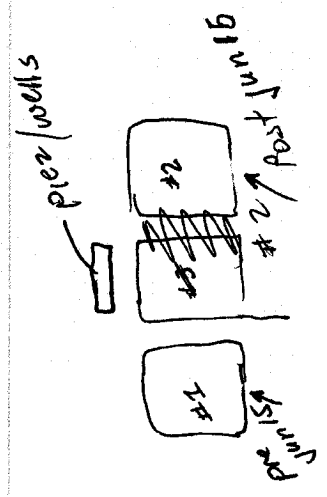
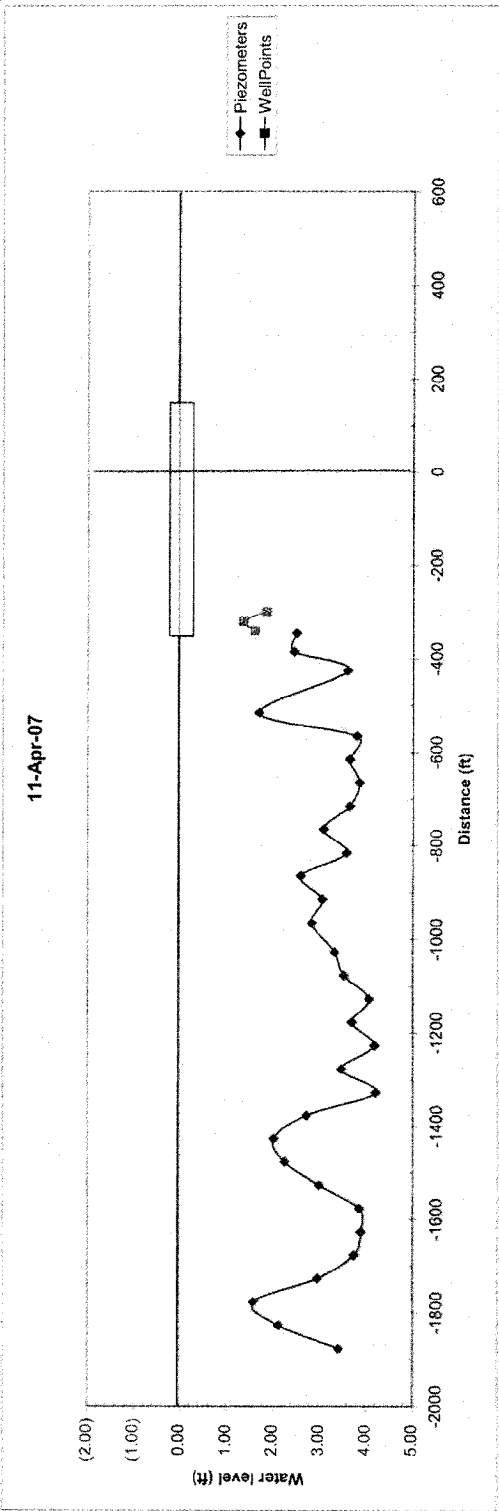
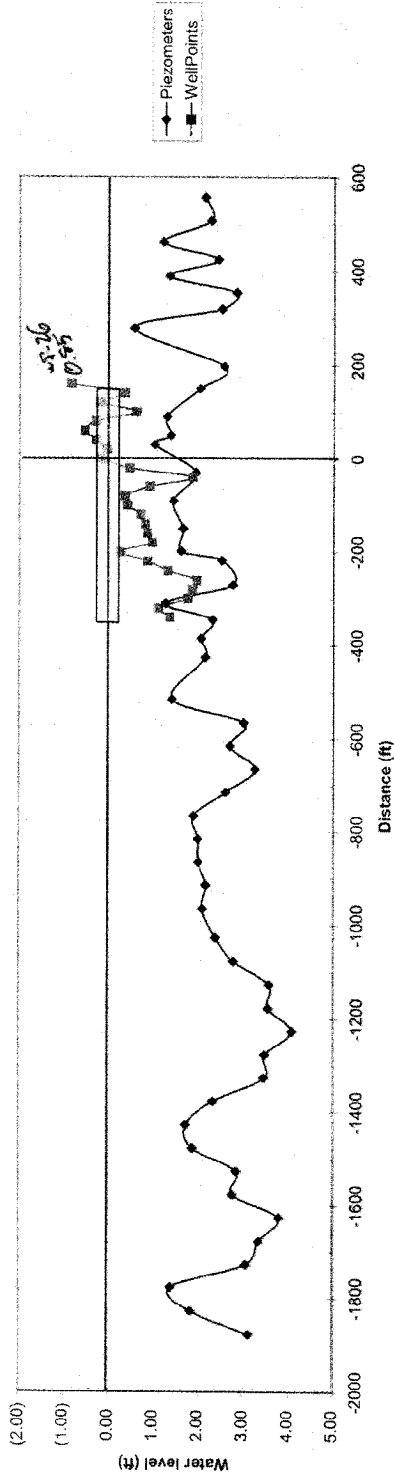


Cell 1 9 Apr  
Starts

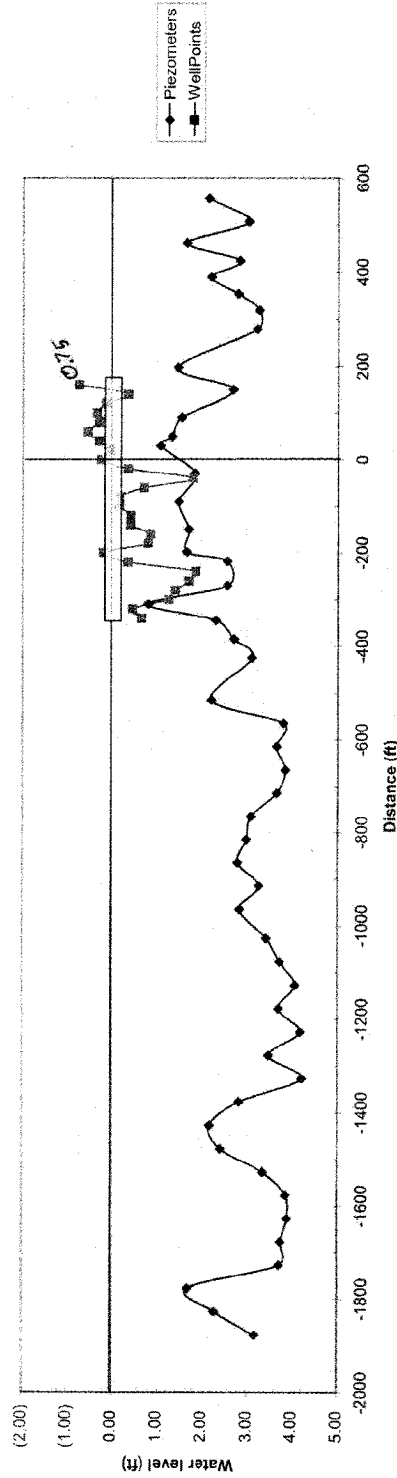


Cell 1 Apr 9  
Starts  
5 Apr 13  
Cell 2 Tue 14

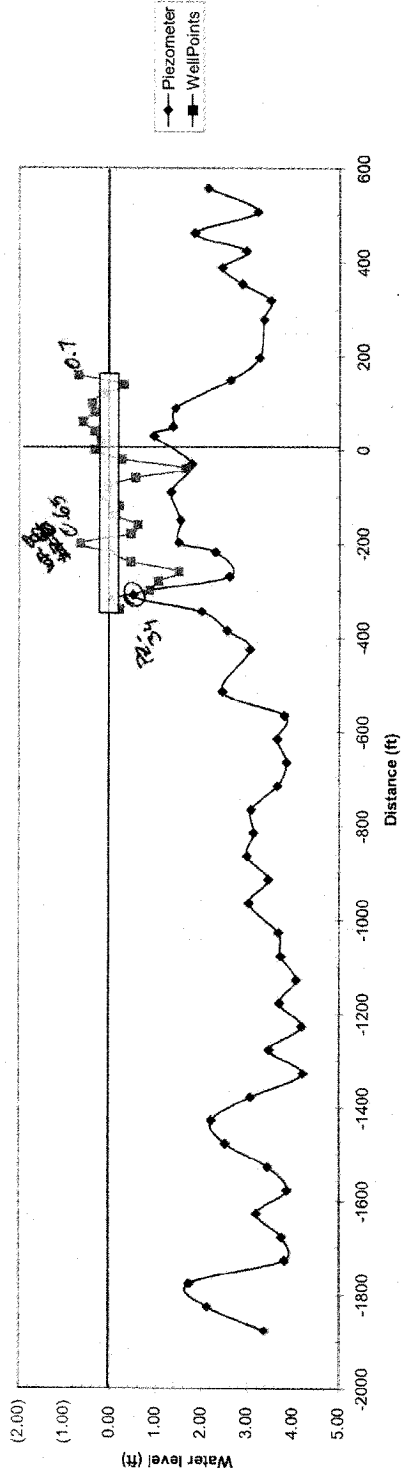
17-Apr-07



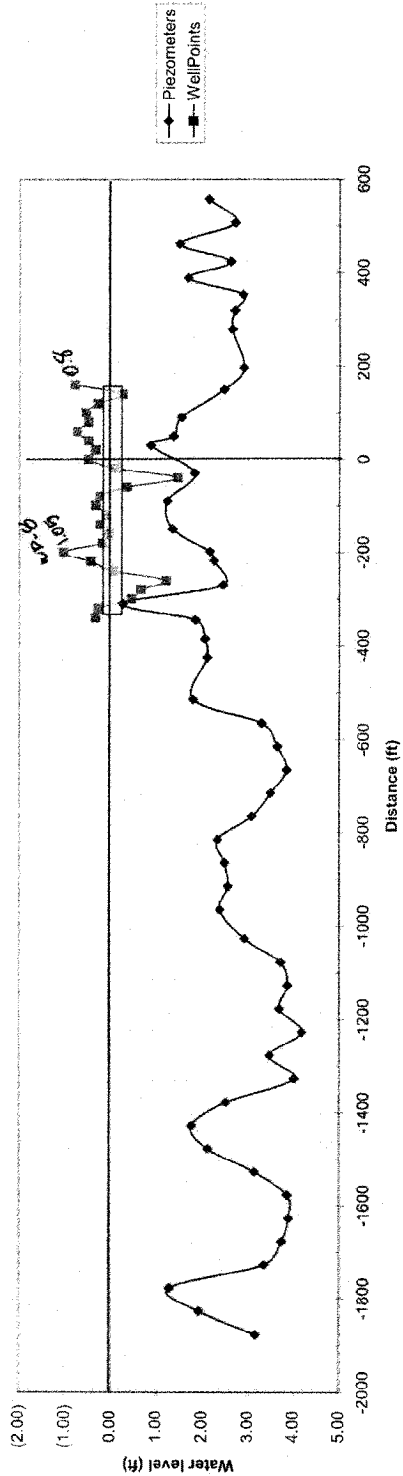
24-Apr-07

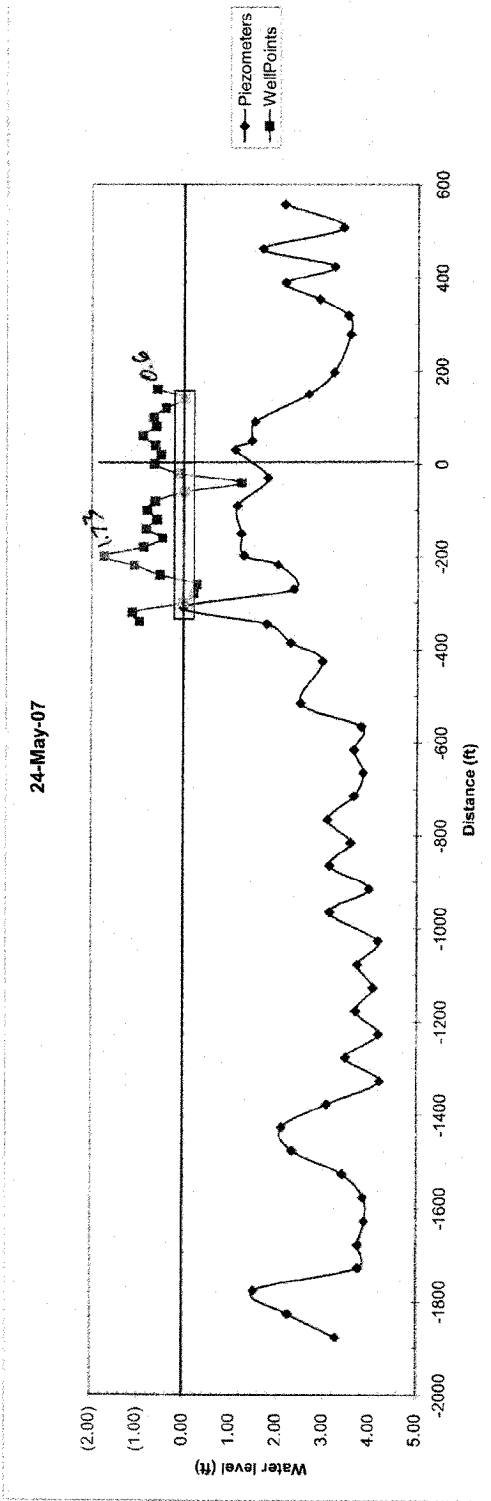
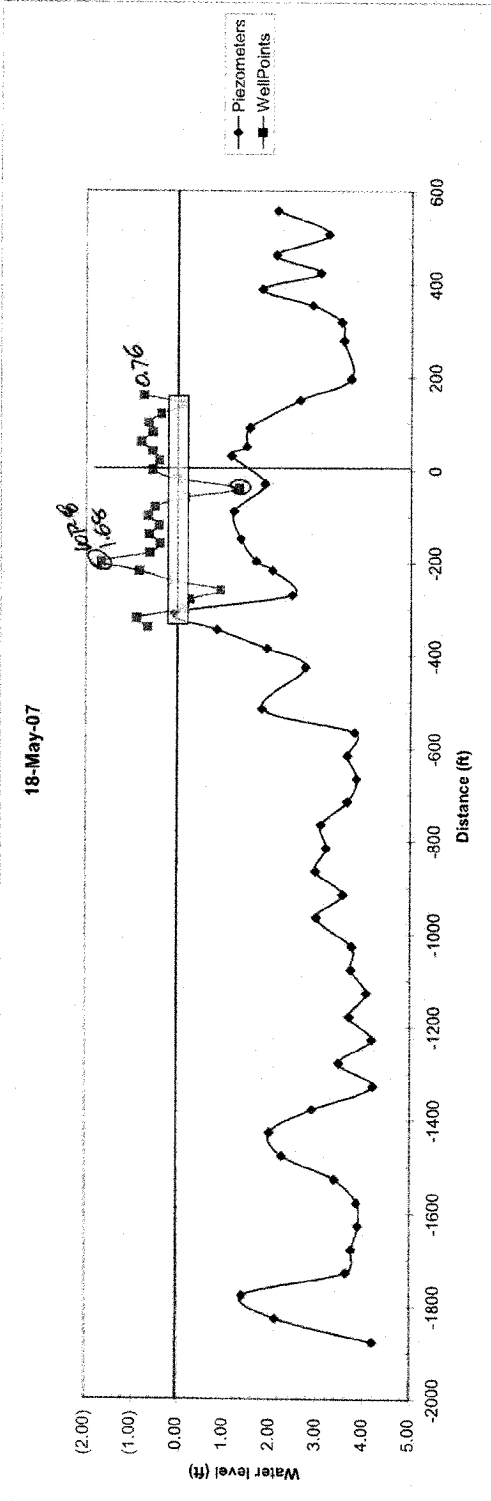


30-Apr-07

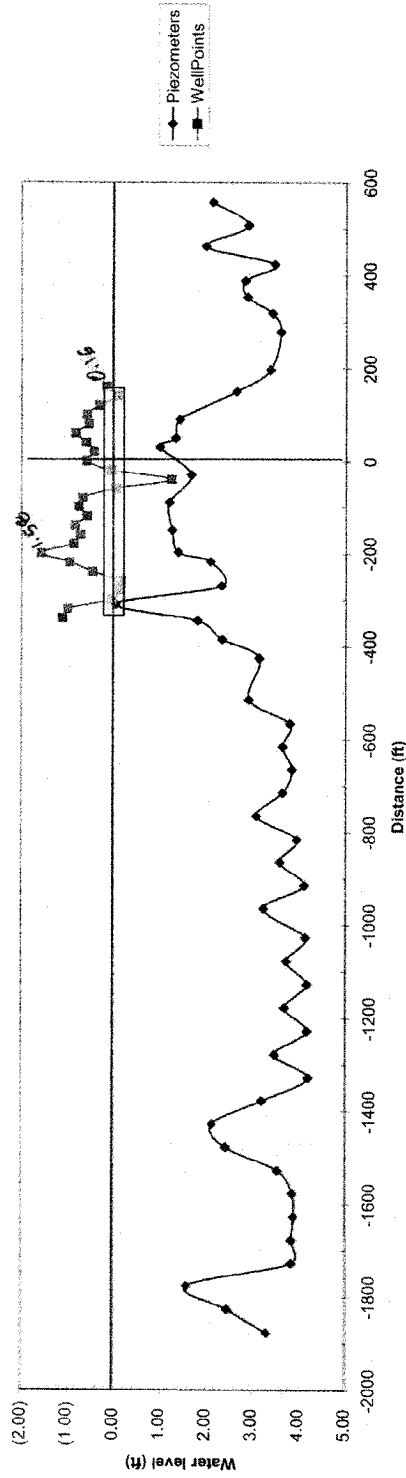


7-May-07

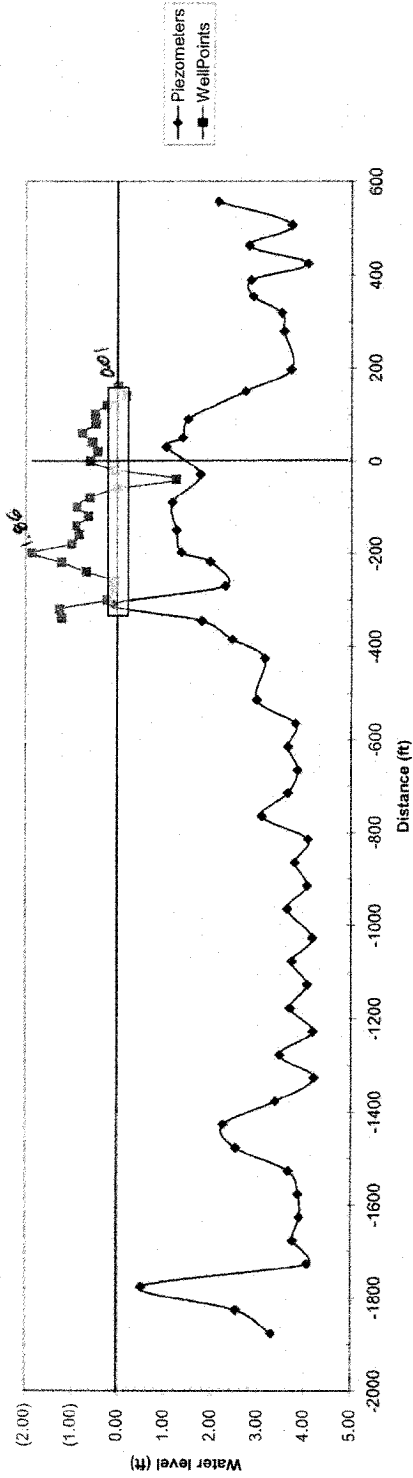




30-May-07

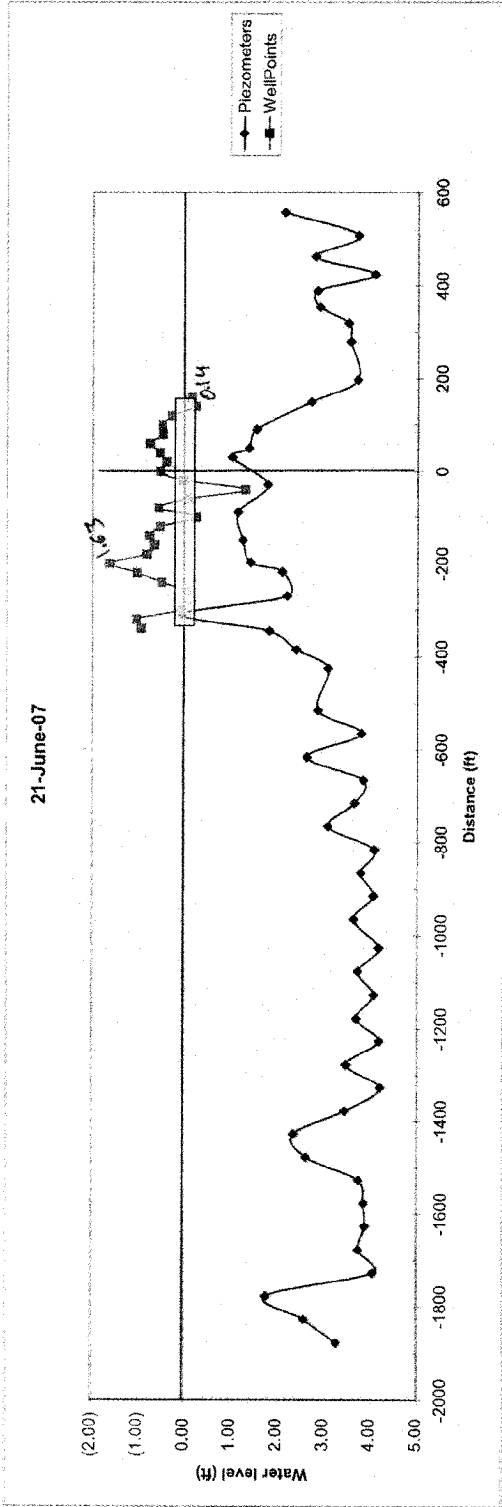
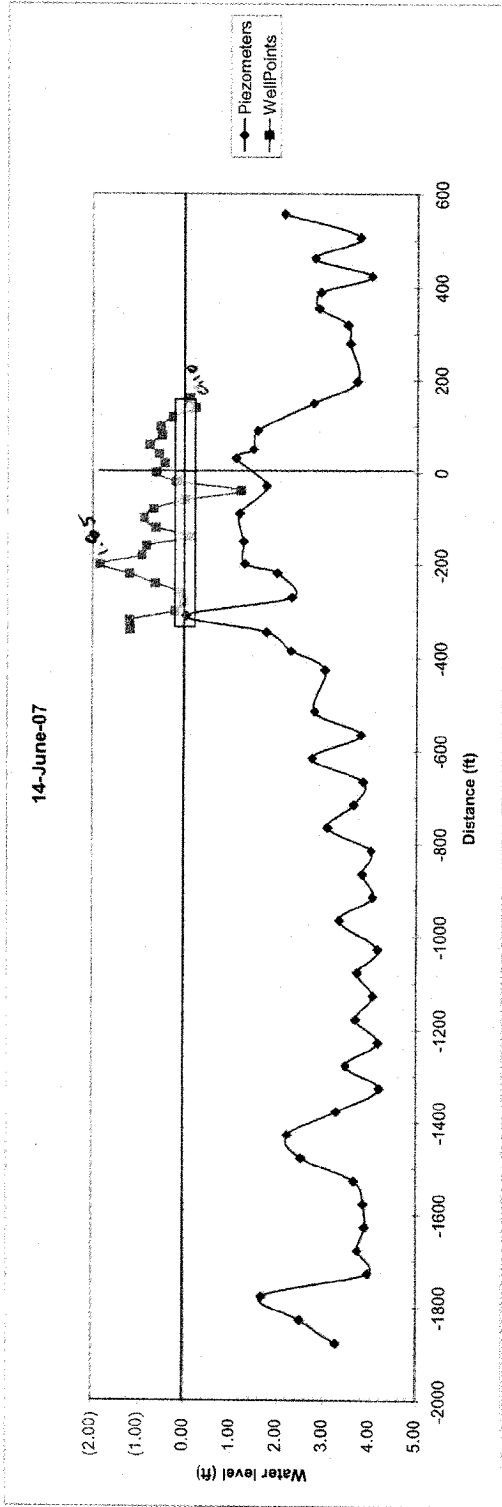


07-June-07

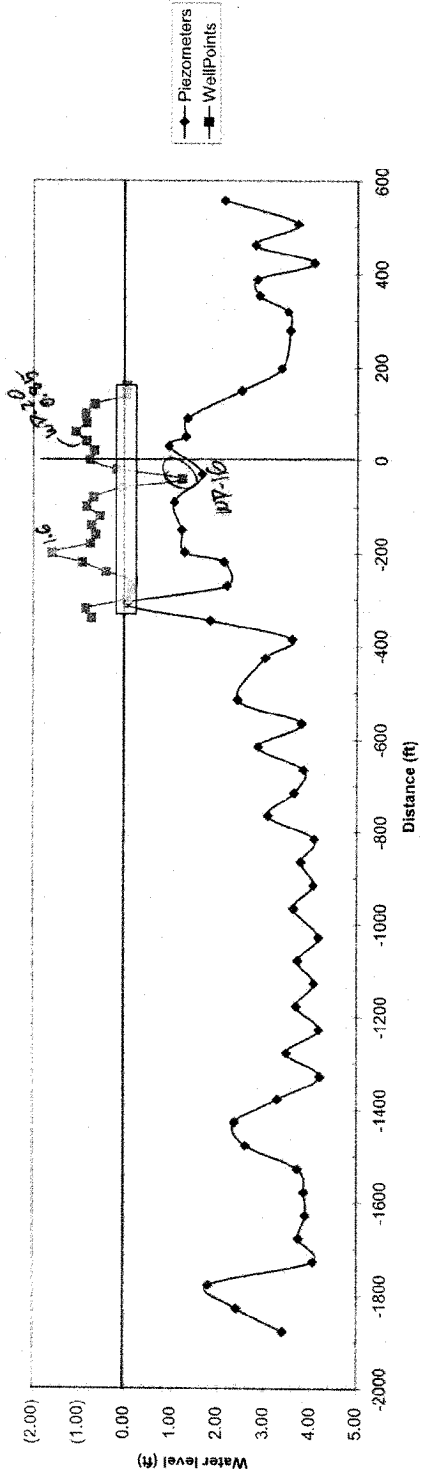


Cell 1 Stops  
13 June

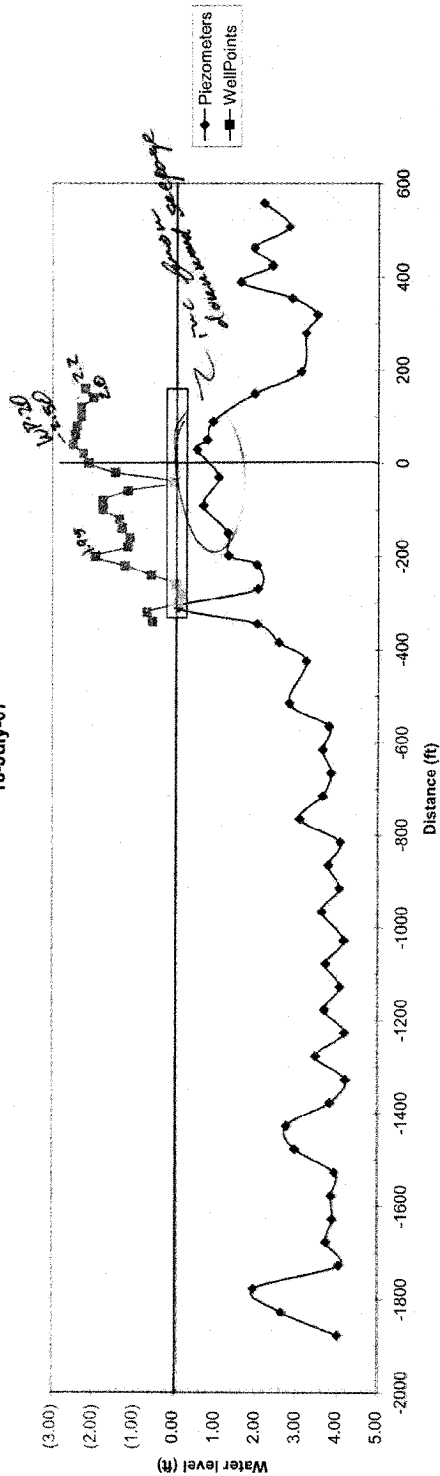
Cell 2 Starts  
14 June



28-June-07



18-July-07



**Material/Cost List - Surface Water Downdrains and Bench Drainage Improvements**

Item	Quantity	Unit
<i>Down Drain Pipe</i>		
8-in HDPE corrugated pipe	2810	LF
45 deg wye/rodding eye fitting	40	Each
Drop inlet (24" basin with grate and 8" Pipe Adapters)	40	Each
<i>Storm Water Ditch and Bench Drainage</i>		
Gravel, 4-in thickness, 1.5" crushed	1640	CY
Non-woven geotextile	126000	SF
30 mil geomembrane	126000	SF

assumes:

- \* 10 down drain pipe units, 1 drop inlet/rodding assembly per bench
- \* 4 benches along dike

Item	Cut (CY)	Fill (CY)	Net Fill (CY)
1st Bench	72	699	627
2nd Bench	43	1,065	1,022
3rd Bench	39	1,216	1,177
4th Bench	47	784	737
<b>Total</b>	<b>201</b>	<b>3,764</b>	<b>3,563</b>



**Material/Cost List - Surface Water Downdrains and Bench Drainage Improvements**

Item	Quantity	Unit
<i>Down Drain Pipe</i>		
8-in HDPE corrugated pipe	2810	LF
45 deg wye/rodding eye fitting	40	Each
Drop inlet (24" basin with grate and 8" Pipe Adapters)	40	Each
<i>Storm Water Ditch and Bench Drainage</i>		
Gravel, 4-in thickness, 1.5" crushed	1640	CY
Non-woven geotextile	126000	SF
30 mil geomembrane	126000	SF

assumes:

- \* 10 down drain pipe units, 1 drop inlet/rodding assembly per bench
- \* 4 benches along dike

Cut and Fill Quantities (cost estimates not provided)	Cut (CY)	Fill (CY)	Net Fill (CY)
1st Bench	72	699	627
2nd Bench	43	1,065	1,022
3rd Bench	39	1,216	1,177
4th Bench	47	784	737
<b>Total</b>	<b>201</b>	<b>3,764</b>	<b>3,563</b>

# KIF DRUDGE CURL REPAIR

- 1) CONCENTRATE ON WHAT NEEDS TO BE DONE Now
- 2) DWG OPS -

→ Footage ?

P&S Contractors DIRECTIONAL  
(865) 579-2882

→ GUSTAF DRILLING (865) 690-0128

#

K&W DRILLING (865) 966-7154

Hiwassee Construction - 423 336 2271

SD Newman (423) 421 3030 3mos

CE Barger & Sons

(865) 882-5860

Mother died - Call Wednesday  
Wednesday

Rick 603-7646

Hyde Construction

(423) 7646-8844

→ 7.30.2007

Lynn Petty } TVA  
Randy Petty }  
Neil Davies } GEOSYNCEL  
Whitney Law }

- WHITNEY TO CONTACT PREVIOUS CONTRACTORS
- REVISE LYS WRIGHTS - EXISTING LIGHT / ~~STARTER~~  
- PROPOSED - HEAVY
- DRAWINGS TO BE EMAILED THURSDAY AFTERNOON

### SUGGEST

#### EXTENDING WELLS -

- + 3' over GROUND LEVEL
- + EXCESSIVE COMPARED TO MODEL (SHOWED  
1' OF PRESSURE)
- + PROPOSING 3 (MIN) NEW PIEZOMETERS 20' DEPTH



- + EXISTING WELL POINTS  
2" PVC PIPE      REPAIR
- + TA SUPPLIED EQUIPMENT ~ 1 DAY INSTALLATION
- + PUT IN AS MANY IN ONE DAY AS POSSIBLE
- + WHITNEY AVAILABLE
  - WATER TRUCK      • 2 1/2 - 3" ~~WEL~~ STEEL
  - TRACK HOE      • COUPLING TO FIT  
WATER TRUCK HOSE
- + NEED 2 DAYS NOTICE

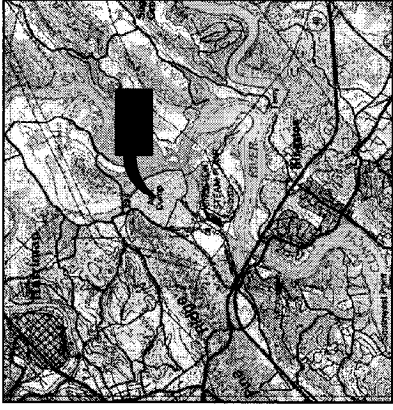
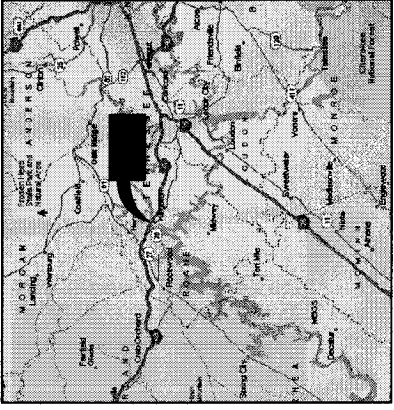
$$40 \times 3 = 120 \times 8 = 960$$

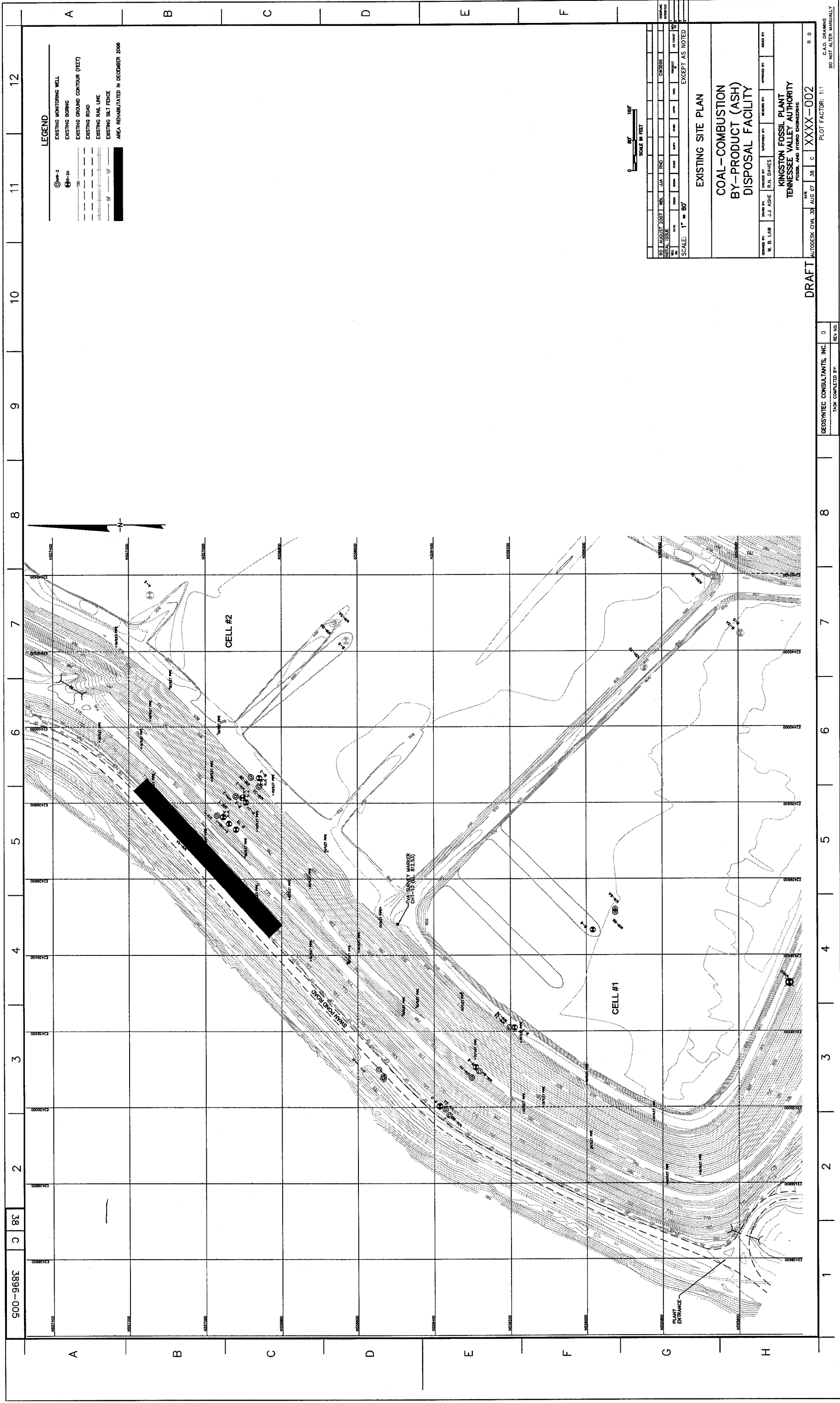
#  
~~1000~~

$$40 \times 2 = 80 \times 8 = 640$$

$$\rightarrow 8 \times 180 =$$

$$1440$$

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<p>DRAWING INDEX</p> <p>XXXX-001 COVER SHEET</p> <p>XXXX-002 EXISTING SITE PLAN</p> <p>XXXX-003 PROPOSED BENCH REGRADING AND UNDERDRAIN EXTENSIONS</p> <p>XXXX-004A PROFILES FOR BENCHES 1 AND 2</p> <p>XXXX-004B PROFILES FOR BENCHES 3 AND 4</p> <p>XXXX-005 SURFACE WATER DOWNDRAIN DETAILS</p> <p>XXXX-006 GROUND WATER UNDERDRAIN SYSTEM</p>																																																												
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<p style="text-align: right;">KINGSTON FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING</p> <p style="text-align: right;">SCALE: NONE EXCEPT AS NOTED</p> <p style="text-align: right;">COVER SHEET</p> <p style="text-align: right;">COAL-COMBUSTION BY-PRODUCT (ASH) DISPOSAL FACILITY</p> <p style="text-align: right;">KINGSTON FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING</p> <p style="text-align: right;">DATE: AUG 07 08 DRAWN BY: J.J. ASHE CHECKED BY: R.N. DAVES APPROVED BY: W.B. LAW</p> <p style="text-align: right;">PROJECT NO: XXXX-001 PLOT FACTOR: 1:1 R 0 C.A.D. DRAWING DO NOT ALTER MANUALLY</p>																																																												

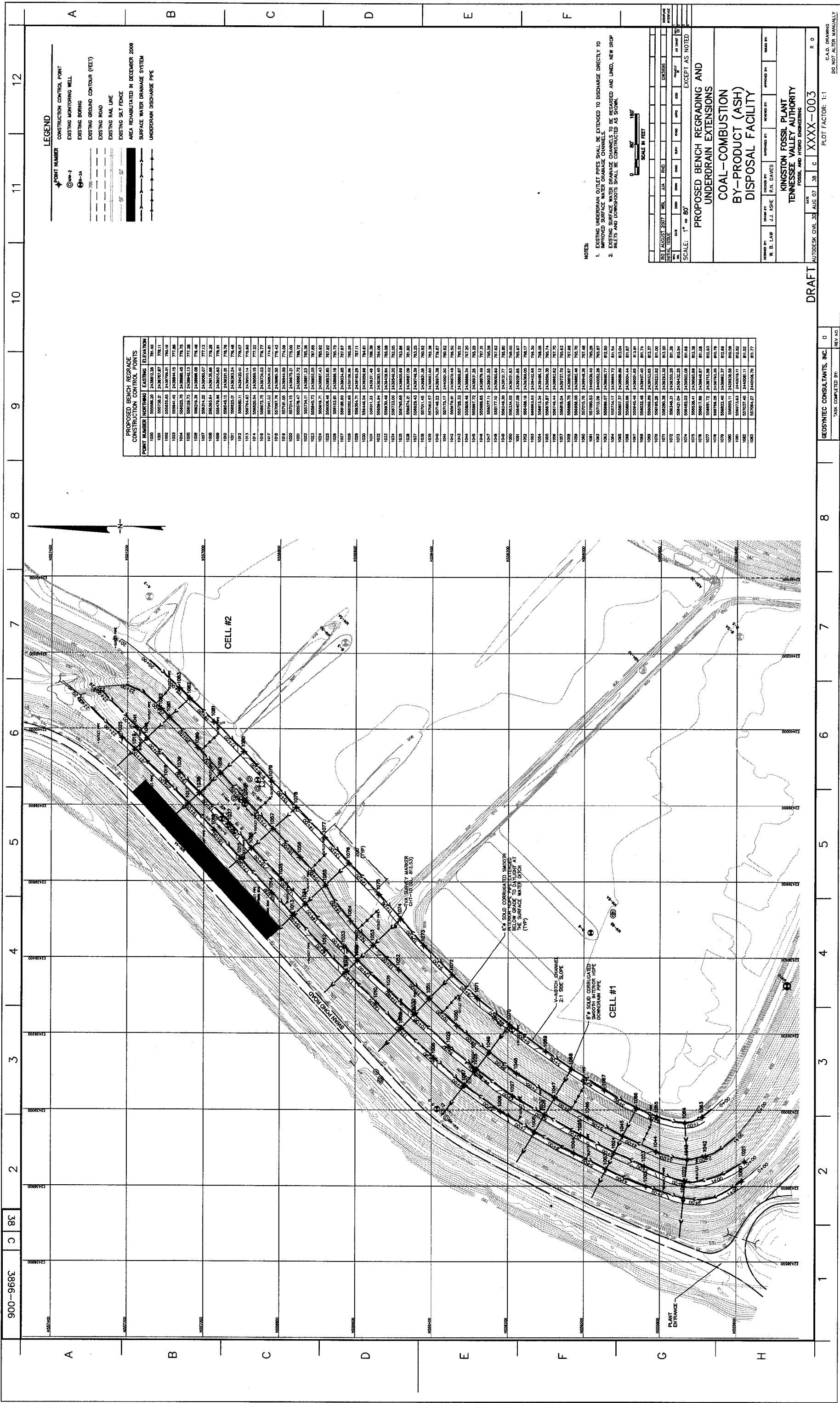


500-9683 C 83

GEOSYNTEC CONSULTANTS, INC. 0  
 TASK COMPLETED BY: [REDACTED] REV. NO.

DRAFT

AUTODESK CIVIL 3D AUG 07 08 c XXXX-002  
 PLOT FACTOR: 1:1  
 C.A.D. DRAWING  
 DO NOT ALTER MANUALLY



**PROPOSED BENCH REGRADE CONSTRUCTION CONTROL POINTS**

POINT NUMBER	NORTHING	EASTING	ELEVATION
1000	505586.20	243801.28	781.40
1001	505738.22	243876.87	781.11
1002	505845.45	243976.01	781.19
1003	505925.76	244088.15	779.36
1004	506018.71	244202.13	777.28
1005	506114.38	244318.08	774.48
1006	506212.82	244435.07	771.13
1007	506314.04	244553.08	767.28
1008	506418.06	244672.13	762.91
1009	506524.89	244792.21	758.76
1010	506634.51	244913.34	754.48
1011	506746.91	245035.54	750.07
1012	506862.11	245159.91	745.40
1013	506979.14	245286.45	740.48
1014	507097.92	245415.18	735.22
1015	507218.45	245546.09	729.61
1016	507340.74	245679.18	723.65
1017	507464.79	245814.45	717.35
1018	507590.52	245951.91	710.70
1019	507717.93	246091.56	703.70
1020	507847.02	246233.41	696.35
1021	507977.79	246377.46	688.65
1022	508110.24	246523.71	680.60
1023	508244.36	246673.16	672.20
1024	508380.05	246825.81	663.55
1025	508517.32	246981.66	654.65
1026	508656.16	247140.71	645.50
1027	508796.57	247303.06	636.10
1028	508938.54	247468.71	626.45
1029	509082.07	247637.66	616.55
1030	509227.16	247809.91	606.40
1031	509373.81	247985.46	596.00
1032	509522.02	248164.31	585.35
1033	509671.79	248346.46	574.45
1034	509823.12	248531.91	563.30
1035	509976.01	248720.66	551.90
1036	510130.46	248912.71	540.25
1037	510286.47	249108.06	528.35
1038	510444.04	249306.71	516.20
1039	510603.17	249508.66	503.80
1040	510763.86	249713.91	491.15
1041	510926.11	249922.46	478.25
1042	511090.92	250134.31	465.10
1043	511258.29	250349.46	451.70
1044	511428.22	250567.91	438.05
1045	511600.71	250789.66	424.15
1046	511775.76	251014.71	410.00
1047	511953.37	251244.06	395.60
1048	512133.54	251477.71	380.95
1049	512316.27	251715.66	366.05
1050	512501.54	251957.91	350.90
1051	512689.35	252204.46	335.50
1052	512879.60	252455.31	319.85
1053	513072.29	252710.46	303.95
1054	513267.42	252970.91	287.80
1055	513465.09	253236.66	271.40
1056	513665.30	253507.71	254.75
1057	513868.05	253784.06	237.85
1058	514073.34	254065.71	220.70
1059	514281.17	254352.66	203.30
1060	514491.54	254644.91	185.65
1061	514704.45	254942.46	167.75
1062	514919.92	255245.31	149.60
1063	515137.95	255553.46	131.20
1064	515358.54	255866.81	112.55
1065	515581.69	256185.46	93.65
1066	515807.40	256509.41	74.50
1067	516035.67	256838.66	55.10
1068	516266.50	257173.21	35.45
1069	516500.89	257513.16	15.55
1070	516737.84	257858.51	-4.60
1071	516977.35	258209.26	-24.95
1072	517219.42	258565.41	-45.50
1073	517464.05	258927.06	-66.15
1074	517711.24	259294.21	-86.90
1075	517961.99	259666.86	-107.75
1076	518215.30	260045.01	-128.70
1077	518472.17	260428.66	-149.75
1078	518732.60	260817.81	-170.90
1079	518995.69	261212.46	-192.15
1080	519261.44	261612.61	-213.50
1081	519529.85	262018.26	-234.95
1082	519800.92	262429.41	-256.50
1083	519673.65	262846.06	-278.15
1084	519548.04	263268.21	-300.00
1085	519424.09	263695.86	-322.05
1086	519301.80	264129.01	-344.30
1087	519181.17	264567.66	-366.75
1088	519062.20	265011.81	-389.40
1089	518944.89	265461.46	-412.25
1090	518829.24	265916.61	-435.30
1091	518715.25	266377.26	-458.55
1092	518602.92	266843.41	-482.00
1093	518492.25	267315.06	-505.65
1094	518383.24	267792.21	-529.50
1095	518275.89	268274.86	-553.55
1096	518169.20	268763.01	-577.80
1097	518064.17	269256.66	-602.25
1098	517960.80	269755.81	-626.90
1099	517859.09	270260.46	-651.75
1100	517759.04	270770.61	-676.80

- LEGEND**
- POINT NUMBER
  - CONSTRUCTION CONTROL POINT
  - EXISTING MONITORING WELL
  - EXISTING BORING
  - EXISTING GROUND CONTOUR (FEET)
  - EXISTING ROAD
  - EXISTING RAIL LINE
  - EXISTING SLY FENCE
  - AREA REHABILITATED IN DECEMBER 2008
  - SURFACE WATER DRAINAGE SYSTEM
  - UNDERDRAIN DISCHARGE PIPE

**NOTES**

- EXISTING UNDERDRAIN OVERLET PIPES SHALL BE EXTENDED TO DISCHARGE DIRECTLY TO IMPROVED SURFACE WATER DRAINAGE CHANNELS.
- EXISTING SURFACE WATER DRAINAGE CHANNELS TO BE REGRADED AND LINED, NEW DROP INLETS AND DOWNSHOOTS SHALL BE CONSTRUCTED AS SHOWN.

PROPOSED BENCH REGRADE AND UNDERDRAIN EXTENSIONS  
 COAL-COMBUSTION BY-PRODUCT (ASH) DISPOSAL FACILITY

SCALE: 1" = 80'

DATE: AUGUST 2007

DESIGNED BY: W. B. LAW

CHECKED BY: J. J. ASHE

APPROVED BY: R. N. DAVIES

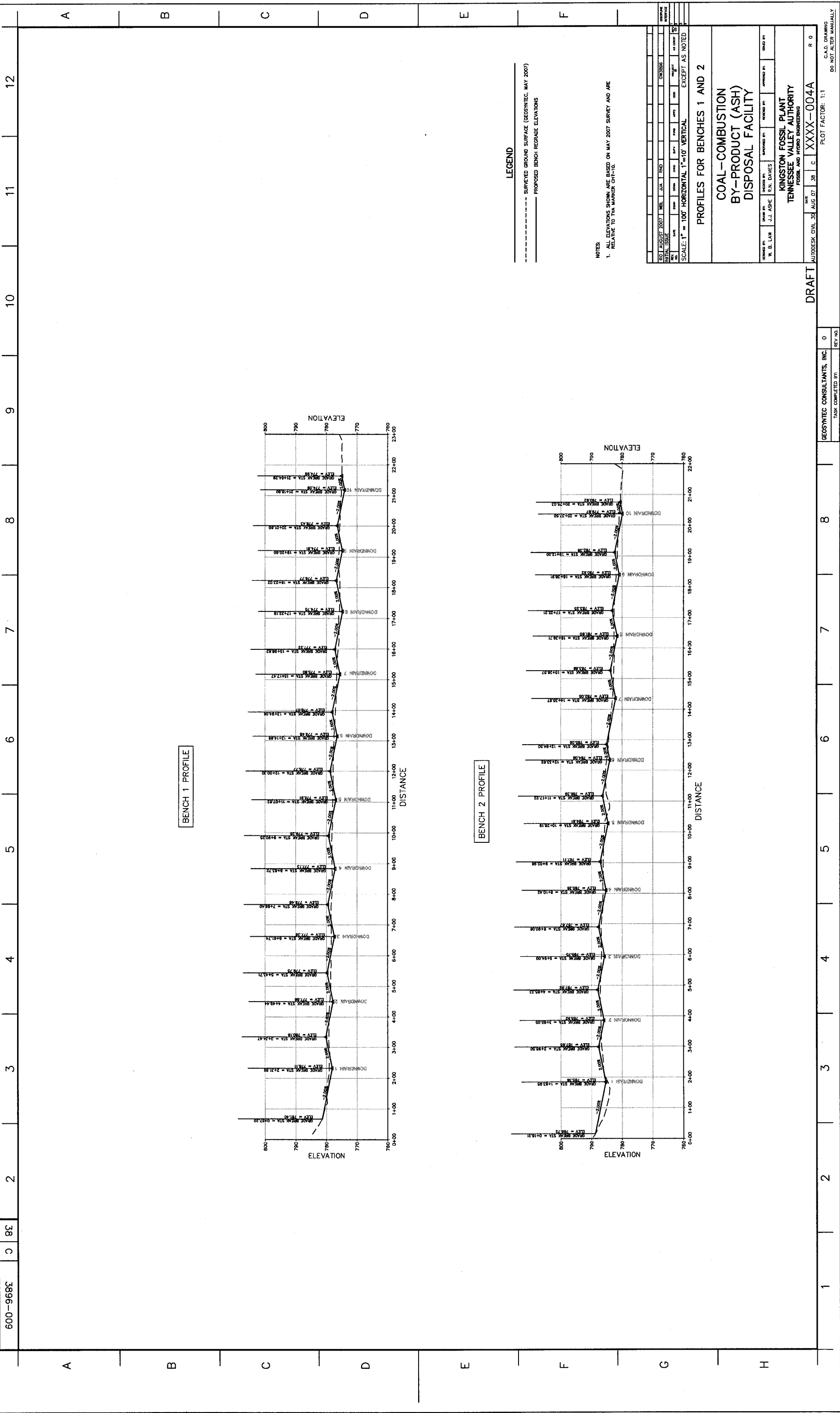
KINGSTON FOSSIL PLANT  
 TENNESSEE VALLEY AUTHORITY  
 FOSSIL AND HYDRO ENGINEERING

DRAFT

AUTODESK CIVIL 3D AUG 07 38 C XXXX-003

PLOT FACTOR: 1:1

DO NOT ALTER MANUALLY



600-968E 0 8E 2 3 4 5 6 7 8 9 10 11 12

A

B

C

D

E

F

A

B

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D

E

F

G

H

**LEGEND**

- SURVEYED GROUND SURFACE (GEOSYNTEC, MAY 2007)
- PROPOSED BENCH REGRADE ELEVATIONS

**NOTES:**

1. ALL ELEVATIONS SHOWN ARE BASED ON MAY 2007 SURVEY AND ARE RELATIVE TO TVA MARKER CH-10.

DATE	BY	CHKD BY	DATE	BY	CHKD BY
AUGUST 2007	W.B. LAW	J.J. ASHE	JULY	R.N. DAVES	CHEN
ISSUE NO.	DATE	BY	DATE	BY	CHKD BY
1					

SCALE: 1" = 100' HORIZONTAL 1" = 10' VERTICAL EXCEPT AS NOTED

**PROFILES FOR BENCHES 1 AND 2**

**COAL-COMBUSTION  
BY-PRODUCT (ASH)  
DISPOSAL FACILITY**

**KINGSTON FOSSIL PLANT  
TENNESSEE VALLEY AUTHORITY  
FOSSIL AND HYDRO ENGINEERING**

DRAFT  
AUTODESK CIVIL 3D AUG 07 08 C XXXX-004A R 0

PLOT FACTOR: 1:1  
C.A.D. DRAWING  
DO NOT ALTER MANUALLY

GEOSYNTEC CONSULTANTS, INC.  
TASK COMPLETED BY: 0  
REV. NO.

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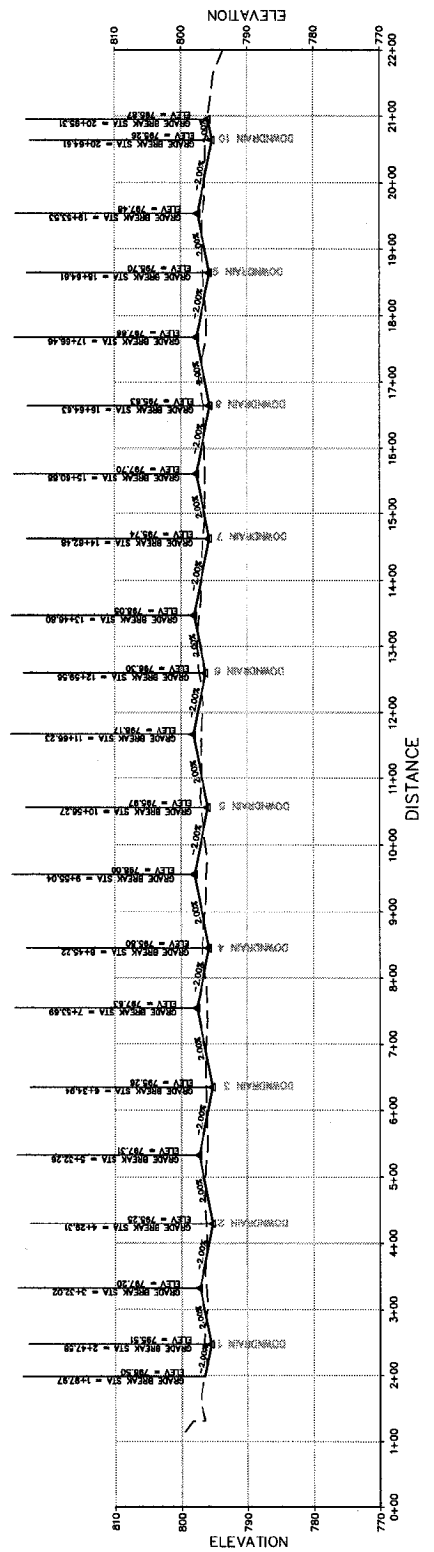
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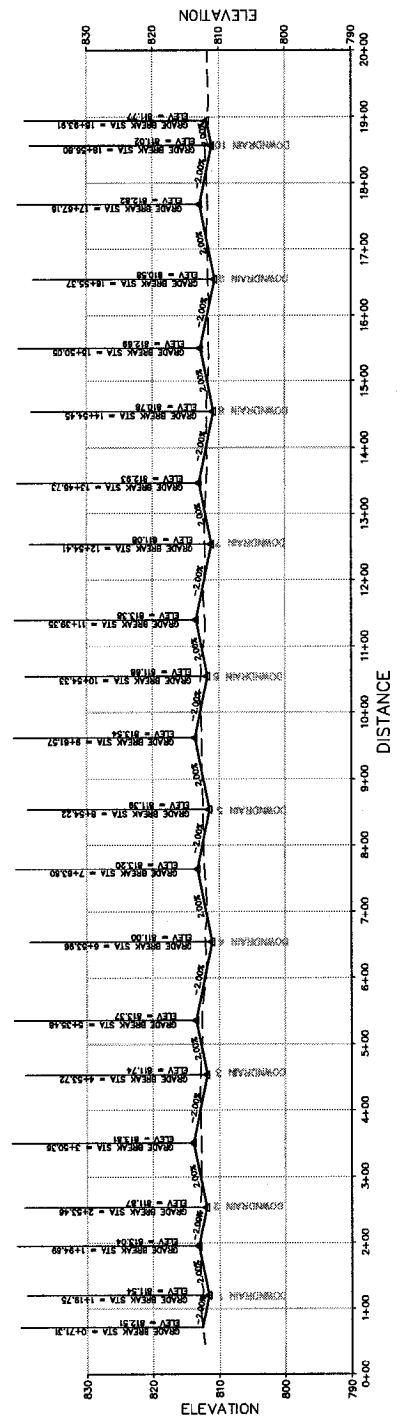
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BENCH 3 PROFILE



BENCH 4 PROFILE



LEGEND  
 - - - - - SURVEYED GROUND SURFACE (GEOSYNTEC, MAY 2007)  
 \_\_\_\_\_ PROPOSED BENCH REGRADE ELEVATIONS

NOTES:  
 1. ALL ELEVATIONS SHOWN ARE BASED ON MAY 2007 SURVEY AND ARE RELATIVE TO TVA MARKER CH-10.

DATE	BY	REVISION
180 AUGUST 2007	WEL, JJA, RND	CH-9556
DATE	BY	REVISION
180 AUGUST 2007	WEL, JJA, RND	CH-9556

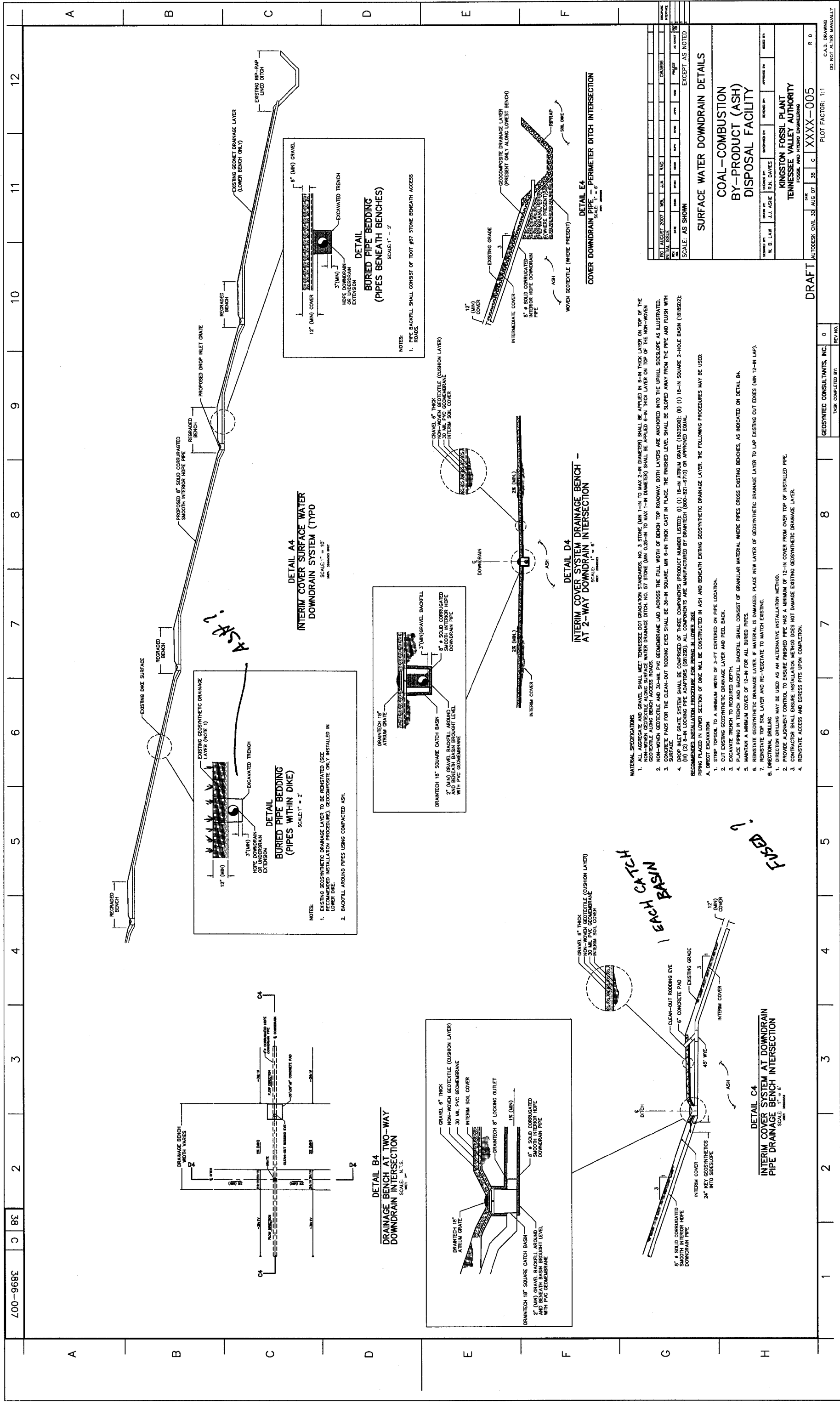
PROFILES FOR BENCHES 3 AND 4  
 COAL-COMBUSTION  
 BY-PRODUCT (ASH)  
 DISPOSAL FACILITY  
 KINGSTON FOSSIL PLANT  
 TENNESSEE VALLEY AUTHORITY  
 FOSSIL AND FIBRO ENGINEERING  
 DESIGNED BY: J.J. ASHE  
 CHECKED BY: R.N. DAVES  
 APPROVED BY: [Signature]  
 DRAWN BY: W. B. LAW  
 AUTODESK CIVIL 3D AUG 07 38 C XXXX-004B R 0

DRAFT  
 PLOT FACTOR: 1:1  
 C.A.D. DRAWING  
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GEOSYNTEC CONSULTANTS, INC.	0
TASK COMPLETED BY:	REV. NO.

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**DETAIL A4**  
 INTERIM COVER SURFACE WATER  
 DOWN DRAIN SYSTEM (TYP)  
 SCALE: 1" = 10'  
 DATE: 08/07/07

**DETAIL B4**  
 DRAINAGE BENCH AT TWO-WAY  
 DOWN DRAIN INTERSECTION  
 SCALE: N.T.S.  
 DATE: 08/07/07

**DETAIL D4**  
 INTERIM COVER SYSTEM DRAINAGE BENCH  
 AT 2-WAY DOWN DRAIN INTERSECTION  
 SCALE: 1" = 6'  
 DATE: 08/07/07

**DETAIL E4**  
 COVER DOWN DRAIN AT PERIMETER  
 DITCH INTERSECTION  
 SCALE: 1" = 6'  
 DATE: 08/07/07

**MATERIAL SPECIFICATIONS**

1. ALL AGGREGATE AND GRAVEL SHALL MEET TENNESSEE DOT GRADATION STANDARDS, NO. 3 STONE (MIN 1-IN TO MAX 2-IN DIAMETER) SHALL BE APPLIED IN 6-IN THICK LAYER ON TOP OF THE NON-WOVEN GEOTEXTILE ALONG SURFACE WATER DRAINAGE DITCH, NO. 57 STONE (MIN 0.25-IN TO MAX 1-IN DIAMETER) SHALL BE APPLIED 6-IN THICK LAYER ON TOP OF THE NON-WOVEN GEOTEXTILE ALONG SURFACE WATER DRAINAGE DITCH, AND ACROSS THE FULL WIDTH OF BENCH TOP ROADWAY. BOTH LAYERS ARE ANCHORED INTO THE UPHILL SLOPE AS ILLUSTRATED.
2. NON-WOVEN GEOTEXTILE AND 30-MIL PVC GEOMEMBRANE LAYERS SHALL BE 36-IN SQUARE, MIN 6-IN THICK CAST IN PLACE. THE FINISHED LEVEL SHALL BE SLOPED AWAY FROM THE PIPE AND FLUSH WITH SURFACE.
3. CONCRETE PADS FOR THE CLEAN-OUT RODDING EYE SHALL BE 36-IN SQUARE, MIN 6-IN THICK CAST IN PLACE. THE FINISHED LEVEL SHALL BE SLOPED AWAY FROM THE PIPE AND FLUSH WITH SURFACE.
4. DROP INLET GRATE SYSTEM SHALL BE COMPOSED OF THREE COMPONENTS (PRODUCT NUMBER LISTED): (1) 18-IN ATRIUM GRATE (1803509); (2) 18-IN SQUARE 2-HOLE BASIN (1818522); (3) 8-IN LOCKING PIPE ADAPTORS (08125). ALL COMPONENTS ARE MANUFACTURED BY DRAINTECH (900-821-6719) OR APPROVED EQUAL.

**RECOMMENDED INSTALLATION PROCEDURE FOR PIPING IN LOWER DIKE**

- A. DIRECT EXCAVATION
  1. STRIP TOPSOIL TO A MINIMUM WIDTH OF 3-FT CENTERED ON PIPE LOCATION.
  2. CUT EXISTING GEOSYNTHETIC DRAINAGE LAYER AND PEEL BACK.
  3. EXCAVATE TRENCH TO REQUIRED DEPTH.
  4. PLACE PIPING IN TRENCH AND BACKFILL. BACKFILL SHALL CONSIST OF GRANULAR MATERIAL WHERE PIPES CROSS EXISTING BENCHES, AS INDICATED ON DETAIL B4.
  5. MAINTAIN A MINIMUM COVER OF 12-IN FOR ALL BURIED PIPES.
  6. REINSTATE GEOSYNTHETIC DRAINAGE LAYER IF MATERIAL IS DAMAGED. PLACE NEW LAYER OF GEOSYNTHETIC DRAINAGE LAYER TO LAP EXISTING CUT EDGES (MIN 12-IN LAP).
  7. REINSTATE TOP SOIL LAYER AND RE-VEGETATE TO MATCH EXISTING.
  8. DIRECTIONAL DRILLING
    1. DIRECTION DRILLING MAY BE USED AS AN ALTERNATIVE INSTALLATION METHOD.
    2. PROVIDE ALIGNMENT CONTROL TO ENSURE FINISHED PIPE HAS A MINIMUM OF 12-IN COVER FROM OVER TOP OF INSTALLED PIPE.
    3. CONTRACTOR SHALL ENSURE INSTALLATION METHOD DOES NOT DAMAGE EXISTING GEOSYNTHETIC DRAINAGE LAYER.
    4. REINSTATE ACCESS AND EGRESS PITS UPON COMPLETION.

**SURFACE WATER DOWN DRAIN DETAILS**

**COAL-COMBUSTION BY-PRODUCT (ASH) DISPOSAL FACILITY**

**KINGSTON FOSSIL PLANT**  
 TENNESSEE VALLEY AUTHORITY  
 FOSSIL AND FUELS ENGINEERING

DRAWN BY: W. B. LAW  
 CHECKED BY: J. J. ASHE  
 DESIGNED BY: R. N. DAVES  
 APPROVED BY: [Signature]

DATE: 08/07/07  
 SCALE: AS SHOWN EXCEPT AS NOTED

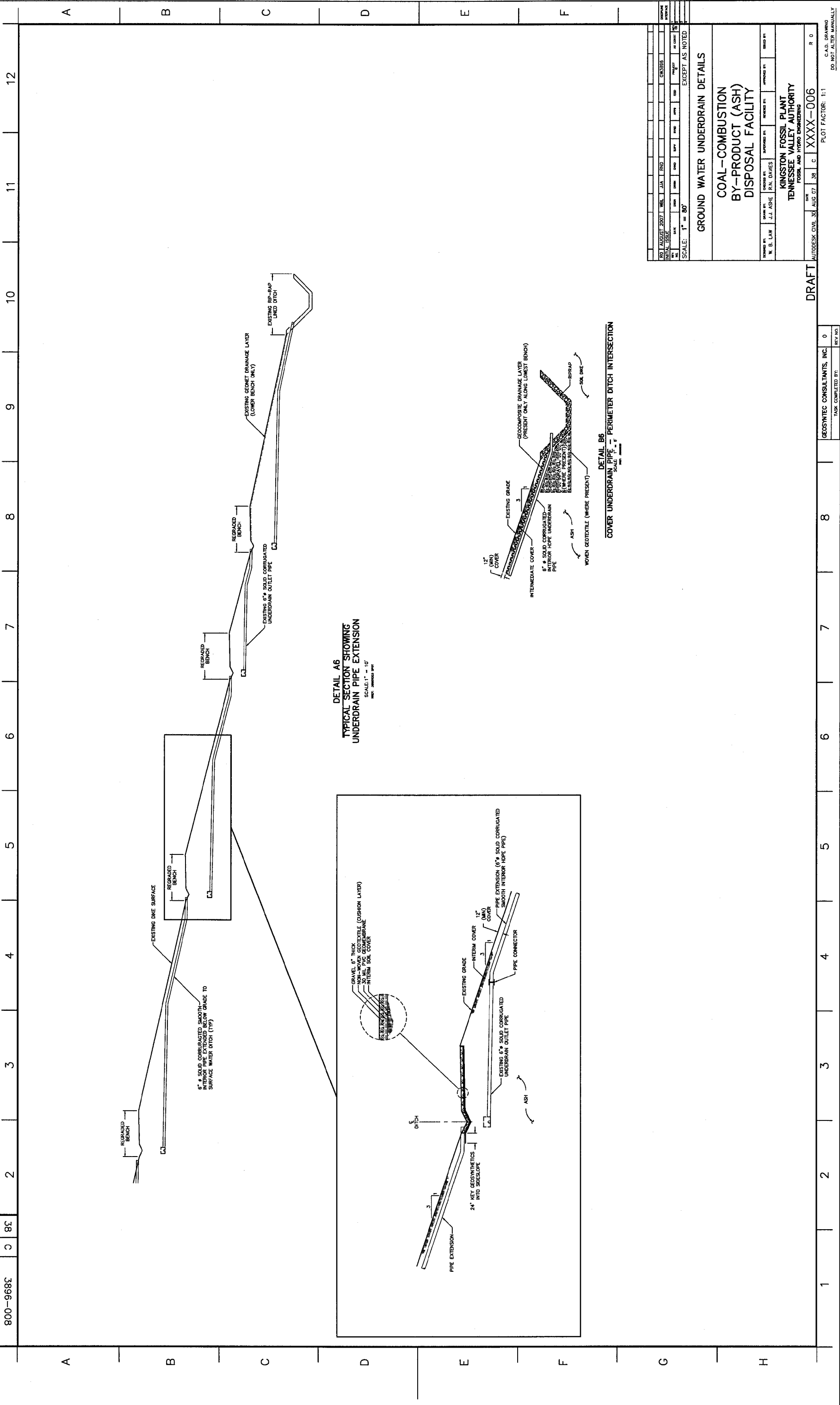
PROJECT NO: XXXX-005  
 PLOT FACTOR: 1:1  
 C.A.D. DRAWING  
 DO NOT ALTER MANUALLY

REVISIONS:

NO.	DATE	DESCRIPTION	BY	CHKD BY
1	08/07/07	ISSUE FOR PERMETER DITCH INTERSECTION	W.B. LAW	J.J. ASHE

*HOLD UP EACH BASIN*

*FIXED*



**DETAIL A6**  
 TYPICAL SECTION SHOWING  
 UNDERDRAIN PIPE EXTENSION  
 SCALE: 1" = 10'  
 DATE: 08/07/07

**DETAIL B6**  
 COVER UNDERDRAIN PIPE - PERIMETER DITCH INTERSECTION  
 SCALE: 1" = 8'  
 DATE: 08/07/07

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NO	DATE	BY	CHKD	APP'D	AS NOTED
01	AUGUST 2007	J.J. ASHE	R.N. DAVES		
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11					
12					

SCALE: 1" = 80'

**GROUND WATER UNDERDRAIN DETAILS**

**COAL-COMBUSTION  
 BY-PRODUCT (ASH)  
 DISPOSAL FACILITY**

DESIGNED BY: W. B. LAW  
 CHECKED BY: J.J. ASHE  
 APPROVED BY: R.N. DAVES

KINGSTON FOSSIL PLANT  
 TENNESSEE VALLEY AUTHORITY  
 FOSSIL AND HYDRO ENGINEERING

DATE: AUG 07 '07  
 PLOT FACTOR: 1:1  
 PROJECT NO: XXXX-006  
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GEOSYNTEC CONSULTANTS, INC.  
 TASK COMPLETED BY: 0  
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