RESIDUAL

0.0200 0.0200

694.69

6:1

693.420

CRYSTALLINE ROCK

39+00.00

S.S. 732.544

2:1

RESIDUAL

CRYSTALLINE ROCK

I-73/74 US 220 BYPASS SBL

I-73/74 US 220 BYPASS NBL

ROADWAY EMBANKMENT (FILL)
RESIDUAL

0.0450 0.0200

694.39

6:1

693.593

CRYSTALLINE ROCK

38+50.00

S.S. 727.861

2:1

RESIDUAL

CRYSTALLINE ROCK

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

30-NOV-2006 10:27
d:\projects\3807\geotech\xsc\K-3807_GEO_rsLl.dgn
microstation V8 (SELECT)10

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	41

I-73/74 US 220 BYPASS NBL

S.S. 711.854

ROADWAY EMBANKMENT (FILL)

RESIDUAL

RESIDUAL

4:1

709.85

698.34

RESIDUAL

699.74

0.0200 0.0200

4:1

S.S. 709.712

ARTIFICIAL FILL OVER RESIDUAL

11+50.00

I-73/74 US 220 BYPASS NBL

SHEAR POINT #1
-L1- STA 17+00.00, ELEV 704.356

ROADWAY EMBANKMENT (FILL)

RESIDUAL

RESIDUAL

4:1

705.73

691.01

RESIDUAL

697.37

0.0181 0.0180

4:1

ARTIFICIAL FILL OVER RESIDUAL

11+00.00

-L2-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

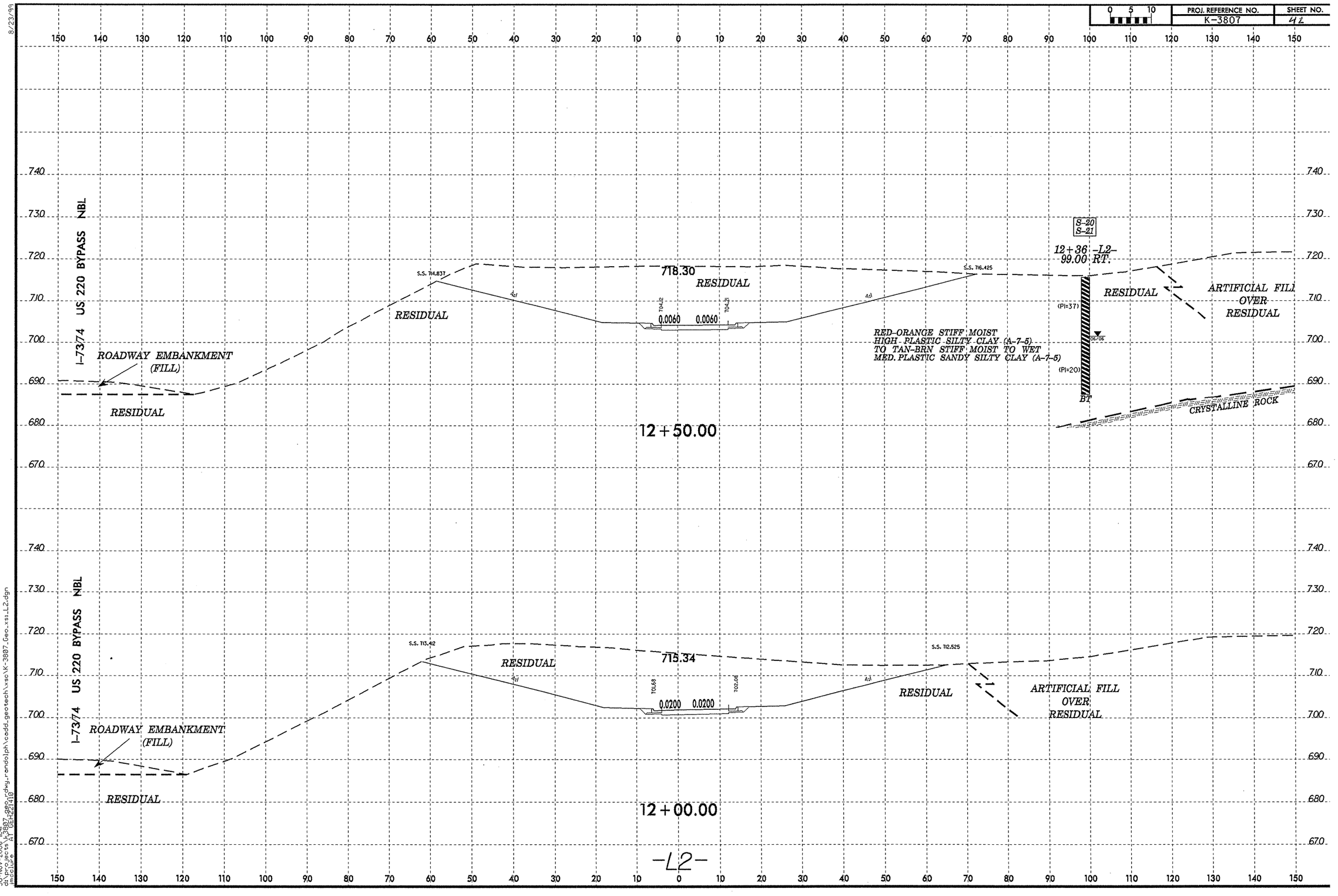
740 730 720 710 700 690 680 670

30-NOV-2006 11:41
dgn:\projects\k-3807_geo\dwg_randolph\osdd_geotech\xsc\K-3807_Geo_xs_L2.dgn
d:\projects\k-3807_geo\dwg_randolph\osdd_geotech\xsc\K-3807_Geo_xs_L2.dgn

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	42

I-73/74 US 220 BYPASS NBL



30-NOV-2006 11:41
d:\projects\3807_geo_rdwy_randolph\caddd_geotech\xsec\K-3807_Geo_xs_L2.dgn
imeclure
AT 06H22140

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	43

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

740 730 720 710 700 690 680

13+50 -L2- 30.00 LT.

S.S. 718.230

RESIDUAL

GRAY-WHITE-TAN STIFF DRY TO WET CLAYEY SANDY SILT (A-4) W/WEATHERED ROCK LAYERS 2.0-17.9

4:1

06.76

BT

720.53

0.0200

708.29

13+50 -L2- 40.00 RT.

RESIDUAL

GRAY-WHITE-TAN STIFF DRY CLAYEY SANDY SILT (A-4)

107.62 107.51 107.03

0.0600

WEATHERED ROCK (SEV. WEATH. CRYSTALLINE ROCK)

GRAY-WHITE-TAN STIFF DRY TO MOIST CLAYEY SANDY SILT (A-4)

BT

S.S. 719.152

4:1

RESIDUAL

ARTIFICIAL FILL OVER RESIDUAL

RESIDUAL

CRYSTALLINE ROCK

13+50.00

I-73/74 US 220 BYPASS NBL

S.S. 716.623

4.00H

719.35

RESIDUAL

706.29 705.86

0.0140 0.0140

RESIDUAL

S.S. 719.010

4.00H

RESIDUAL

ARTIFICIAL FILL OVER RESIDUAL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

CRYSTALLINE ROCK

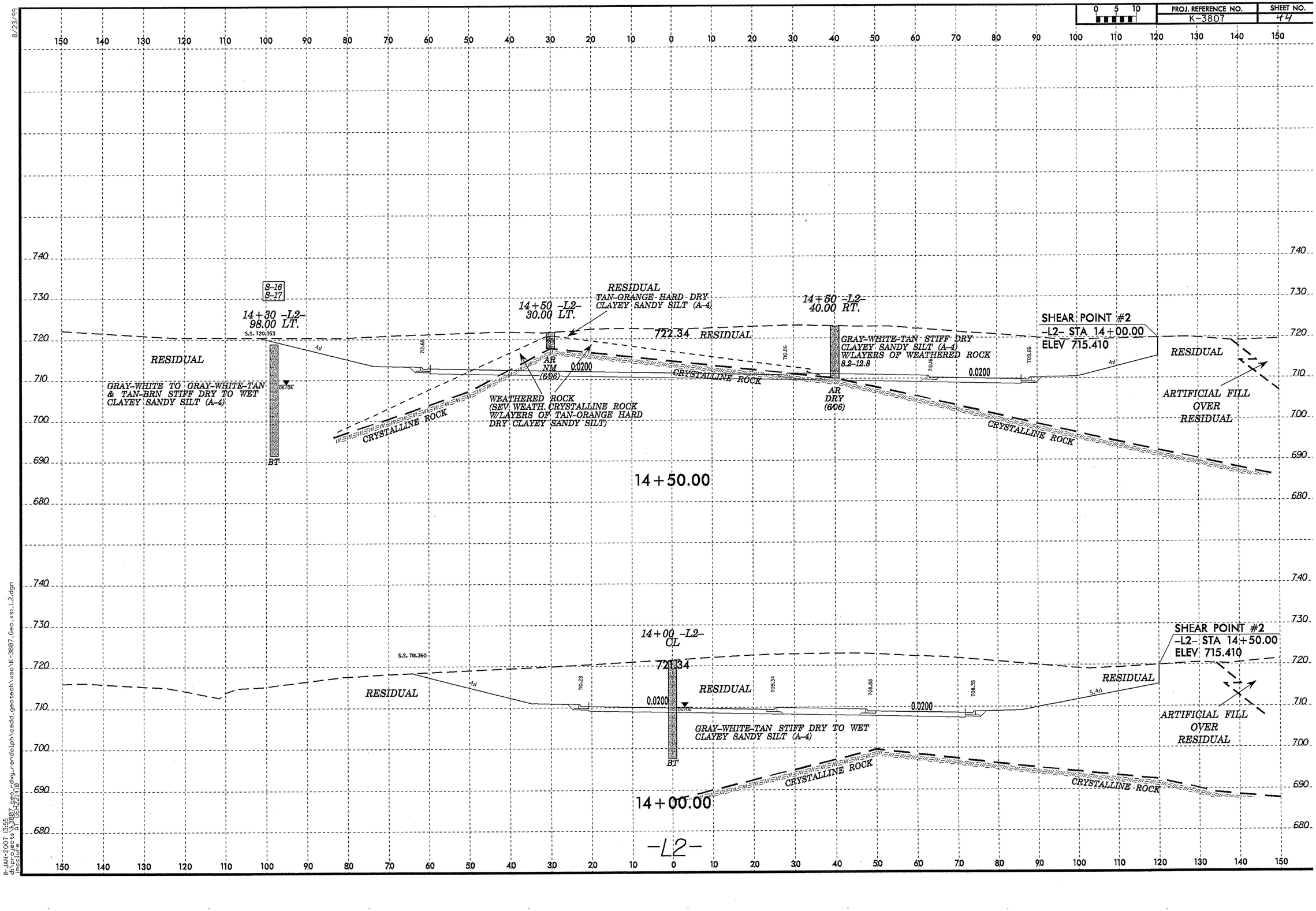
13+00.00

-L2-

30-NOV-2006 11:42
m:\projects\k3807_geo_dwg_randolph\eddi_geotech\xsc\K-3807_Geo_xs1_L2.dgn
$USERNAME$ DEH221410

8/23/99

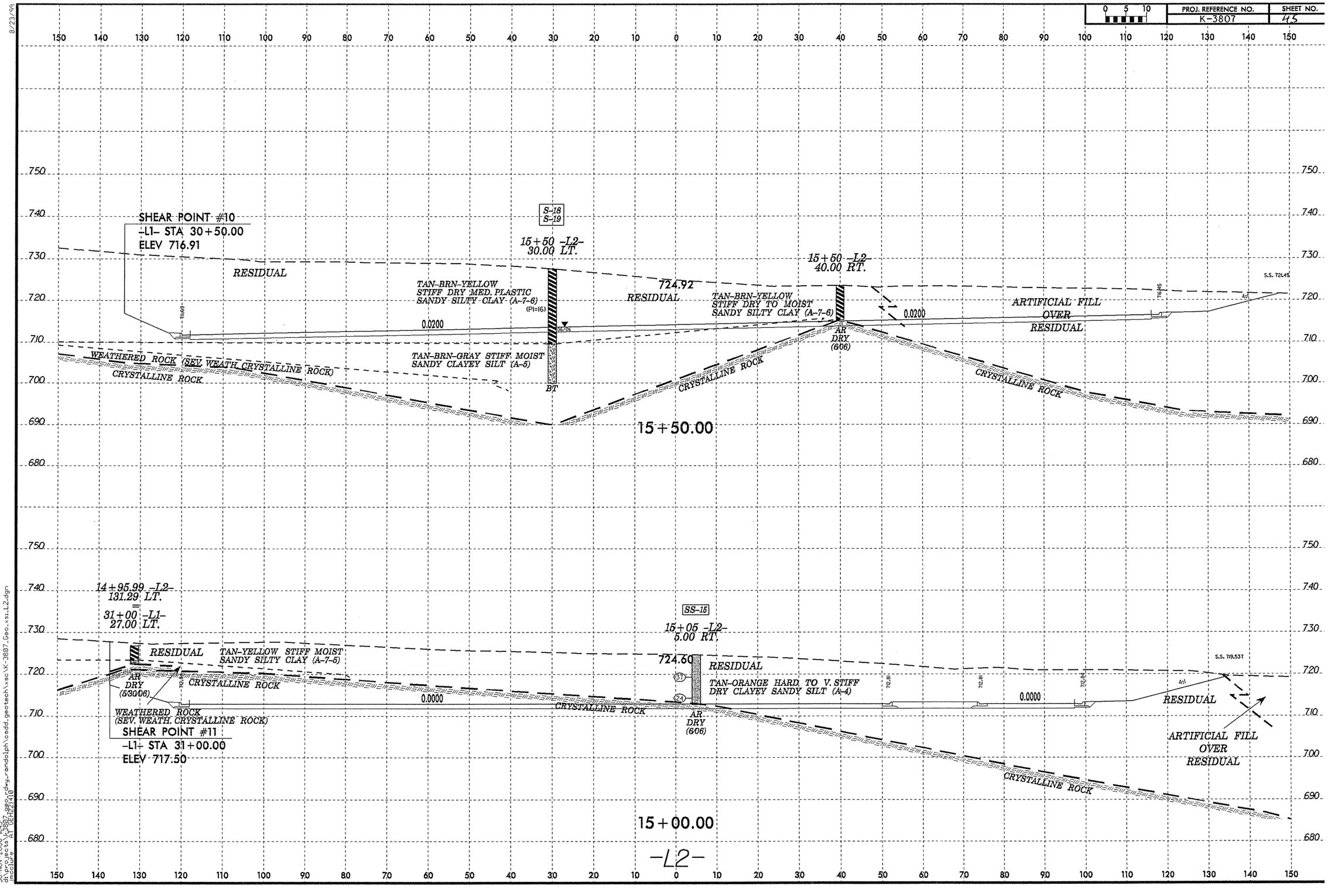
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	44



11-JAN-2007 13:55
d:\projects\k-3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xs1_L2.dgn
imcclure AT OEH221410

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	45



30-NOV-2006 11:43
dn:\projects\3807_geo_rdvy_randolph\coddl_geotech\xsc\K-3807_Geo_xs_L2.dgn
imcclure
AT 0EH22140

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	16

SHEAR POINT #8
-L2- 163.31 LEFT
-L1- STA 29+50.00
ELEV 722.15

RESIDUAL

CRYSTALLINE ROCK

0.0200

RESIDUAL

725.25

ARTIFICIAL FILL

TAN-BRN-YELLOW STIFF DRY SANDY SILTY CLAY (A-7-6) W/WEATHERED ROCK LAYERS

16+50 -L2- 50.00 RT.

0.0200

ARTIFICIAL FILL

BT DRY (606)

TAN-BRN-GRAY STIFF MOIST SANDY CLAYEY SILT (A-5) W/WEATHERED ROCK LAYERS (WOOD AT 17.0)

CRYSTALLINE ROCK

CRYSTALLINE ROCK

16+50.00

HEAR POINT #9
L1- STA 30+00.00
LEV 721.03

16+12.54 -L2- 148.87 LT.
=
29+90 -L1- 24.00 LT.

TAN-YELLOW-WHITE STIFF MOIST SANDY SILTY CLAY (A-7-5)

WEATHERED ROCK (SEV. WEATH. CRYSTALLINE ROCK)

CRYSTALLINE ROCK

AR NM (606)

RESIDUAL

0.0200

RESIDUAL

724.28

TAN-BRN-YELLOW STIFF DRY SANDY SILTY CLAY (A-7-6)

16+00 -L2- 8.00 RT.

ARTIFICIAL FILL OVER RESIDUAL

0.0200

AR DRY (606)

CRYSTALLINE ROCK

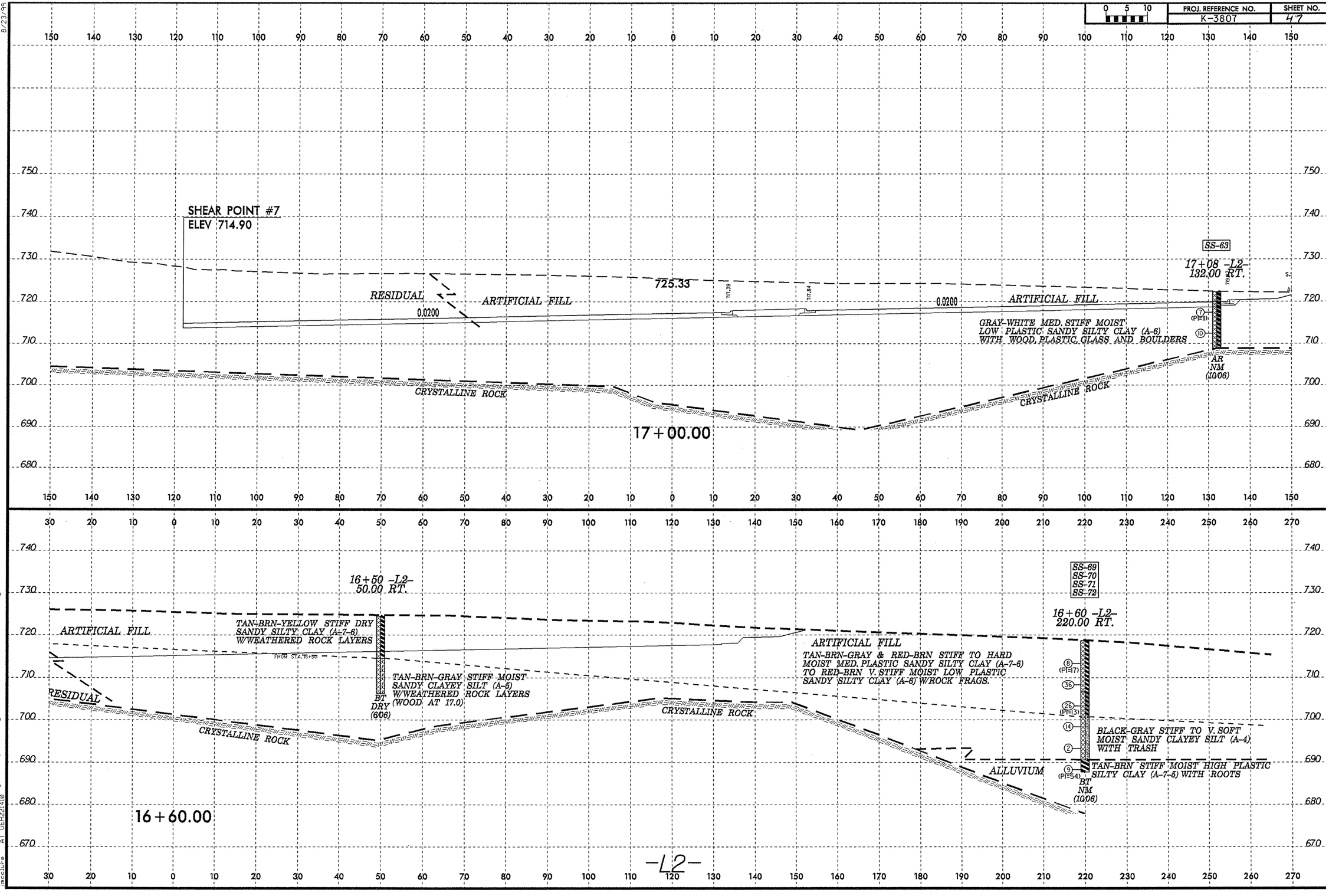
16+00.00

-L2-

30-NOV-2006 11:43
dh:\projects\k-3807_geo_rdwg_randolph\cadd_geotech\xsc\K-3807_Geo_xsi_L2.dgn
$$USER$$

8/23/95

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	47



30-NOV-2006 11:44
d:\projects\k-3807\geo_rdwg_randolph\cadd_geotech\xsc\K-3807_Geo_xs_L2.dgn
(microstation V8)

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	48

SHEAR POINT #7
-L2- STA 17+00.00
ELEV 714.90

RESIDUAL
ARTIFICIAL FILL
0.049
726.40
718.76
0.0210
0.0206
719.90
S.S. 722.810
4.002%
ARTIFICIAL FILL
RESIDUAL
CRYSTALLINE ROCK

18+00.00

SHEAR POINT #7
-L2- STA 17+00.00
ELEV 714.90

RESIDUAL
ARTIFICIAL FILL
0.033
725.01
717.77
718.39
0.0205
0.0203
719.43
720.08
S.S. 721.692
4.00%
ARTIFICIAL FILL
ALLUVIUM
RESIDUAL
CRYSTALLINE ROCK

SS-64
SS-65
SS-66
SS-67
SS-68

17+32 -L2-
50.00 RT.

GRAY TO TAN-BRN STIFF MOIST TO WET
LOW PLASTIC SANDY SILTY CLAY (A-7-6)
WITH BOULDER, TRASH, AND GRAVEL (3.5-5.0)

(10) (PI=14)

TAN-BRN-GRAY SOFT MOIST TO WET
MED. PLASTIC SANDY SILTY CLAY (A-6)

(4) (PI=16)

GRAY MED. STIFF MOIST TO WET HIGH PLASTIC
SANDY SILTY CLAY (A-7-6) WITH WOOD

(5) (PI=27)

TAN-GRAY STIFF MOIST TO WET
MED. PLASTIC SILTY SANDY CLAY (A-7-6)
WITH ROOTS

(8) (PI=19)

(4) (PI=19) BT TAN-GRAY SOFT MOIST TO WET
NM MED. PLASTIC SANDY SILTY CLAY (A-7-5)
(10.06)

RESIDUAL

17+50.00

-L2-

750 740 730 720 710 700 690 680

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

18-JAN-2007 08:15
d:\projects\k-3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xss_L2.dgn
mcclure AT GEH22410

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	49

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

750
740
730
720
710
700
690

SHEAR POINT #7
-L2- STA 17+00.00
ELEV 714.90

RESIDUAL

SLOPE VARIES

RESIDUAL

0.02

725.04

0.02

4:1

S.S. 725.233

RESIDUAL

CRYSTALLINE ROCK

18+95.00

SHEAR POINT #7
-L2- 17+00.00
ELEV 714.90

S-22
S-23

18+50 -L2-
CL

RESIDUAL

RESIDUAL

ARTIFICIAL FILL

0.055

0.0212

726.04

0.0209

4:1

S.S. 722.655

ARTIFICIAL FILL
GRAY STIFF MOIST
SANDY CLAYEY SILT (A-4)
W/WOOD

RESIDUAL

RESIDUAL

(PI=13)

TAN-WHITE STIFF MOIST LOW PLASTIC
BT SANDY SILTY CLAY (A-6)
NM
(606)

CRYSTALLINE ROCK

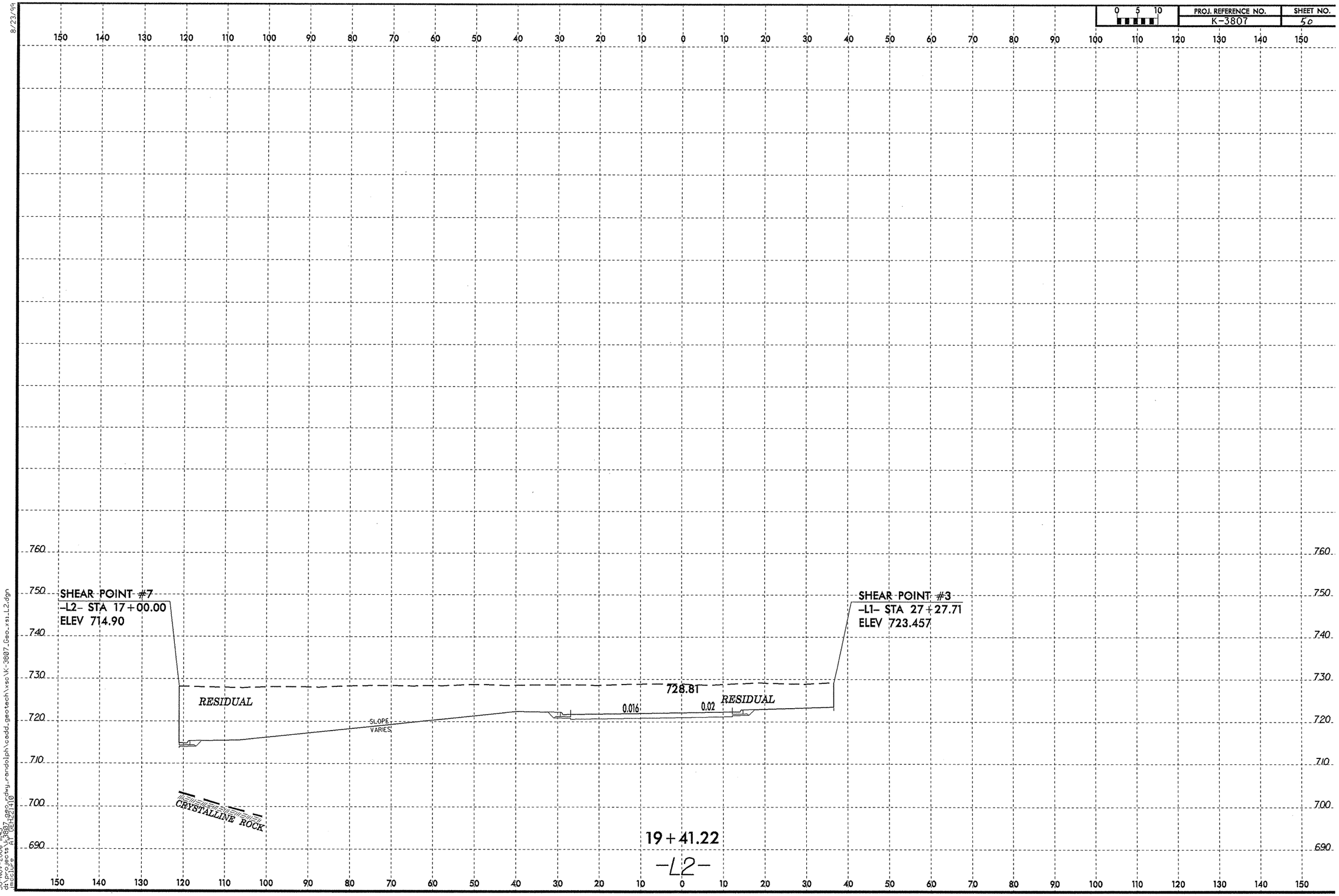
18+50.00
-L2-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

30-NOV-2006 11:45
d:\projects\k-3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xs_L2.dgn
imeclure

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	50

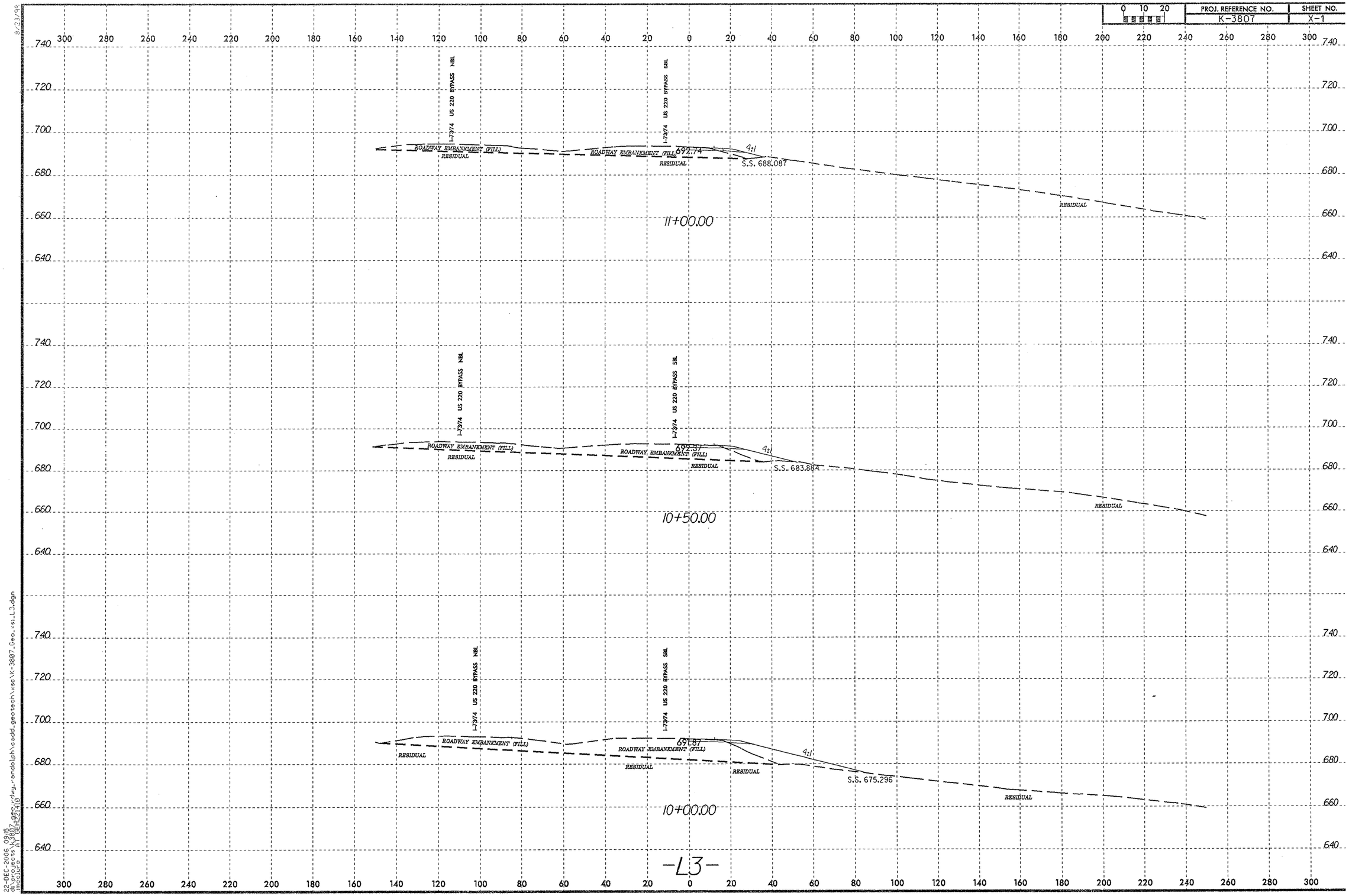


30-NOV-2006 11:45
d:\projects\k3807\geo\dwg\randolph\cadd_geotech\vso\K-3807_Geo_vso_L2.dgn
imcclure
AT GEH221410

51

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-1

8/23/96



-L3-

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-2

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

740
720
700
680
660

I-73/74 US 220 BYPASS NBL

I-73/74 US 220 BYPASS SBL

ROADWAY EMBANKMENT (FILL)
RESIDUAL

ROADWAY EMBANKMENT (FILL)
RESIDUAL

6:1

S.S. 696.969

689.711

RESIDUAL

RESIDUAL

12+50.00

I-73/74 US 220 BYPASS NBL

I-73/74 US 220 BYPASS SBL

ROADWAY EMBANKMENT (FILL)
RESIDUAL

ROADWAY EMBANKMENT (FILL)
RESIDUAL

6:1

S.S. 694.413

689.383

RESIDUAL

RESIDUAL

12+00.00

I-73/74 US 220 BYPASS NBL

I-73/74 US 220 BYPASS SBL

ROADWAY EMBANKMENT (FILL)
RESIDUAL

ROADWAY EMBANKMENT (FILL)
RESIDUAL

6:1

6:1

S.S. 690.846

689.055

RESIDUAL

RESIDUAL

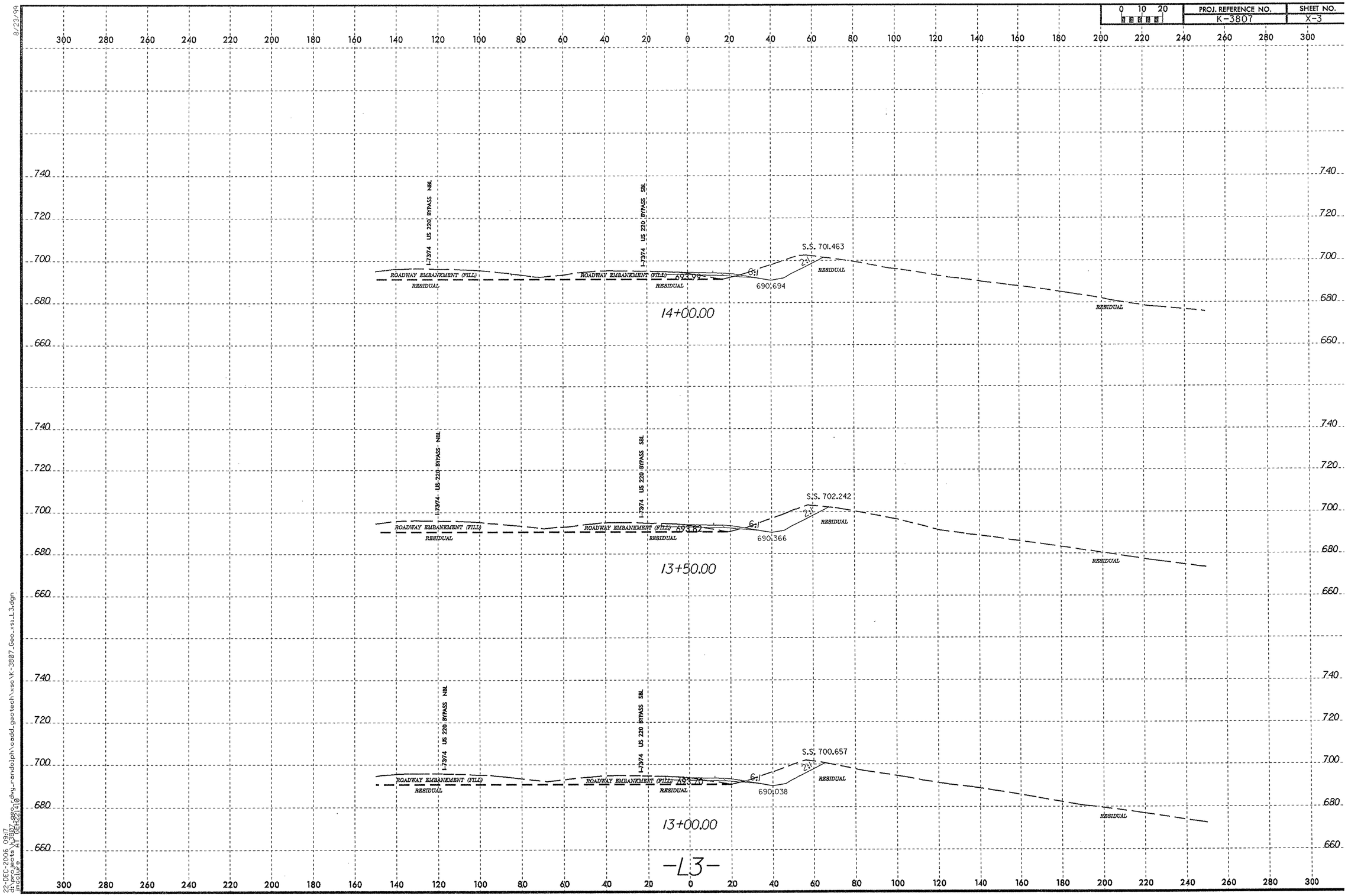
11+50.00

-L3-

22-DEC-2006 09:16
d:\projects\k3807_geo_rdwy_randolph\cedd_geotech\xsc\k-3807_Geo_xsL3.dgn
imcclure
AT GEN22X410

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-3

8/23/99

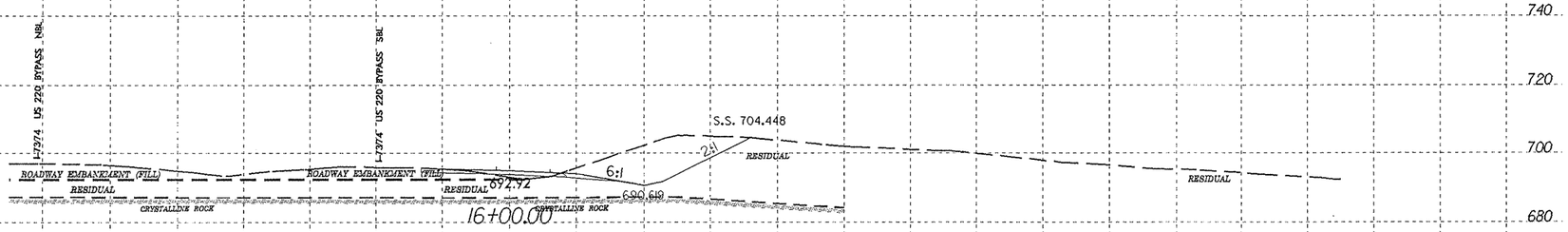


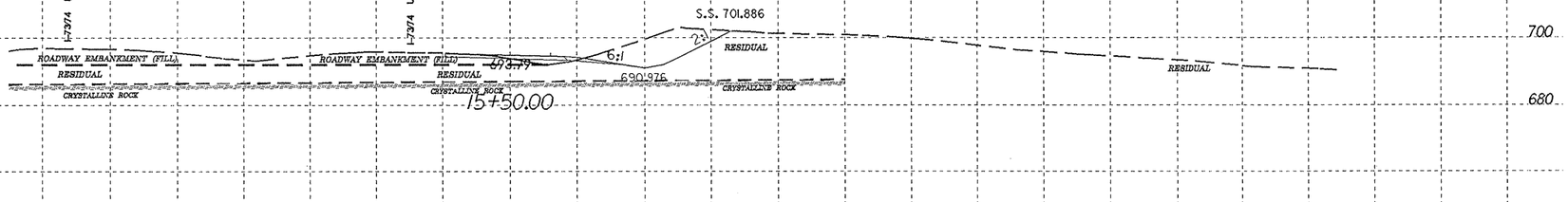
8/23/99

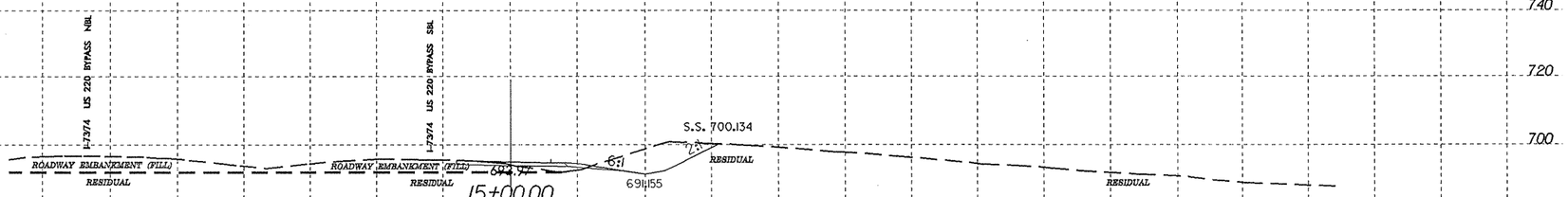
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-4

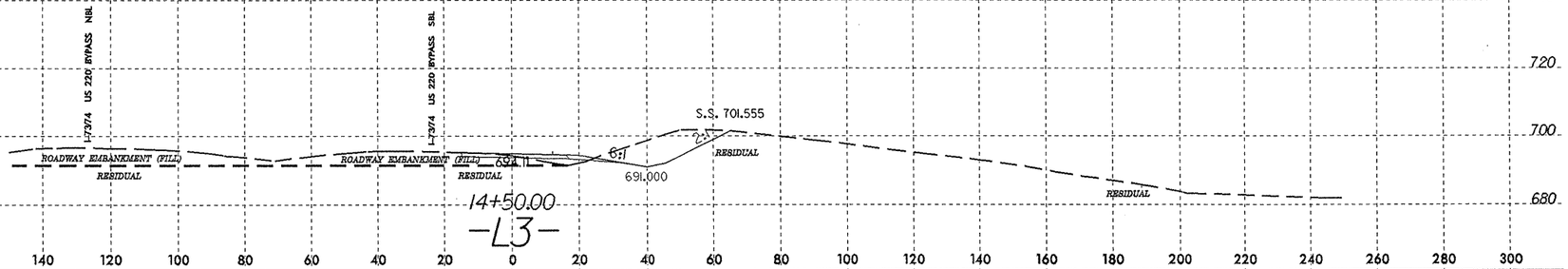
300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

740 720 700 680









-L3-

22-DEC-2006 09:17
d:\projects\k3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xs_L3.dgn
mcelur
AT DEH221110

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-5

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

740 720 700 680

I-7374 US 220 BYPASS SBL

S-69
17+40 -L8-
10.00 RT.

709.68

S.S. 697.620

3.41:1

6:1

693.42

ROADWAY EMBANKMENT (FILL)

RESIDUAL

CRYSTALLINE ROCK

RESIDUAL

TAN-WHITE V.STIFF DRY SANDY CLAYEY SILT (A-4)

SOFT TO MEDIUM HARD CRYSTALLINE ROCK

DRY ROCK

692.302

CRYSTALLINE ROCK

6:1

2:1

S.S. 706.425

RESIDUAL

17+50.00

740 720 700 680

I-7374 US 220 BYPASS NBL

I-7374 - US 220 BYPASS SBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

CRYSTALLINE ROCK

ROADWAY EMBANKMENT (FILL)

RESIDUAL

CRYSTALLINE ROCK

700.47

6:1

S.S. 692.086

6:1

691.244

2:1

S.S. 706.609

RESIDUAL

RESIDUAL

17+00.00

760 740 720 700 680

I-7374 US 220 BYPASS NBL

I-7374 US 220 BYPASS SBL

ROADWAY EMBANKMENT (FILL)

RESIDUAL

CRYSTALLINE ROCK

S.S. 695.593

3.92:1

6:1

693.36

ROADWAY EMBANKMENT (FILL)

RESIDUAL

692.043

CRYSTALLINE ROCK

6:1

690.603

2:1

S.S. 705.846

RESIDUAL

RESIDUAL

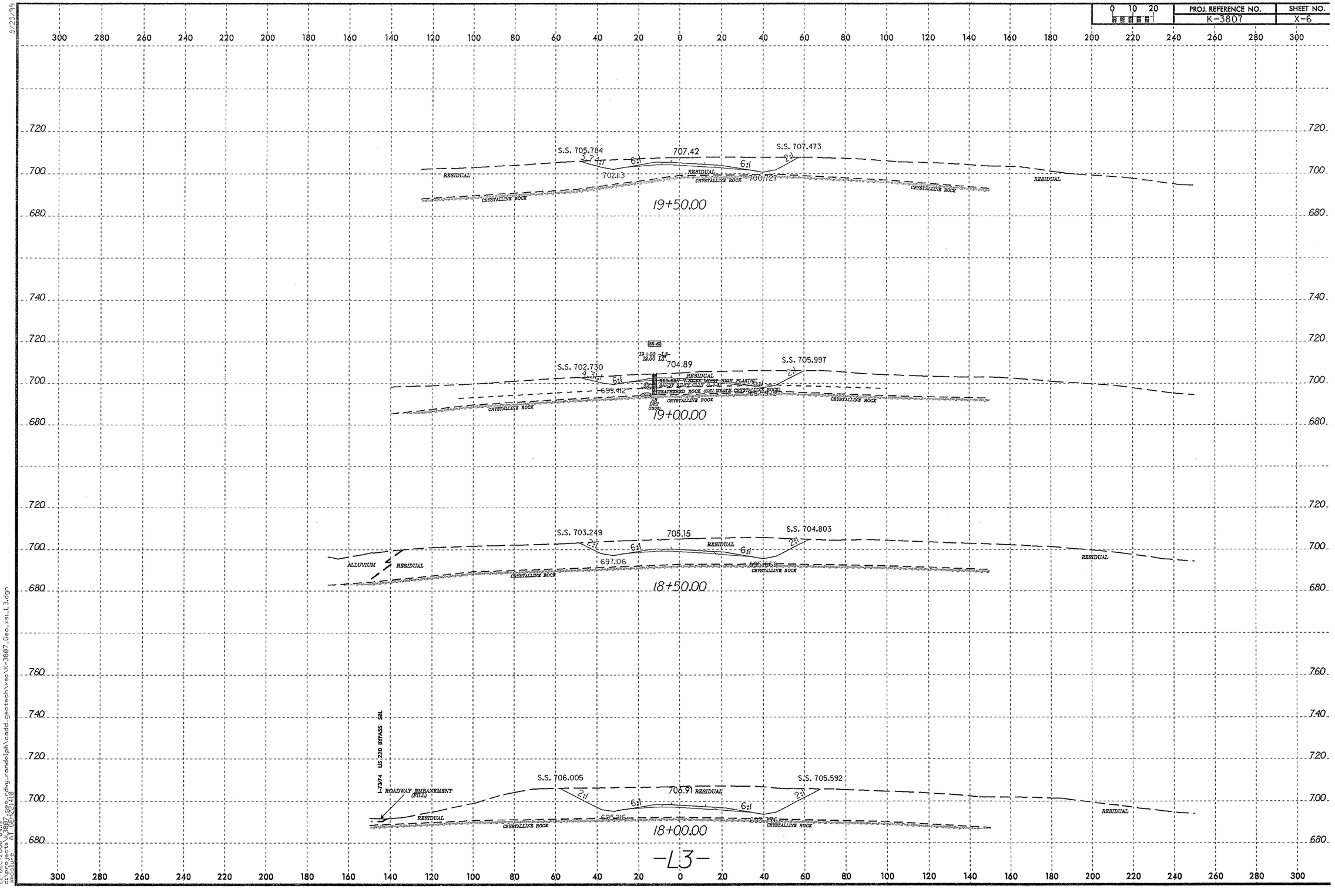
16+50.00

-L3-

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

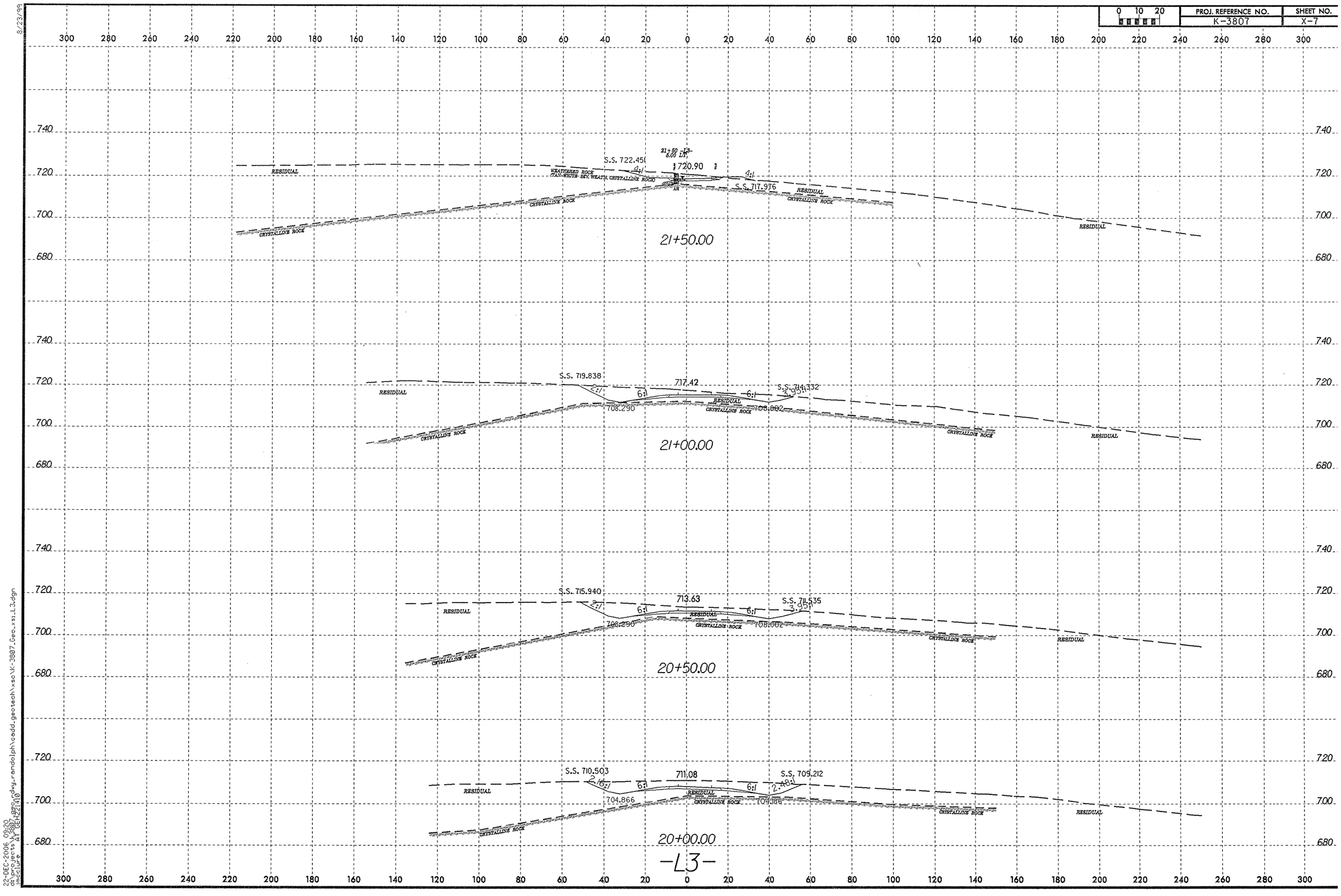
22-DEC-2006 09:18
d:\projects\3807_geo\rdy_randolph\cadd_geotech\xsc\K-3807_Geo_xsL3.dgn
imcouture
AT 1"=2"&10"

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-6



8/23/99

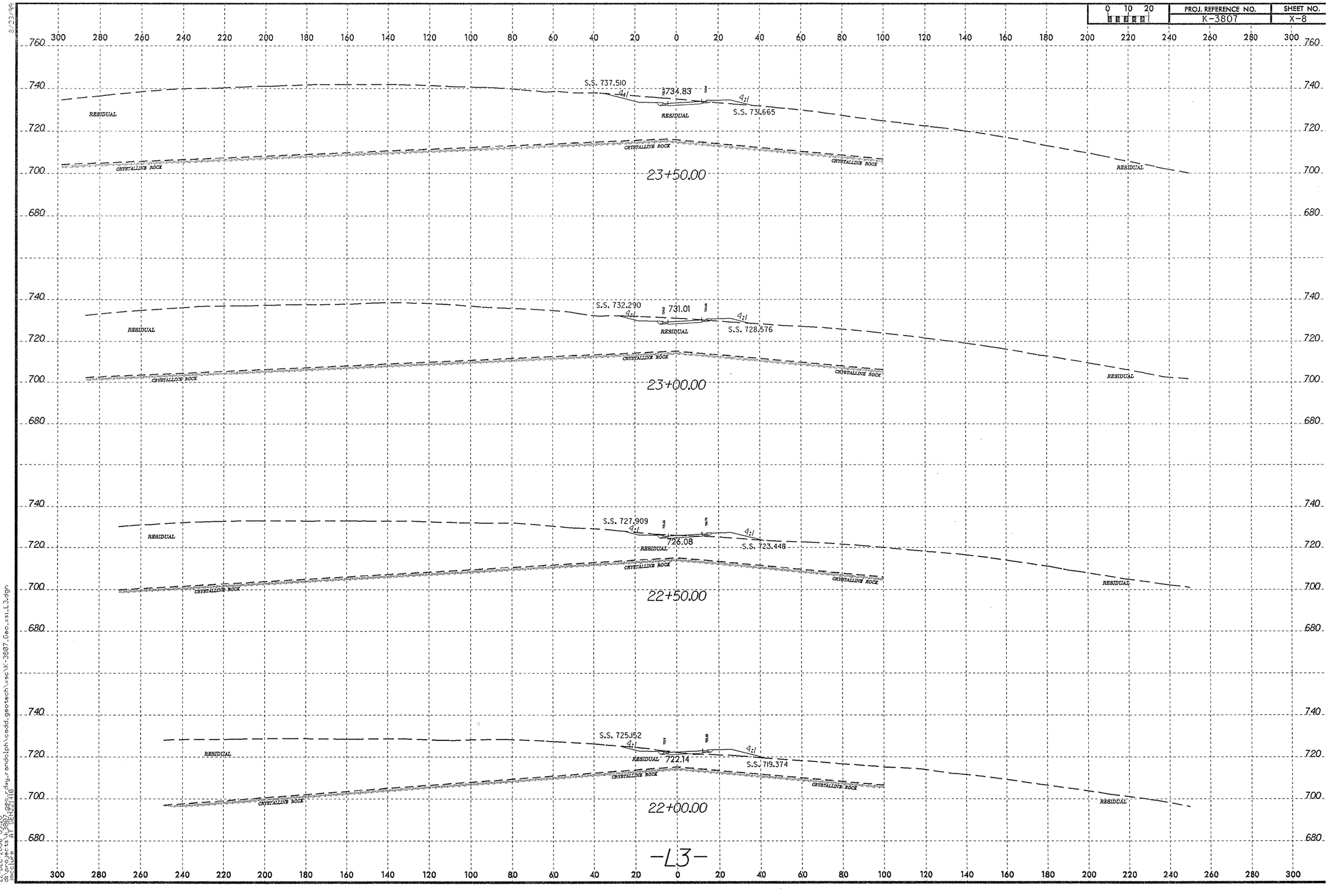
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-7



22-DEC-2006 09:20
d:\projects\k-3807-999-rdwy-randolph\cadd_geotech\xsc\K-3807_Geo_xs_L3.dgn
mcclure
AT GEH221410

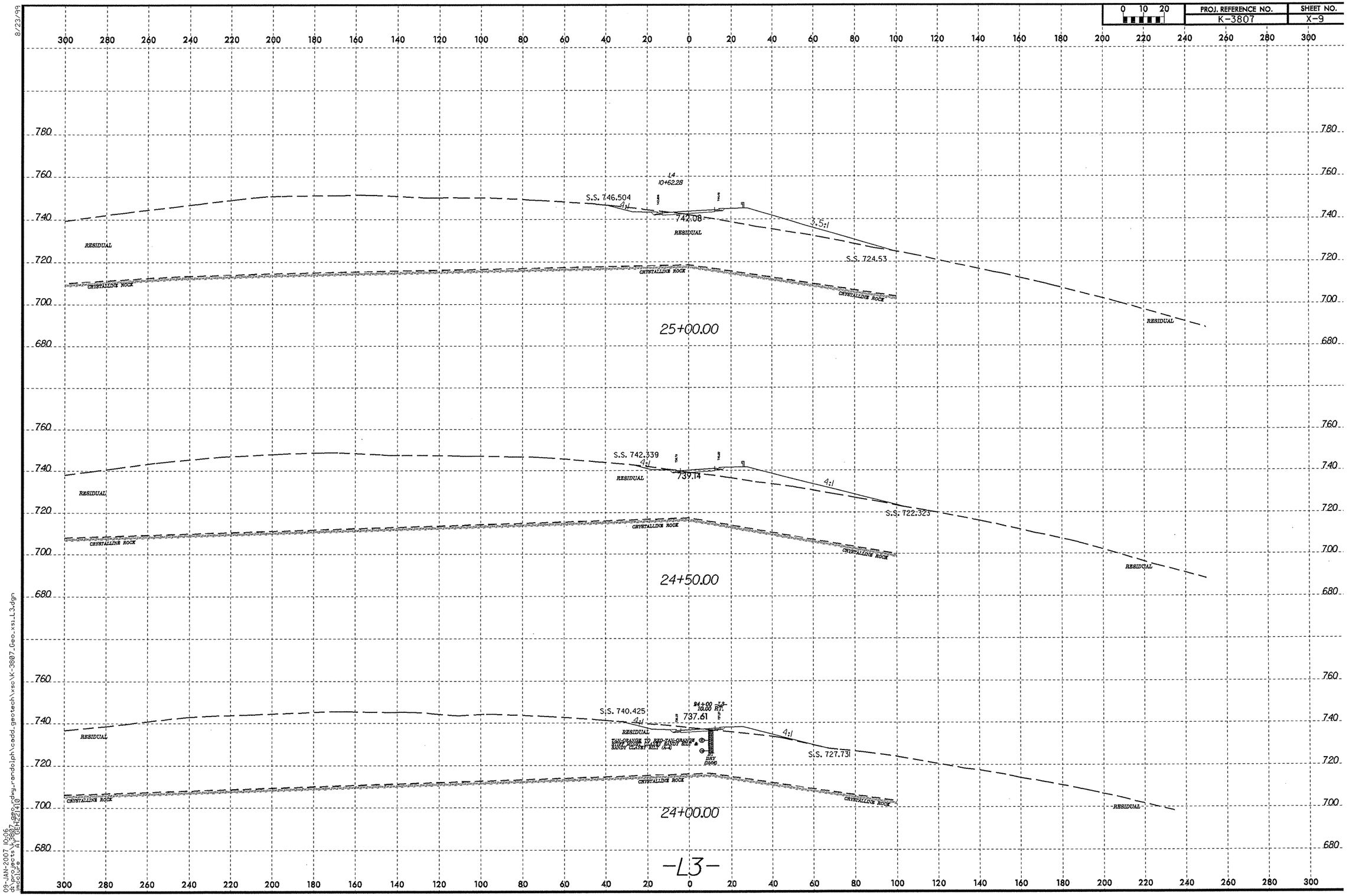
8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-8



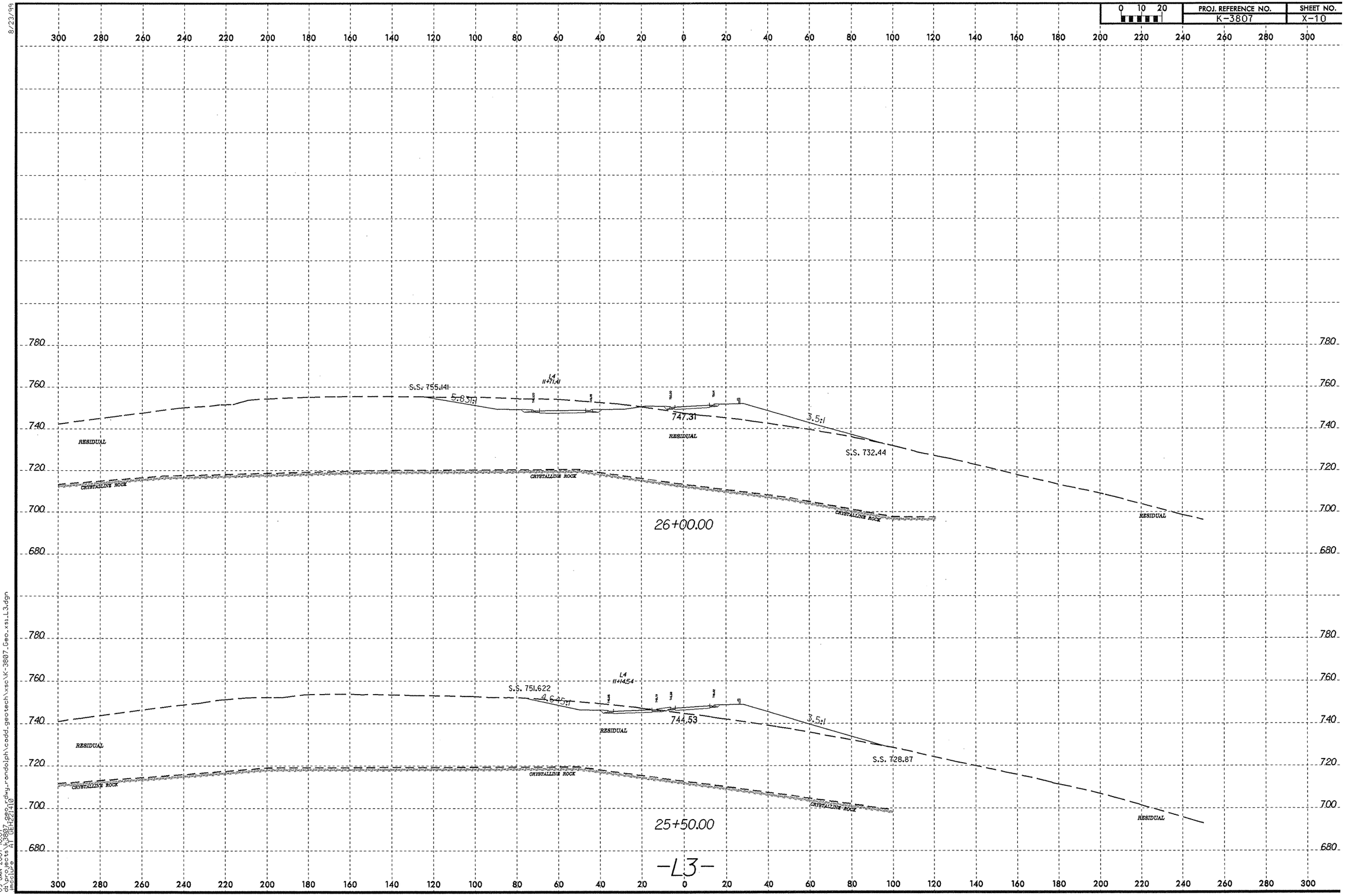
8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-9



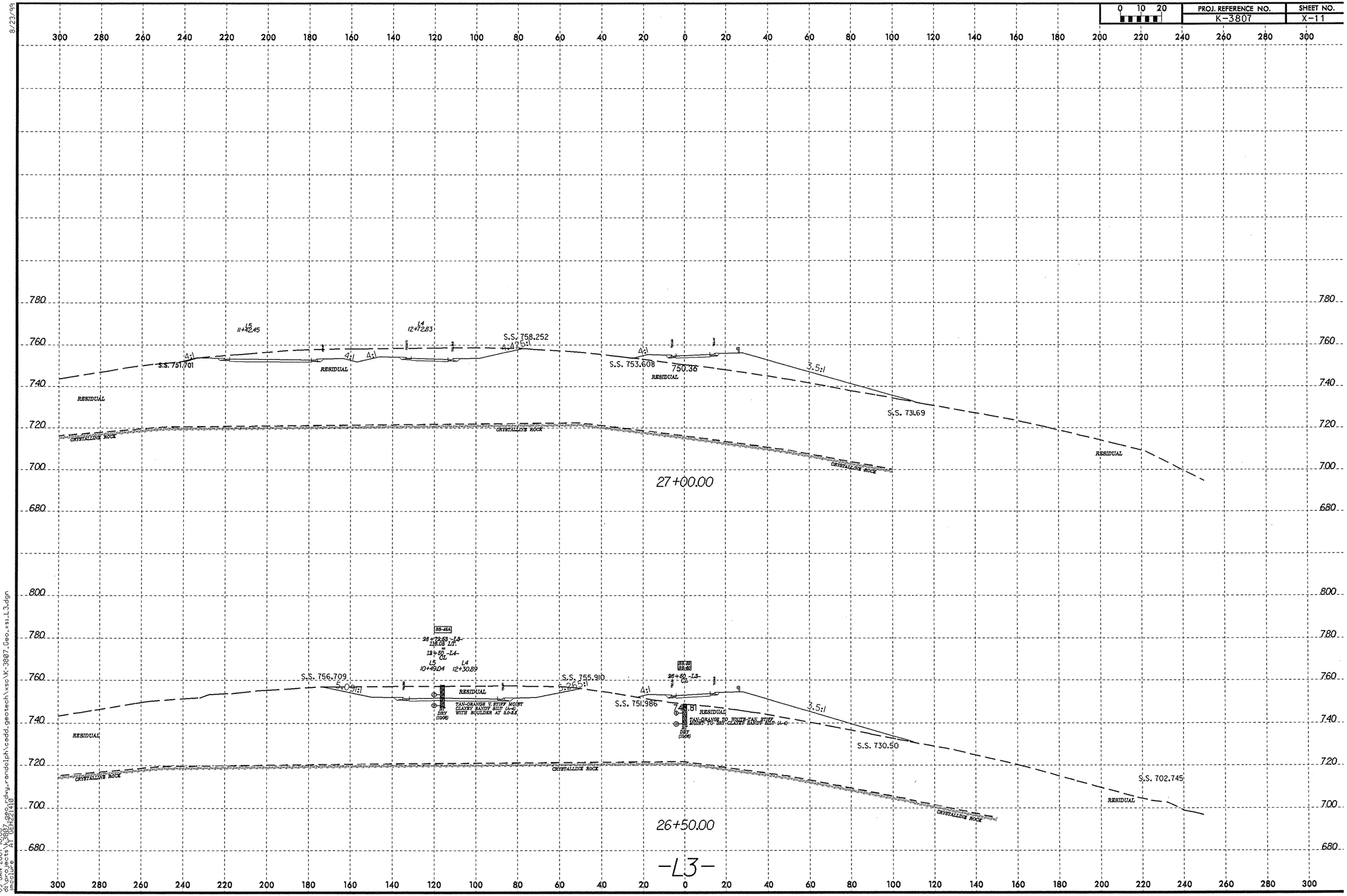
8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-10



8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-11



09-JAN-2007 10:08
d:\projects\k3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xs_L3.dgn
imcclure AT DEH22410

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-12

NT #1
0
722

L4
13+98.91

S.S. 762.952
4:1
S.S. 753.107
4:1
RESIDUAL
3.27:1
4:1
752.27
RESIDUAL
4:1
S.S. 733.714
RESIDUAL
CRYSTALLINE ROCK
CRYSTALLINE ROCK
CRYSTALLINE ROCK
CRYSTALLINE ROCK

28+50.00

L5
12+50.73

L4
13+48.92

S.S. 760.934
4:1
S.S. 757.722
4:1
RESIDUAL
25.384:1
RESIDUAL
751.96
RESIDUAL
3.5:1
S.S. 735.48
RESIDUAL
RESIDUAL
CRYSTALLINE ROCK
CRYSTALLINE ROCK
CRYSTALLINE ROCK

28+00.00

L5
11+89.36

L4
13+10.07

S.S. 759.490
4.088:1
S.S. 759.276
4.075:1
S.S. 757.910
4:1
A:1
A:1
S.S. 756.244
RESIDUAL
750.89
RESIDUAL
3.5:1
S.S. 731.54
RESIDUAL
RESIDUAL
CRYSTALLINE ROCK
CRYSTALLINE ROCK
CRYSTALLINE ROCK

27+50.00

-L3-

09-JAN-2007 10:09
d:\projects\k3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xs_L3.dgn
mcclure

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-13

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

800 780 760 740 720 700 680

NT #11
025
9.478
RESIDUAL
S.S. 767.617
ROCK OUTCROP (POSSIBLE BOULDERS) 14+93.91
RS-44
RS-45
29+57.59 1.5
18.09 LT.
15+07 1.4
7.0 LT. 1.4
4:1
RESIDUAL
RED-ORANGE STIFF MOIST MED. PLASTIC SILTY CLAY (A-7-6)
TAN-BRN STIFF MOIST SANDY CLAYEY SILT (A-4)
EST. (1000)
CRYSTALLINE ROCK
751.99
RESIDUAL
4:1
S.S. 731.450
RESIDUAL
CRYSTALLINE ROCK
29+50.00

NT #12
639
S.S. 757.006
RESIDUAL
WHITE-TAN STIFF TO V.STIFF DRY CLAYEY SANDY SILT (A-4)
S.S. 765.618
4:1
L4
14+48.91
ROCK OUTCROP (POSSIBLE BOULDER)
RESIDUAL
6.2%
RS-47
RS-46
29+00 1.3
8.00 LT.
752.13
RESIDUAL
RED-ORANGE STIFF MOIST MED. PLASTIC SANDY SILTY CLAY (A-7-6)
TAN-BRN/ORANGE STIFF MOIST SANDY CLAYEY SILT (A-4)
EST. (1000)
4:1
S.S. 731.962
RESIDUAL
CRYSTALLINE ROCK
29+00.00

-L3-

09-JAN-2007 10:37
d:\projects\k3807_geo\dwg_randolph\oadd_geotech\xsc\K-3807_Geo_xsi_L3.dgn
microstation V8 DGN 2.4.10

8/23/99

0 10 20

PROJ. REFERENCE NO.	SHEET NO.
K-3807	X-14

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

800 780 760 740 720 700

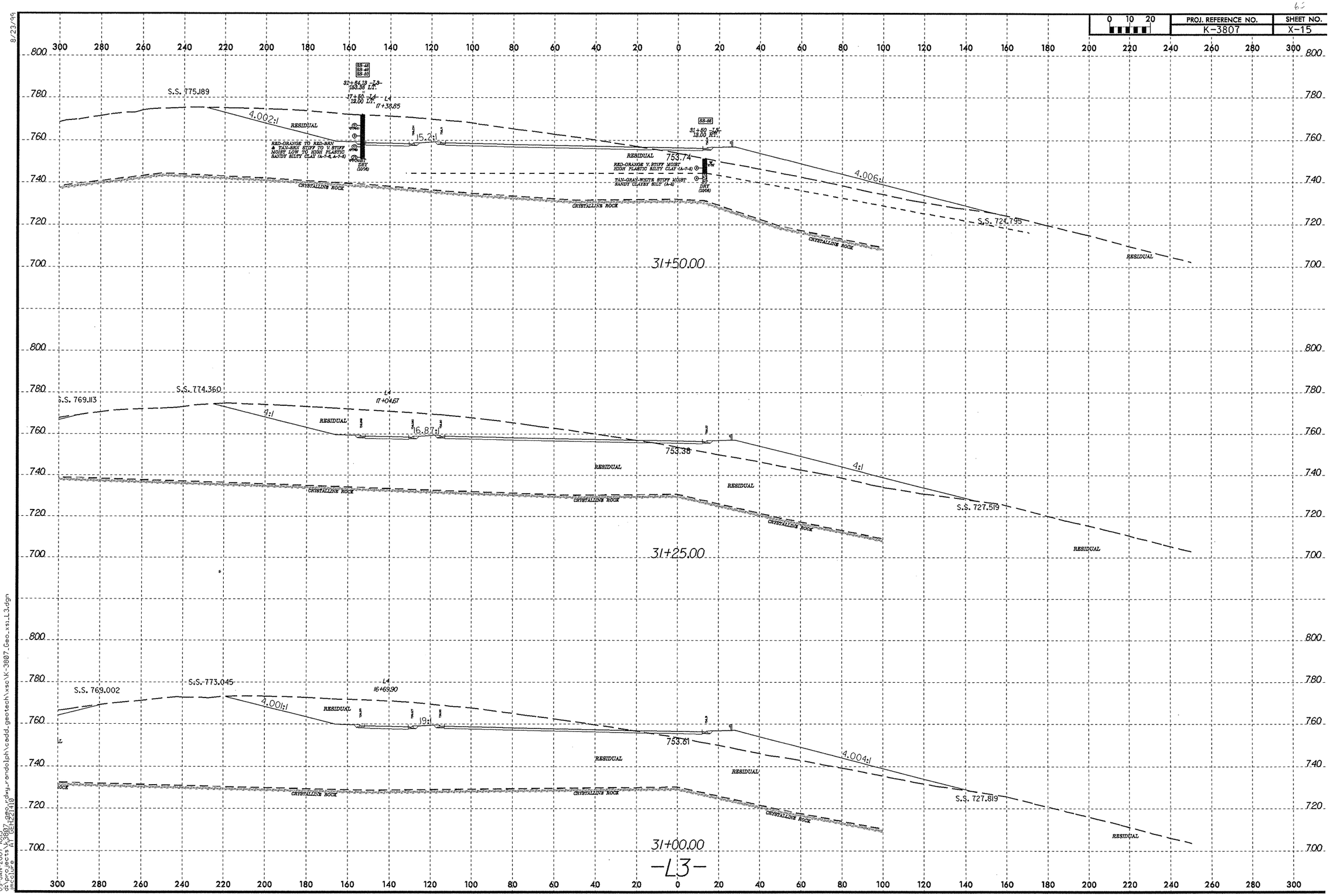
S.S. 769.766
S.S. 771.932
L4
16+20.18
4.002:1
RESIDUAL
23:1
753.38
4.004:1
S.S. 731.046
RESIDUAL
CRYSTALLINE ROCK
30+50.00

#9
.385
S.S. 770.913
L4
15+84.70
4:1
27.5:1
752.67
4.001:1
S.S. 733.194
30+25.00

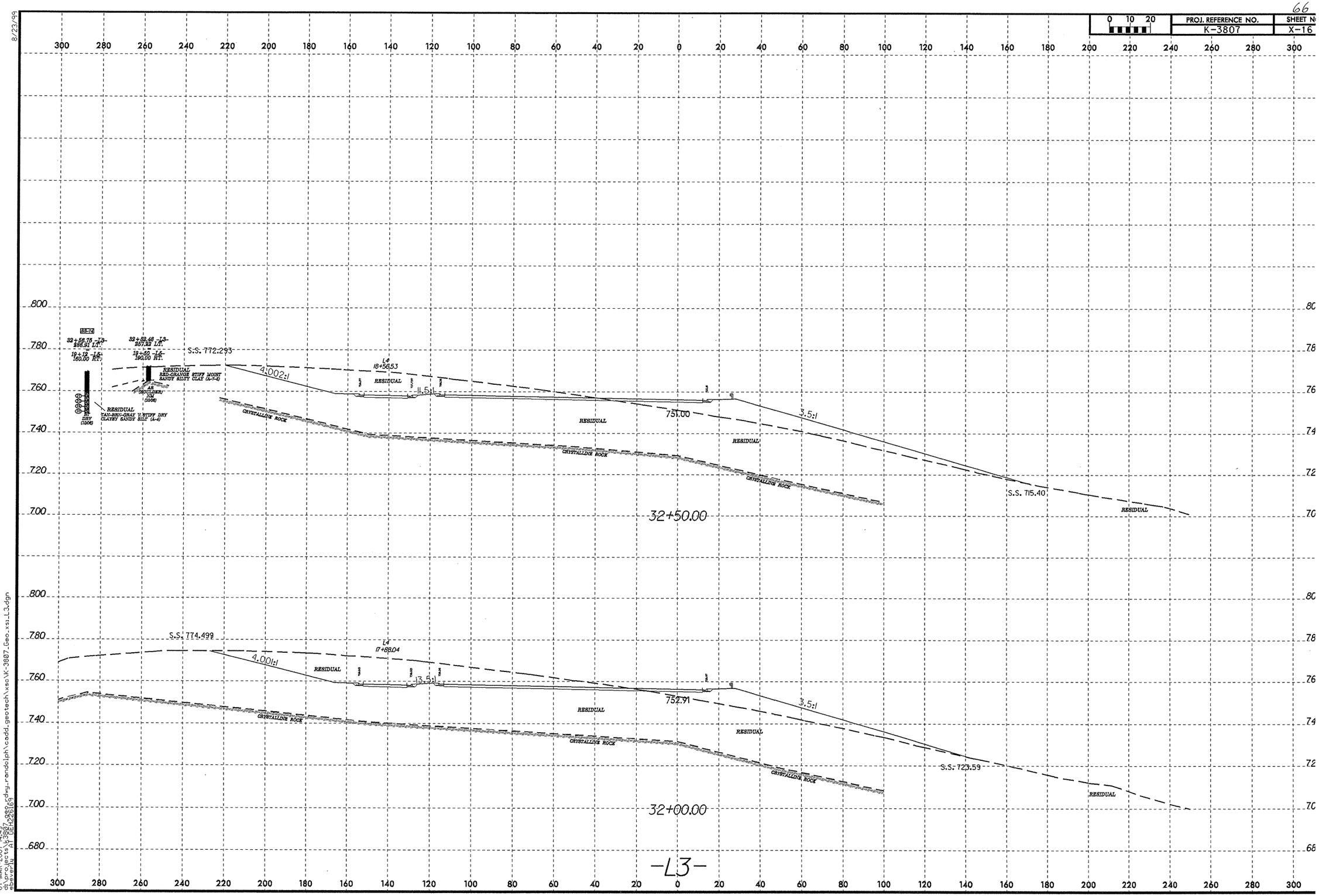
T #10
77
S.S. 769.846
L4
15+48.91
4.004:1
32:1
752.33
4.013:1
S.S. 730.255
30+00.00

-L3-

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-15



0 10 20	PROJ. REFERENCE NO.	SHEET N
	K-3807	X-16



0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-17

8/23/96

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

780
760
740
720
700
680

S.S. 764.002
L4
19+47.99
4.003:1
RESIDUAL
9.4ft
744.91
RESIDUAL
CRYSTALLINE ROCK
CRYSTALLINE ROCK
CRYSTALLINE ROCK
3:1
RESIDUAL
S.S. 710.72
S.S. 705.035
RESIDUAL

33+50.00

S.S. 768.280
L4
19+18.54
4.006:1
RESIDUAL
10.3ft
747.87
RESIDUAL
CRYSTALLINE ROCK
CRYSTALLINE ROCK
CRYSTALLINE ROCK
3:1
RESIDUAL
S.S. 718.15
S.S. 705.194
RESIDUAL

33+00.00

-L3-

22-DEC-2006 09:29
d:\projects\k-3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xs_L3.dgn
microstation J&T (GEH2410)

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-18

SHEAR POINT #3
-L3- 37+00
ELEV 754.740

RESIDUAL
742.09
3:1
S.S. 730.02
RESIDUAL
RESIDUAL
35+00.00

SHEAR POINT #2
-L3- 37+50
ELEV
L4
20+86.46

RESIDUAL
2:1
741.01
3:1
RESIDUAL
RESIDUAL
S.S. 718.55
RESIDUAL
S.S. 706.133
34+50.00

S.S. 759.159
14.003
RESIDUAL
RED-ORANGE TO TAN-BRN, STIFF MOIST, MED. PLASTIC SANDY SILTY CLAY (A-7-6, L7-8)
DRY (2006)
7.41
RED-ORANGE TO TAN-ORANGE VI.STIFF TO STIFF MOIST MEDIUM TO LOW PLASTIC SILTY CLAY TO SANDY SILTY CLAY (A-7-6)
DRY (2006)
7.54
RESIDUAL
3:1
S.S. 708.23
RESIDUAL
S.S. 706.252
34+00.00
-L3-

8/23/99

18-JAN-2007 08:12
d:\projects\k-3807_geo_rdu-randolph\coddd_geotech\xsc\K-3807_Geo_xsi_L3.dgn
mcclure AT GEH2140

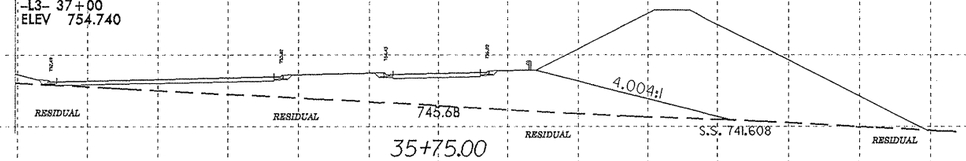
8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-19

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

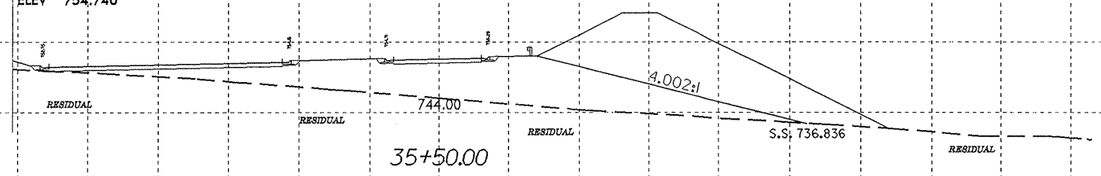
800 780 760 740 720

SHEAR POINT #3
-L3- 37+00
ELEV 754.740



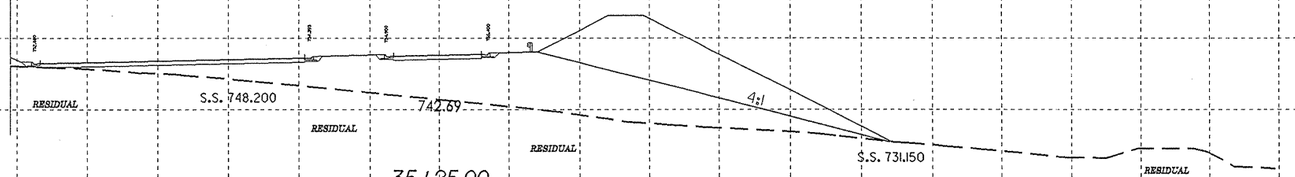
35+75.00

SHEAR POINT #3
-L3- 37+00
ELEV 754.740



35+50.00

SHEAR POINT #3
-L3- 37+00
ELEV 754.740



35+25.00

-L3-

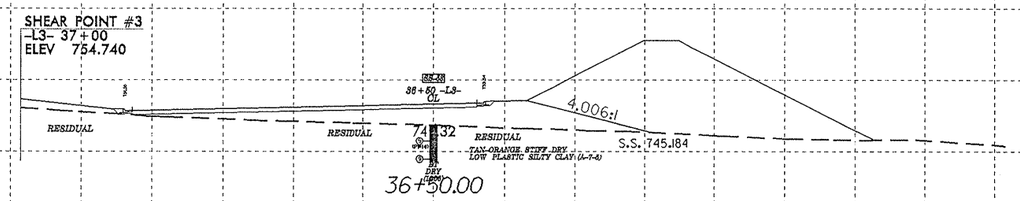
8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-20

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

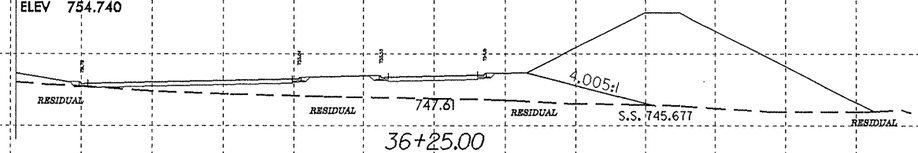
780 760 740 720 800

SHEAR POINT #3
-L3- 37+00
ELEV 754.740



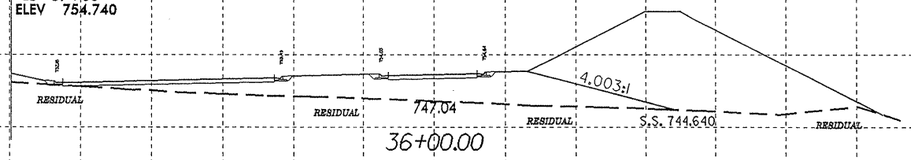
36+50.00

SHEAR POINT #3
-L3- 37+00
ELEV 754.740



36+25.00

SHEAR POINT #3
-L3- 37+00
ELEV 754.740



36+00.00

-L3-

8/23/96

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-21

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

760 740 720 840 820 800 780 760 740 720

RESIDUAL

4.111:1

S.S. 747.653

743.41

4.225:1

S.S. 737.739

RESIDUAL

37+50.00

SHEAR POINT #3
-L3- 35+00
ELEV 754.740

RESIDUAL

745.00

4.012:1

S.S. 740.569

RESIDUAL

37+00.00

SHEAR POINT #3
-L3- 37+00
ELEV 754.740

RESIDUAL

746.14

4.006:1

S.S. 743.388

RESIDUAL

36+75.00

-L3-

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

760 740 720 840 820 800 780 760 740 720

23-DEC-2006 09:32
dc:\projects\3807geo.dgn
microstation V8 (DEH22410)

c:\projects\3807geo.dgn,randolph\cadd_geotech\xsc\K-3807_Geo_xs_L3.dgn

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-22

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

780 760 740 720 700

S.S. 759.396

RESIDUAL

4.30:1

LS 2+48.61

7:1

738.54

RESIDUAL

4:1

RESIDUAL

S.S. 723.817

RESIDUAL

39+00.00

780 760 740 720 700

S.S. 760.122

RESIDUAL

LS 22+33.38

4.379:1

S.S. 749.587

4.003:1

S.S. 744.278

740.54

RESIDUAL

RESIDUAL

4.006:1

S.S. 729.243

RESIDUAL

38+50.00

780 760 740 720 700

4.379:1

S.S. 752.517

RESIDUAL

L5

US-40

38+00 7.8' RT 37.00 LT

RESIDUAL

WHITE-TAN STIFF MOIST-MED PLASTIC SANDY SILTY CLAY (A-7-6)

BH NX (100%)

741.50

S.S. 743.796

RESIDUAL

4.037:1

S.S. 732.264

RESIDUAL

38+00.00

-L3-

09-JAN-2007 10:39
d:\projects\k-3807-380\rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xsi_L3.dgn
microstation
AT UEH22418

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-23

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

800 780 760 740 720 700 680 800 780 760 740 720 700

SS-75
39+47.84 -L3-
283.48 LT.
20+80 -L4-
115.00 RT.
NM
DRY
13000

RESIDUAL

RED-ORANGE MED. STIFF TO STIFF DRY SANDY SILTY CLAY (A-7-6)

S.S. 755.283

4.159:1

RESIDUAL

15
21+00.52

8.4:1

723.11

4.08:1

RESIDUAL

RESIDUAL

S.S. 700.219

RESIDUAL

40+00.00

SS-75
39+47.84 -L3-
283.48 LT.
20+80 -L4-
115.00 RT.
NM
DRY
13000

RESIDUAL

RED-ORANGE-TAN-YELLOW MED. STIFF TO STIFF MOIST LOW PLASTIC SANDY SILTY CLAY (A-7-6)

S.S. 756.570

4.379:1

15
24+28.87

8:1

731.74

S.S. 730.646

4:1

RESIDUAL

RESIDUAL

S.S. 715.270

RESIDUAL

39+50.00

-L3-

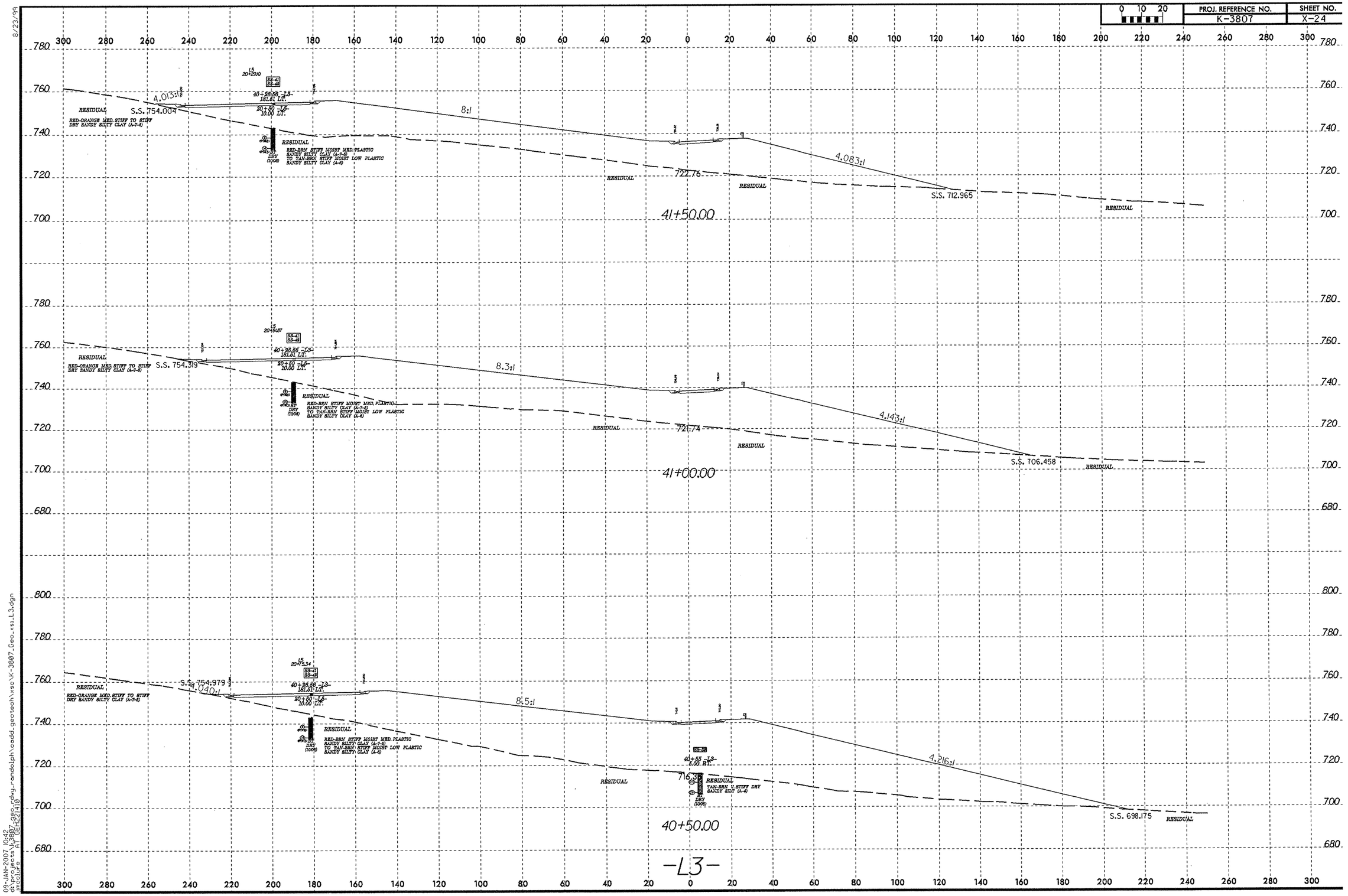
800 780 760 740 720 700 800 780 760 740 720 700

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

09-JAN-2007 10:41
d:\projects\k-3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xs_L3.dgn
mcclure
AT GEH221410

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-24

8/23/99



8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-25

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

780 760 740 720 700 680

LS 19+83.20

S.S. 756.002

4.001:1

RESIDUAL

6.5:1

726.13

4:1

S.S. 721.326

RESIDUAL

RESIDUAL

RESIDUAL

43+00.00

780 760 740 720 700

LS 19+83.92

RESIDUAL S.S. 754.027

RED-ORANGE MED. STIFF TO STIFF DRY SANDY SILTY CLAY (A-7-6)

RESIDUAL

7:1

SS-37 SS-38 42+25 7.5 6.00 LT.

RESIDUAL

726.33

TAN-YELLOW-WHITE STIFF MOIST SANDY CLAYEY SILT (A-4)

TAN-YELLOW-ORANGE V. STIFF MOIST HIGH PLASTIC SANDY SILTY CLAY (A-7-6)

DRY (1000)

4.010:1

S.S. 719.418

RESIDUAL

42+50.00

780 760 740 720 700

LS 20+06.84

4.008:1

RESIDUAL S.S. 753.888

RED-ORANGE MED. STIFF TO STIFF DRY SANDY SILTY CLAY (A-7-6)

RESIDUAL

7.5:1

SS-37 SS-38 42+25 7.5 6.00 LT.

RESIDUAL

723.84

TAN-YELLOW-WHITE STIFF MOIST SANDY CLAYEY SILT (A-4)

TAN-YELLOW-ORANGE V. STIFF MOIST HIGH PLASTIC SANDY SILTY CLAY (A-7-6)

DRY (1000)

4.038:1

S.S. 716.213

RESIDUAL

42+00.00

-L3-

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

09-JAN-2007 10:42
d:\projects\k3807\geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xsL3.dgn
imc5cure
AT 0EH22140

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-26

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

780 760 740 720 700 680

4.001:1
S.S. 753.877
RESIDUAL
5.4:1
723.78
RESIDUAL
4.032:1
S.S. 711.853
RESIDUAL
RESIDUAL

44+00.00

S.S. 756.482
4:1
RESIDUAL
6:1
726.43
RESIDUAL
4.004:1
S.S. 718.611
RESIDUAL
RESIDUAL

43+50.00

-L3-

780 760 740 720 700 680

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

22-DEC-2006 08:35
c:\projects\07-0EH-2211410\mscl\use\ky_randolph\cadd_geotech\xsc\K-3807_Geo_xs_L3.dgn

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-27

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

780 760 740 720 700 680 660

S.S. 756.783

4.009:1

RESIDUAL

4.37:1

720.58

TAN-YELLOW STIFF MOIST CLAYEY SANDY SILT (A-4)

RESIDUAL

4.146:1

S.S. 684.403

RESIDUAL

45+00.00

S.S. 755.023

4.064:1

RESIDUAL

5:1

ROCK OUTCROP

721.39

RESIDUAL

RESIDUAL

4.073:1

S.S. 696.440

RESIDUAL

44+50.00

-L3-

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-28

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

780 760 740 720 700 680 660

S.S. 758.005
4.023:1
RESIDUAL
L5
18+28.88
SS-28
46+63.60 -1.9-
169.70 Lt.
=
18+00 -1.6-
11.00 Lt.
RESIDUAL
WHITE-TAN STIFF MOIST, LOW PLASTIC SANDY SILTY CLAY (A-4)
BY DRY (1006)
3.43:1
720.95
RESIDUAL
RESIDUAL
4.080:1
S.S. 681.844
RESIDUAL
46+00.00

S.S. 756.974
4.015:1
L5
18+52.56
RESIDUAL
3.86:1
46+20 -1.8-
12.00 Rt.
719.62
RESIDUAL
RED-ORANGE-YELLOW STIFF MOIST, HIGH PLASTIC SANDY SILTY CLAY (A-7-6)
TAN-YELLOW STIFF MOIST CLAYEY SANDY SILT (A-4)
BY DRY (1006)
4.202:1
S.S. 681.477
RESIDUAL
45+50.00

-L3-

780 760 740 720 700 680 660

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

09-JAN-2007 10:44
d:\projects\k3807_890\dwg_randolph\codd_geotech\xsc\K-3807_Geo_xsL3.dgn
imcclure
AT DEM22410

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-29

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

780 760 740 720 700 680 660

SHEAR POINT #4
-L3- 32+00
ELEV 754.049

15
17+53.53

4:1
RESIDUAL
CRYSTALLINE ROCK

3.14:1
RESIDUAL

RESIDUAL

SB-46
46+80 -L3-
10.00 RT.

18.35

RED-ORANGE-YELLOW MOTTLED MOIST STIFF SANDY SILTY CLAY (A-4)
TAN-YELLOW STIFF MOIST CLAYEY SANDY SILT (A-4)
DRY (5/06)

4:1

S.S. 697.338

RESIDUAL

47+00.00

S.S. 759.772

4.03:1
RESIDUAL
CRYSTALLINE ROCK

15
18+03.57
SB-48
46+82.60 -L3-
162.70 LT.
16+90 -L6-
11.00 LT.

RESIDUAL

WHITE-TAN STIFF MOIST LOW PLASTIC SANDY SILTY CLAY (A-6)
DRY (5/06)

3.2:1

720.02

RESIDUAL

RESIDUAL

4:1

S.S. 685.830

RESIDUAL

46+50.00

-L3-

09-JAN-2007 10:45
d:\projects\k3807\geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xs_L3.dgn
AT GEH22110
mcclure

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-30

8/23/95

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

780 760 740 720 700 680 660

SHEAR POINT #6
-L3- 31+25
ELEV 753.626

45
45+33.53

4:1
RESIDUAL
3:1
715.33
4:1
RESIDUAL
RESIDUAL
S.S. 703.564
RESIDUAL

48+00.00

SHEAR POINT #5
-L3- 31+50
ELEV 753.837

45
47+83.53

4:1
RESIDUAL
3:1
718.74
4:1
RESIDUAL
RESIDUAL
S.S. 702.740
RESIDUAL

47+50.00
-L3-

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-31

8/23/99

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

780 760 740 720 700 680 660

SHEAR POINT #8
-L3- 30+50
ELEV 753.203

15 15+53.53 | SS-44 SS-45
49+03.48 -L3- 161.76 LT.
15 x 50 = 10.00 T.H.

4:1
RESIDUAL
RED-ORANGE MED. STIFF MOIST SLIGHTLY PLASTIC SANDY SILTY CLAY (A-4)
TAN-ORANGE STIFF MOIST SLIGHTLY PLASTIC SANDY CLAY (A-4)
WEATHERED ROCK DRY REV. WEATH. CRYSTALLINE ROCK (GPW)
CRYSTALLINE ROCK
3:1
RESIDUAL
715.65
4:1
RESIDUAL
S.S. 696.490
WETLAND BOUNDARY
RESIDUAL
ALLUVIUM

49+00.00

SHEAR POINT #7
-L3- 31+00
ELEV 753.414

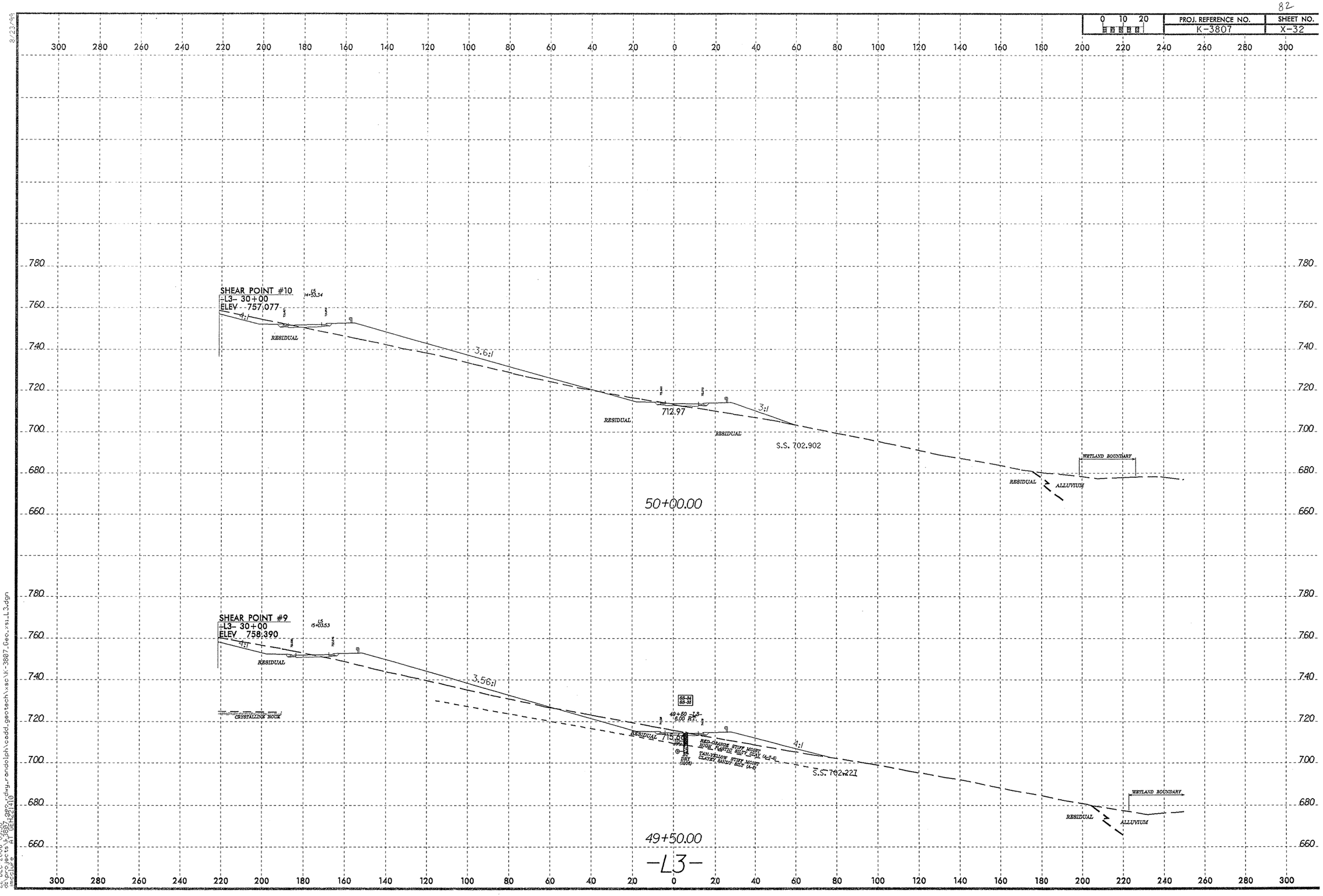
15 15+03.53

4:1
RESIDUAL
3:1
RESIDUAL
4:1
713.31
4:1
RESIDUAL
S.S. 688.552
RESIDUAL

48+50.00

-L3-

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-32



8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-33

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

780
760
740
720
700
680
660

SHEAR POINT #12
-L3- 29+00
ELEV 751.539

RESIDUAL

4:1

S.S. 725.074

S.S. 730.481

4:1

RESIDUAL

710.04

2.3:1

RESIDUAL

S.S. 694.912

RESIDUAL

ALLUVIUM

51+00.00

SHEAR POINT #11
-L3- 29+50
ELEV 754.025

4:1

RESIDUAL

3.77:1

RESIDUAL

710.46

2.3:1

RESIDUAL

S.S. 694.936

RESIDUAL

WETLAND BOUNDARY

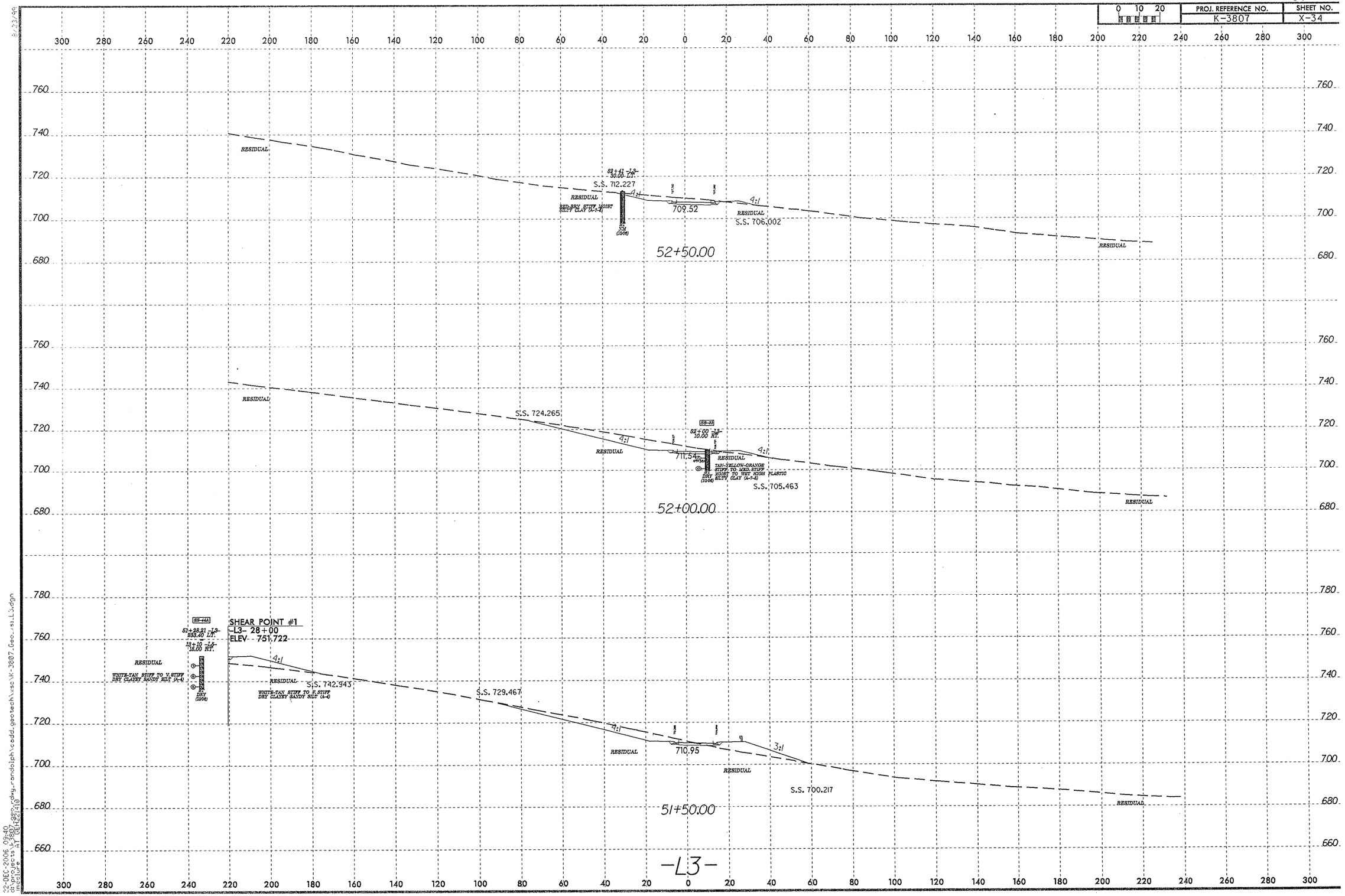
WETLAND BOUNDARY

ALLUVIUM

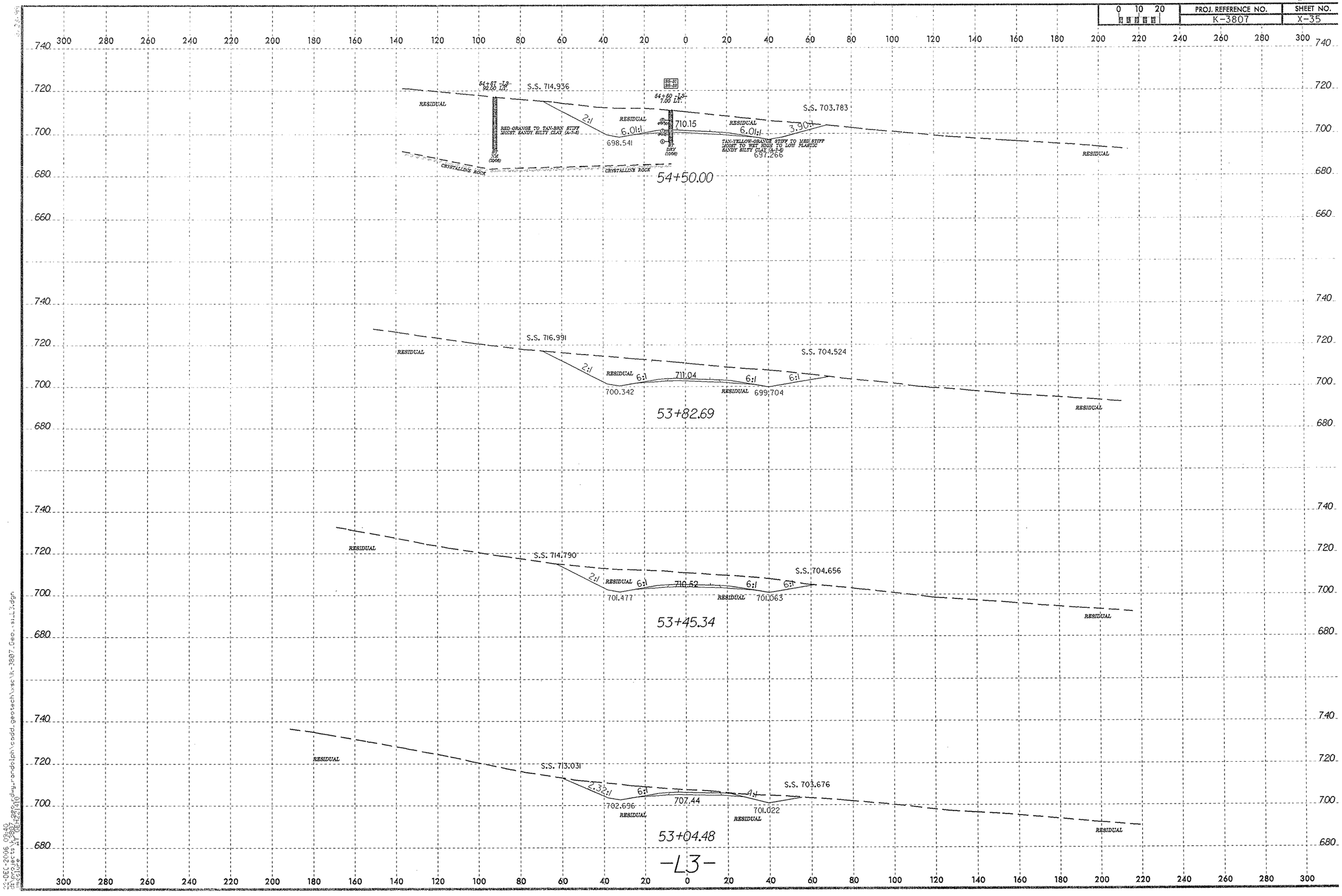
50+50.00

-L3-

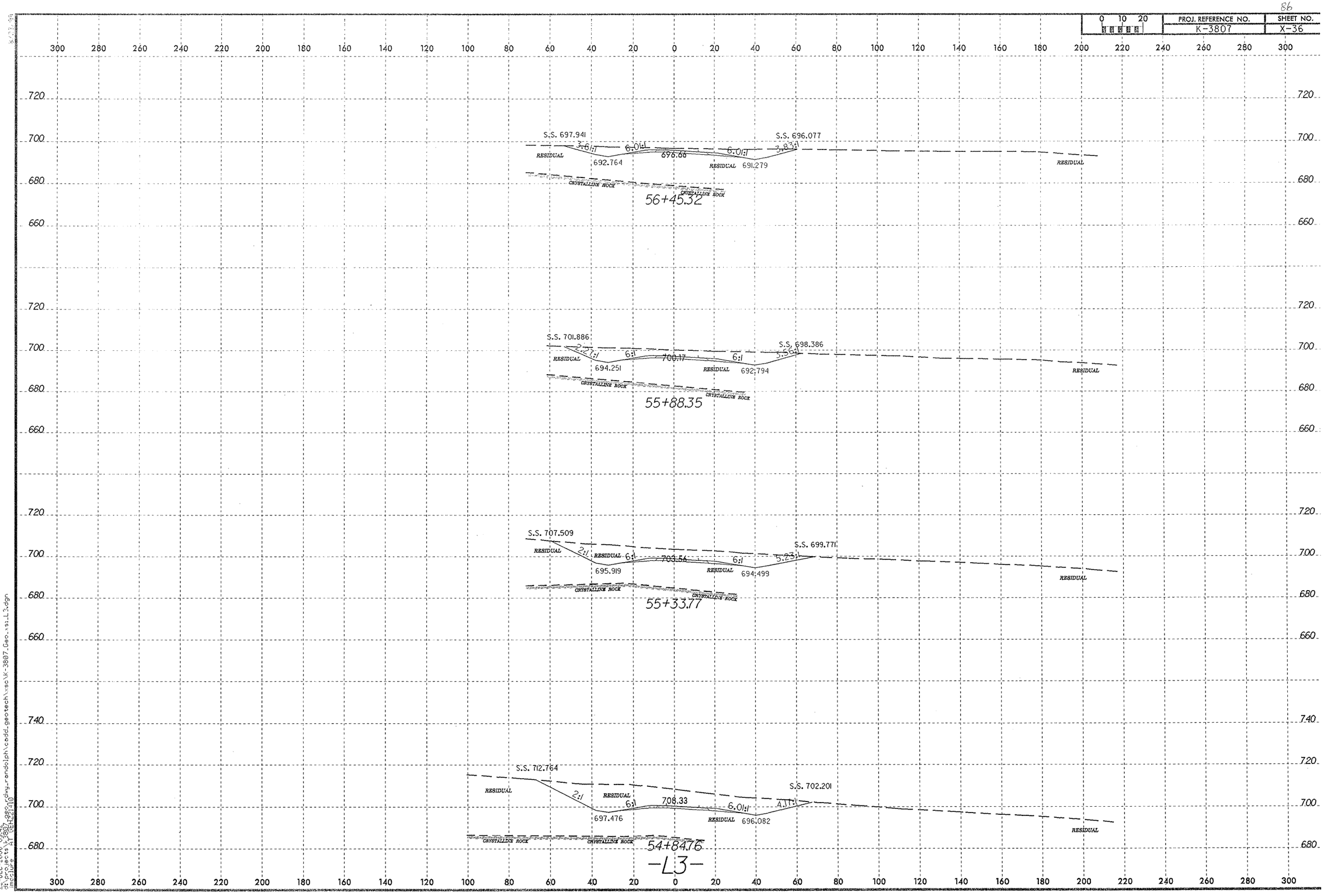
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-34



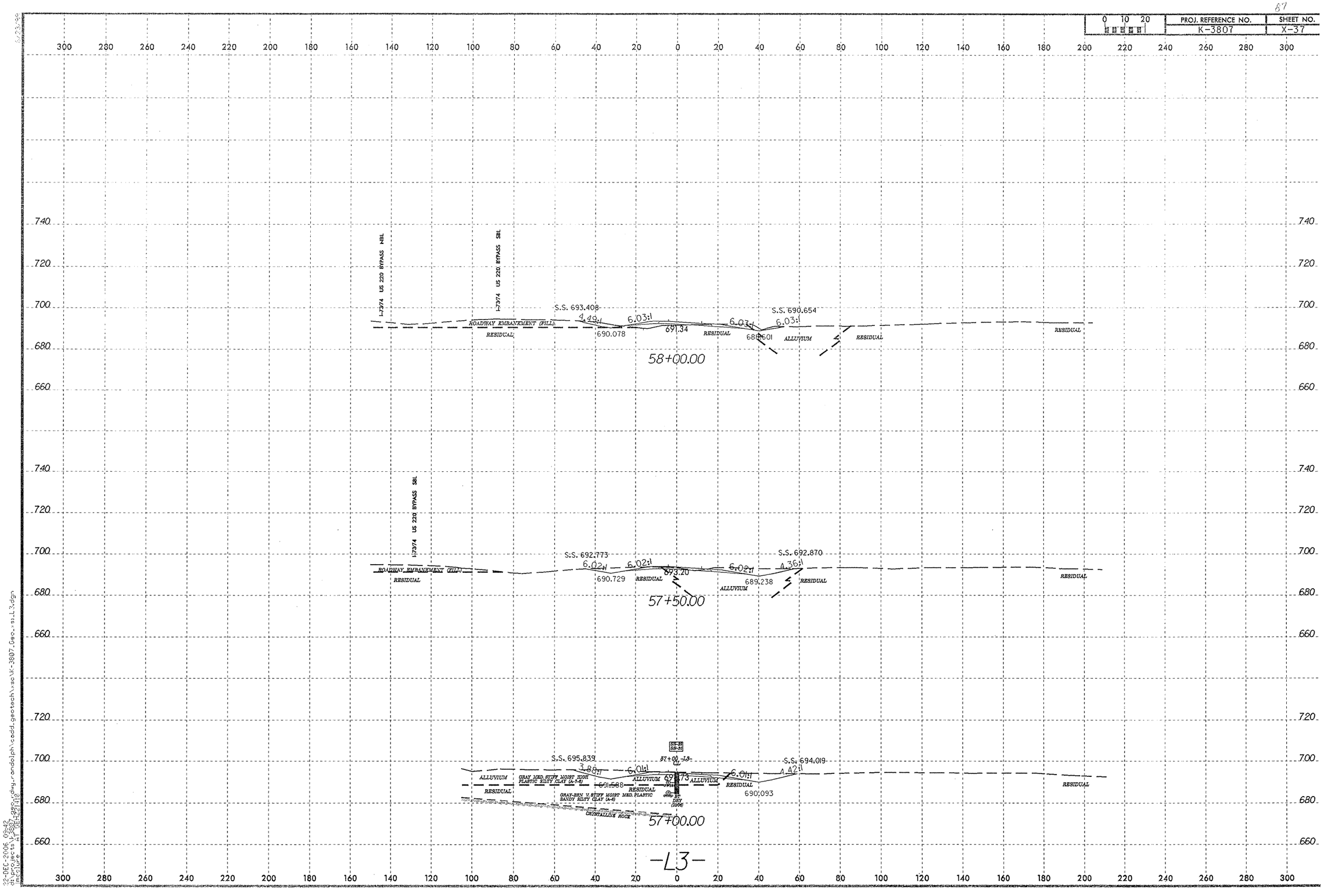
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-35



0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-36

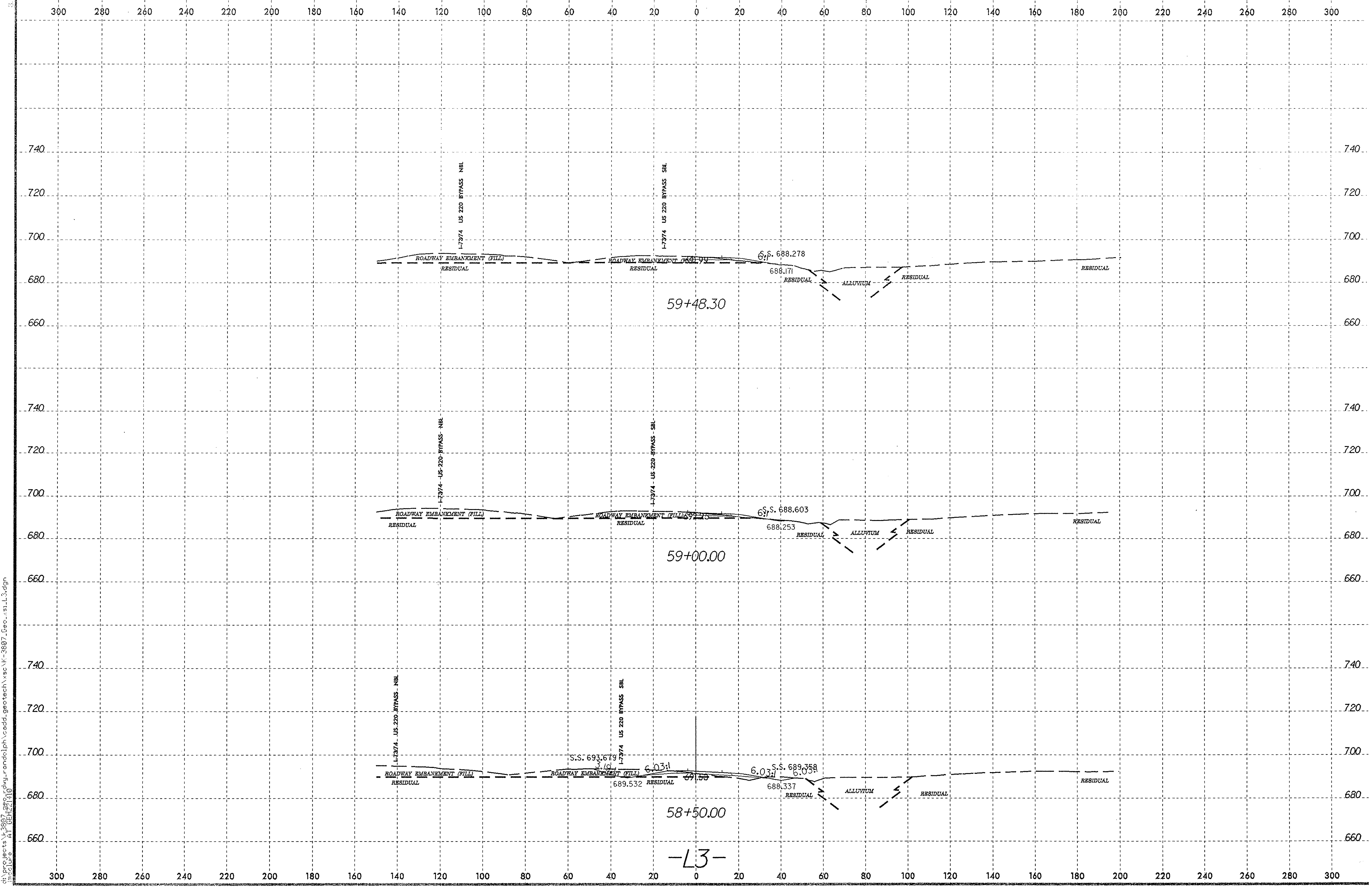


0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	K-3807	X-37



0 10 20

PROJ. REFERENCE NO.	SHEET NO.
K-3807	X-38



22-DEC-2006 09:43
d:\projects\k3807_geo_rdwy_randolph\cadd_geotech\xsc\K-3807_Geo_xsi_L3.dgn
imcclure AT GEHZ21410

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-1	10 RT	16+00 -L1-	3.20-4.20	A-7-5(14)	47	15	9.0	17.6	32.3	41.0	100	94	79	-	-
SS-2	10 RT	16+00 -L1-	8.20-9.20	A-7-5(32)	63	25	0.6	4.1	29.6	65.6	100	100	97	-	-
SS-3	10 RT	16+00 -L1-	13.20-14.20	A-7-5(14)	47	14	2.3	20.5	30.1	47.2	100	100	83	-	-
SS-4	5 LT	18+90 -L1-	4.30-5.30	A-5(8)	46	10	15.8	15.4	33.9	34.9	96	86	71	-	-
SS-5	5 LT	18+90 -L1-	9.30-10.30	A-4(2)	36	7	28.3	13.3	31.7	26.7	90	69	54	-	-
SS-6	CL	22+00 -L1-	4.30-5.30	A-7-5(42)	77	35	0.8	7.6	19.8	71.8	100	100	94	-	-
SS-7	CL	22+00 -L1-	9.30-10.30	A-7-5(26)	73	22	4.1	17.0	27.6	51.3	100	99	84	-	-
SS-8	CL	22+00 -L1-	14.30-15.30	A-7-5(12)	57	14	14.2	23.6	25.3	36.9	100	92	68	-	-
SS-9	12 LT	25+02 -L1-	4.70-5.70	A-7-5(28)	65	22	0.8	10.1	33.7	55.4	100	100	93	-	-
SS-10	12 LT	25+02 -L1-	14.70-15.70	A-7-5(17)	58	17	4.7	25.6	40.9	28.7	100	99	79	-	-
SS-11	13 RT	28+10 -L1-	4.90-5.90	A-7-5(30)	60	25	0.8	9.2	38.7	51.3	100	100	94	-	-
SS-12	13 RT	28+10 -L1-	9.90-10.90	A-7-5(26)	61	25	2.5	18.1	44.6	34.9	100	99	86	-	-
SS-13	60 RT	34+00 -L1-	3.60-4.60	A-7-6(21)	49	23	10.7	7.0	27.0	55.4	100	91	85	-	-
S-14	40 RT	32+00 -L1-	0.00-19.00	A-4(0)	25	4	32.6	18.3	26.6	22.6	84	69	43	-	-
SS-15	5 RT	15+05 -L2-	4.80-5.80	A-4(0)	33	1	17.8	29.1	32.5	20.5	100	91	59	-	-
S-16	98 LT	14+30 -L2-	0.00-7.40	A-4(0)	22	NP	24.0	19.7	35.8	20.5	95	79	58	-	-
S-17	98 LT	14+30 -L2-	7.40-27.40	A-4(4)	34	10	21.5	26.3	21.4	30.8	100	86	57	-	-
S-18	30 LT	15+50 -L2-	0.00-18.00	A-7-6(10)	42	16	17.4	17.0	26.6	39.0	95	83	67	-	-
S-19	30 LT	15+50 -L2-	18.00-27.70	A-5(7)	42	10	17.0	17.6	34.6	30.8	100	87	70	-	-
S-20	99 RT	12+36 -L2-	5.00-18.10	A-7-5(45)	74	37	0.6	5.5	22.1	71.8	100	100	97	-	-
S-21	99 RT	12+36 -L2-	18.10-28.10	A-7-5(20)	54	20	1.0	22.6	35.4	41.0	100	100	84	-	-
S-22	CL	18+50 -L2-	3.00-17.00	A-4(2)	29	7	18.3	15.6	35.4	30.8	76	66	54	-	-
S-23	CL	18+50 -L2-	17.00-18.20	A-6(13)	39	13	2.3	14.6	42.2	41.0	100	98	92	-	-
SS-24	100 LT	22+00 -L1-	3.90-4.90	A-7-5(30)	64	32	11.5	6.8	26.4	55.4	98	90	82	-	-
SS-25	100 LT	22+00 -L1-	8.90-9.90	A-4(6)	40	8	11.9	26.1	37.4	24.6	100	92	69	-	-
SS-26	135 LT	22+00 -L1-	3.50-4.50	A-4(2)	37	8	20.3	20.1	30.9	28.7	72	62	47	-	-
SS-27	105 LT	22+50 -L1-	3.50-4.50	A-7-5(45)	71	39	2.9	3.9	27.6	65.6	100	98	95	-	-
SS-28	105 LT	22+50 -L1-	8.50-9.50	A-7-5(13)	45	11	4.5	13.3	53.4	28.7	100	98	88	-	-
SS-29	CL	57+00 -L3-	4.30-5.30	A-7-6(59)	82	59	6.2	5.9	26.4	61.5	100	95	90	-	-
SS-30	CL	57+00 -L3-	9.30-10.30	A-6(10)	40	19	12.7	23.0	41.7	22.6	90	82	64	-	-
SS-31	7LT	54+50 -L3-	4.00-5.00	A-7-5(30)	65	30	9.0	10.5	31.3	49.2	100	93	84	-	-
SS-32	7LT	54+50 -L3-	9.00-10.00	A-7-5(13)	53	12	8.8	18.1	44.4	28.7	100	94	79	-	-
SS-33	10 RT	52+00 -L3-	3.60-4.60	A-7-5(42)	75	38	6.8	6.2	23.5	63.6	100	94	90	-	-
SS-34	6 RT	49+50 -L3-	3.40-4.40	A-7-5(62)	90	51	0.4	3.7	22.1	73.8	100	100	98	-	-
SS-35	6 RT	49+50 -L3-	8.40-9.40	A-5(7)	41	9	12.5	22.6	42.4	22.6	100	91	72	-	-
SS-36	10 RT	46+80 -L3-	3.40-4.40	A-7-6(25)	54	26	10.7	5.5	40.7	43.1	100	91	86	-	-
SS-37	6 LT	42+25 -L3-	4.10-5.10	A-7-5(34)	64	34	9.8	4.3	38.7	47.2	100	92	88	-	-
SS-38	6 LT	42+25 -L3-	9.10-10.10	A-4(7)	38	8	13.3	16.6	45.4	24.6	100	90	77	-	-
SS-39	5 RT	40+55 -L3-	3.90-4.50	A-4(2)	37	4	15.6	34.3	41.9	8.2	100	94	59	-	-
SS-40	27 LT	38+00 -L3-	2.90-3.90	A-7-5(15)	49	16	7.4	15.2	34.4	43.1	100	96	81	-	-
SS-41	10 LT	20+50 -L5-	3.80-4.80	A-7-5(16)	49	18	2.5	31.4	43.6	22.6	100	99	79	-	-
SS-42	10 LT	20+50 -L5-	8.80-9.80	A-6(10)	40	13	3.1	31.8	42.6	22.6	100	99	74	-	-
SS-43	11 LT	18+00 -L5-	4.00-5.00	A-6(10)	40	11	8.4	15.8	47.1	28.7	100	97	81	-	-
SS-44A	15 RT	13+10 -L5-	4.00-5.00	A-5(6)	41	8	10.5	23.6	39.3	26.7	100	95	71	-	-
SS-44	10 LT	15+50 -L5-	3.60-4.60	A-7-5(20)	52	20	1.6	19.5	44.0	34.9	100	100	86	-	-
SS-45	10 LT	15+50 -L5-	8.60-9.60	A-5(11)	44	10	2.3	22.2	51.0	24.6	100	99	84	-	-
SS-45A	CL	12+50 -L4-	4.00-5.00	A-4(1)	34	8	34.3	26.9	24.5	14.4	95	73	43	-	-
SS-46	7 LT	15+07 -L4-	4.30-5.30	A-7-5(26)	57	21	1.8	5.3	45.6	47.2	100	99	95	-	-
SS-47	7 LT	15+07 -L4-	9.30-10.30	A-5(9)	46	4	0.4	10.3	64.7	24.6	100	100	95	-	-
SS-48	12 LT	17+50 -L4-	4.30-5.30	A-7-6(12)	42	14	12.1	13.7	31.1	43.1	100	92	78	-	-
SS-49	12 LT	17+50 -L4-	14.30-15.30	A-7-5(34)	66	26	0.6	4.9	39.1	55.4	100	100	98	-	-
SS-50	12 LT	17+50 -L4-	19.30-20.30	A-7-5(8)	45	11	10.5	28.5	38.5	22.6	100	95	69	-	-
SS-51	8 RT	20+00 -L4-	4.50-5.50	A-7-5(22)	54	22	7.8	11.3	33.7	47.2	100	94	84	-	-
SS-52	8 RT	20+00 -L4-	9.50-10.50	A-7-6(16)	47	22	8.4	21.3	27.2	43.1	100	94	74	-	-
SS-53	CL	36+50 -L3-	3.90-4.90	A-7-5(16)	48	14	8.0	7.4	53.8	30.8	100	94	88	-	-
SS-54	CL	34+00 -L3-	3.80-4.80	A-7-5(32)	67	30	7.2	8.4	31.1	53.3	100	94	87	-	-
SS-55	CL	34+00 -L3-	8.80-9.80	A-7-5(11)	48	11	8.2	18.9	46.3	26.7	98	91	79	-	-
SS-56	13 RT	31+50 -L3-	8.80-9.80	A-5(8)	48	5	8.6	13.3	59.6	18.5	97	90	81	-	-
SS-57	8 LT	29+00 -L3-	3.90-4.90	A-7-6(16)	48	21	12.1	19.1	33.9	34.9	100	93	74	-	-
SS-58	8 LT	29+00 -L3-	8.80-9.80	A-4(6)	40	6	9.8	16.6	55.1	18.5	100	93	80	-	-
SS-59	CL	26+50 -L3-	3.70-4.70	A-4(3)	37	4	13.7	25.2	46.7	14.4	100	92	68	-	-
SS-60	CL	26+50 -L3-	8.70-9.70	A-4(2)	34	4	14.2	28.7	42.8	14.4	100	93	64	-	-
SS-61	12 LT	19+00 -L3-	4.50-5.50	A-7-5(31)	67	29	4.9	12.1	27.6	55.4	100	97	87	-	-
SS-62	10 RT	17+40 -L3-	4.60-5.60	A-4(7)	38	10	10.7	20.5	38.1	30.8	100	96	73	-	-
SS-63	132 RT	17+08 -L2-	4.30-5.30	A-6(10)	40	11	7.4	15.1	47.4	30.1	99	94	83	-	-
SS-64	50 RT	17+32 -L2-	9.30-10.30	A-7-6(13)	42	14	7.2	12.0	44.6	36.1	96	92	82	-	-

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-65	50 RT	17+32 -L2-	14.50-15.50	A-6(8)	39	16	18.5	20.5	32.9	28.1	95	84	63	-	-
SS-66	50 RT	17+32 -L2-	19.50-20.50	A-7-6(21)	50	27	11.0	12.4	38.4	38.2	96	89	77	-	-
SS-67	50 RT	17+32 -L2-	24.50-25.50	A-7-6(5)	43	19	42.6	11.0	24.3	22.1	93	62	45	-	-
SS-68	50 RT	17+32 -L2-	29.50-30.50	A-7-5(24)	60	19	0.6	12.0	41.2	46.2	100	100	92	-	-
SS-69	220 RT	16+60 -L2-	4.80-5.80	A-7-6(14)	45	17	10.2	12.0	43.6	34.1	95	88	78	-	-
SS-70	220 RT	16+60 -L2-	14.80-15.80	A-6(1)	34	13	29.7	19.1	31.1	20.1	69	54	38	-	-
SS-71	220 RT	16+60 -L2-	19.80-20.80	A-4(4)	31	8	17.3	13.7	36.9	32.1	92	80	67	-	-
SS-72	220 RT	16+60 -L2-	29.80-30.80	A-7-5(56)	86	54	6.2	7.2	24.3	62.2	100	96	89	-	-
SS-73	115 RT	20+80 -L5-	0.50-1.50	A-7-5(18)	50	15	1.4	11.8	52.6	34.1	100	99	93	-	-
SS-74	150 RT	19+12 -L5-	11.30-12.30	A-4(2)	33	6	28.5	22.1	35.3	14.1	99	84	54	-	-