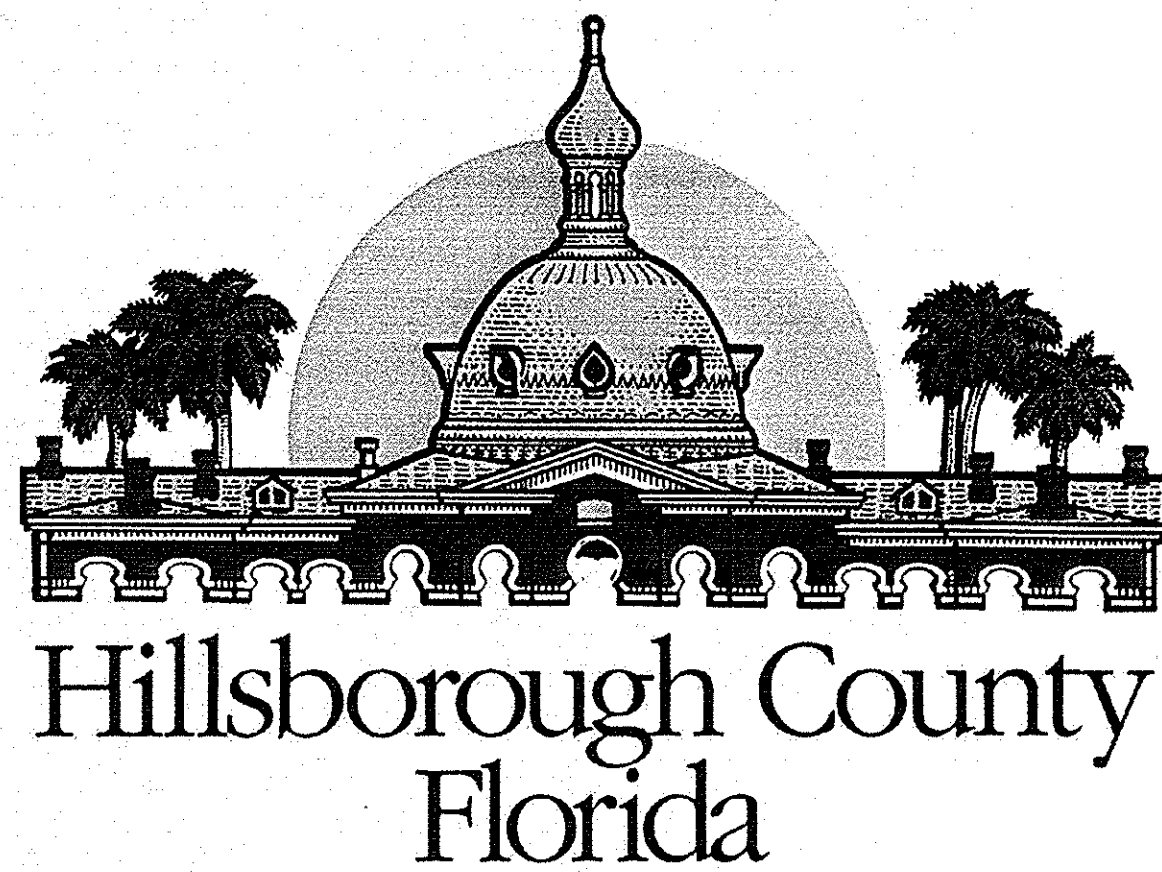




BOARD OF COUNTY COMMISSIONERS:
KEVIN BECKNER
VICTOR CRIST
KEN HAGAN
AL HIGGINBOTHAM
LES MILLER
SANDRA MURMAN
MARK SHARPE

HDR

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, FL 33609-3444
HDR CA# 4213

Bid Drawings For

SOUTHEAST COUNTY LANDFILL SINKHOLE STAGE 5 ISOLATION OF IMPACTED CLAY LINER

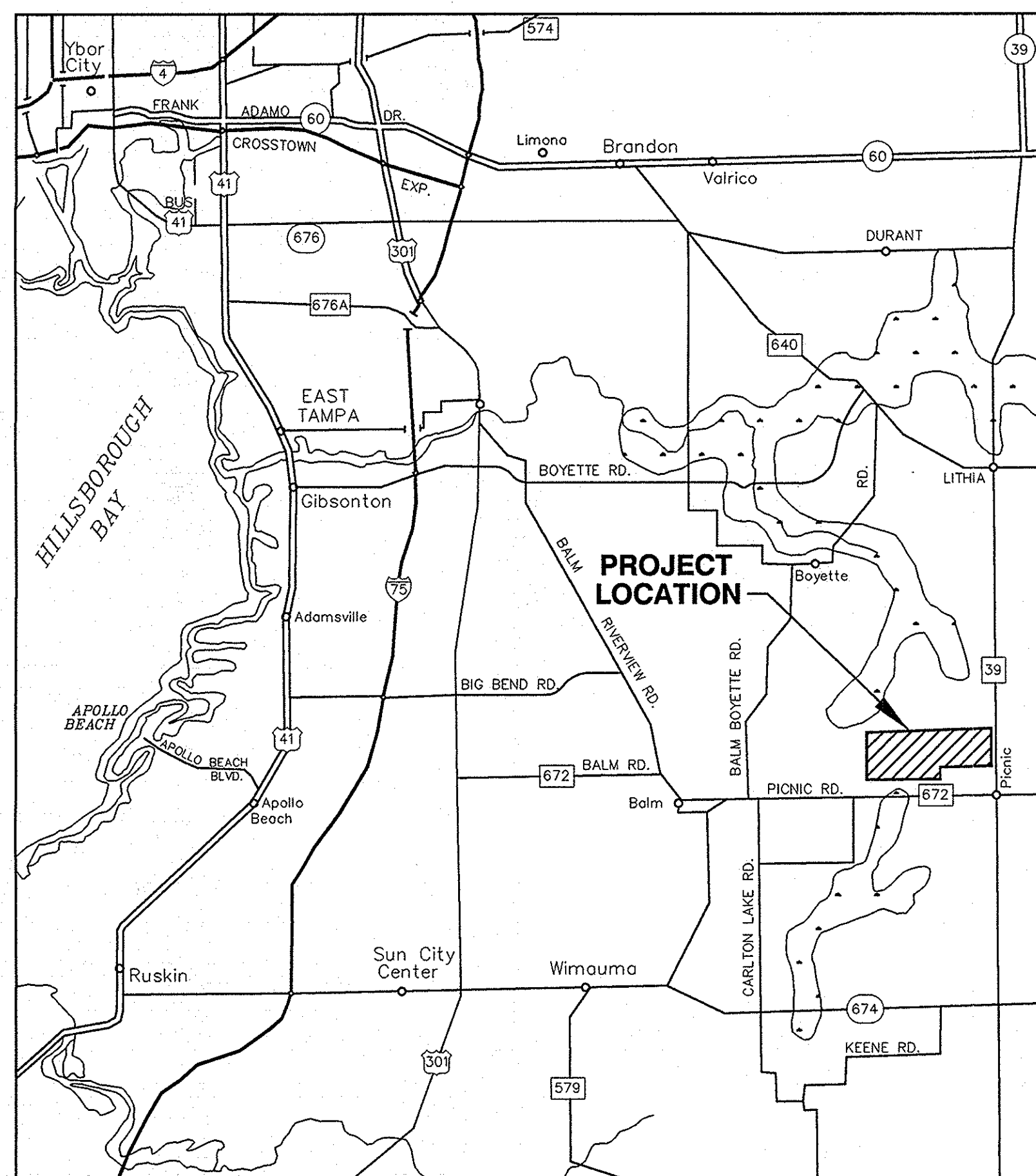
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY,
FLORIDA

CIP NO. 54061

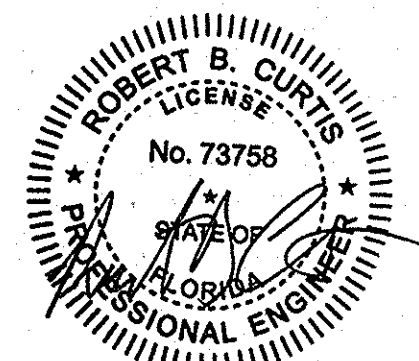
ISSUED FOR BID: FEBRUARY, 2013

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G-02	GENERAL NOTES AND LEGEND
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C-02	EXISTING CONDITIONS
C-03	GEOTECHNICAL BORINGS AND LIMITS OF IMPACTED CLAY LINER
C-04	SHEET PILE CUT-OFF WALL EXCAVATION PLAN
C-05	SHEET PILE CUT-OFF WALL INSTALLATION PLAN
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SITE VICINITY MAP



ROBERT B. CURTIS, P.E.
LICENSE NO. 73758
HDR CA# 4213

ENGINEERING SYMBOLOGY

○ HC-1A

HORIZONTAL COLLECTOR VERTICAL COMPONENT

⬤ EW-10

VERTICAL LFG EXTRACTION WELL

⬤ EW-46

EXISTING LFG EXTRACTION WELL

⬤ EW-12R

WELLHEAD LOCATION

⬤ EW-107

CAISSON LFG EXTRACTION WELL

■ UT-1

SLOPED CONDENSATE U-TRAP

⬤ CS-1

CONDENSATE SUMP WITH PUMP

⬤ CT-5

SELF-DRAINING CONDENSATE TRAP

⬤ V-8

HEADER ISOLATION VALVE

⬤ AR-24

HEADER ACCESS RISER

⬤ AV-2

AIR ISOLATION VALVE/BLOWOFF

⬤ CV-3

CONDENSATE DRAIN LINE ISOLATION VALVE

10"

HEADER/LATERAL DIAMETER

HP

HIGH POINT

HEADER/LATERAL PIPE

AIR SUPPLY LINE

CONDENSATE DRAIN LINE/LEACHATE DEWATERING LINE

ROAD CROSSING

CO 4-1

EXISTING LEACHATE COLLECTION SYSTEM CLEANOUT

FM

EXISTING LEACHATE FORCE MAIN

SOLID WASTE BOUNDARY

PHASE/SECTION LIMIT

HORIZONTAL COLLECTOR PERFORATED PIPE

CDW

DIRECTION OF CONDENSATE/DEWATERING LIQUID FLOW

LFG

DIRECTION OF LANDFILL GAS FLOW (LFG)

159.5

EXISTING SPOT ELEVATION

100

EXISTING MAJOR CONTOUR

EXISTING MINOR CONTOUR

LIMITS OF CONSTRUCTION

GENERAL SYMBOLOGY

ARROW INDICATES DIRECTION OF PLAN NORTH

N

#

XXX

DETAIL NUMBER

SHEET WHERE DETAIL IS LOCATED

DETAIL MARKER

FOR REFERENCING DETAILS INCLUDED IN DRAWING SET.

DETAIL

3" = 1'-0"

DETAIL NUMBER

SHEET WHERE DETAIL WAS CALLED OUT

#

XXX

DETAIL TITLE

GENERAL NOTES

SURVEY AND MAP REPORT:

1. EXISTING TOPOGRAPHY PROVIDED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JULY 13, 2012. AS WITH ALL SURVEYS COMPLETED IN THIS MANNER, ALL INFORMATION SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

2. COORDINATES REFERENCE FLORIDA STATE PLANE WEST ZONE, NAD83, 1990 ADJUSTMENT. ELEVATIONS ARE TO NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929.

SPECIFIC NOTES:

1. WITHIN 10 DAYS AFTER AWARD OF CONTRACT, THE CONTRACTOR WILL SUBMIT FOR APPROVAL A SCHEDULE TO THE ENGINEER, FOR COMPLETION OF THE PROJECT OR AS DEFINED IN SECTION 01040 OF THE CONSTRUCTION SPECIFICATION.

2. ALL EXCAVATED WASTE SHALL BE STOCKPILED IN THE DESIGNATED WASTE STOCKPILE AND RELOCATION AREA. WASTE REMAINING IN THE STOCKPILE AFTER BACKFILLING SHALL BE COVERED WITH INTERMEDIATE COVER & SODDED.

3. HOURS FOR CONSTRUCTION: 7:30 AM TO 5:30 PM MONDAY THRU FRIDAY.

EROSION AND SEDIMENT CONTROL:

1. CONTRACTOR WILL ADD EROSION AND SEDIMENT CONTROL AS NECESSARY TO PREVENT SEDIMENTATION AND DAMAGE TO ADJACENT AREAS AND AS DIRECTED BY THE ENGINEER.

2. CONTRACTOR WILL INSPECT AND REPAIR, AS NECESSARY, ANY EROSION AND SEDIMENT CONTROL DAILY AND FOLLOWING EACH MEASURABLE RAIN EVENT.

3. EROSION AND SEDIMENT CONTROL WILL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

4. CONTRACTOR IS RESPONSIBLE FOR MONITORING DOWNSTREAM CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD AND CLEARING ANY DEBRIS AND SEDIMENT RESULTING FROM CONSTRUCTION.

5. EROSION CONTROL FENCING MUST MEET THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION, STATE OF FLORIDA STANDARD SPECIFICATIONS. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES.

6. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION.

EARTHWORK:

1. EXCAVATION IS UNCLASSIFIED AND INCLUDES REMOVAL OF EARTH FILLS, RUBBLE, TRASH, AND OTHER MATERIALS ENCOUNTERED IN EXCAVATION AND GRADING OPERATIONS TO DEPTH AND EXTENT SHOWN ON DRAWINGS OR SPECIFIED. THE ENGINEER SHALL BE THE FINAL AUTHORITY AND SHALL MAKE THE FINAL DECISION DURING CONSTRUCTION AS TO THE DEPTH AND EXTENT TO WHICH MATERIALS MUST BE REMOVED AND REPLACED.

2. SURVEY BENCHMARKS, MONUMENTS AND OTHER REFERENCE POINTS WILL BE PROTECTED FROM DAMAGE AND DISPLACEMENT. IF DISTURBED OR DESTROYED, THEY WILL BE REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

3. CONTRACTOR SHALL LIMIT DIRT, DUST, NOISE AND OTHER OBJECTIONABLE NUISANCES PER PERMIT REQUIREMENTS.

4. ALL FILL AREAS ARE TO BE COMPACTED AS DEFINED IN THE SPECIFICATIONS AND DRAWINGS.

5. CUT AND FILL SLOPES FOR STRUCTURAL EMBANKMENTS SHALL NOT EXCEED 2 HORIZONTAL TO 1 VERTICAL. THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING AND BRACING DURING CONSTRUCTION.

UTILITIES:

1. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK PRIOR TO CONSTRUCTION. ALL DAMAGE MADE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ALL COORDINATION AND REQUIRED UTILITY COMPANY TEMPORARY PROTECTION SHALL BE AT THE CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE UNINTERRUPTION OF SERVICE AND REPLACEMENT OF DAMAGED UTILITIES.

AS-BUILT SURVEY DATA:

1. THE CONTRACTOR SHALL PROVIDE ALL SURVEY DATA LISTED IN SECTION 01050 OF THE CONSTRUCTION SPECIFICATIONS.

2. THE CONTRACTOR SHALL PROVIDE SURVEY DATA TO THE ENGINEER SHOWING WORK TO THE LANDFILL GAS COLLECTION SYSTEM HAS BEEN PROPERLY CONSTRUCTED AND MEETS THE MINIMUM SLOPES REQUIRED AS SHOWN ON THE DRAWINGS.

3. THE GAS COLLECTION SURVEY DATA SUBMITTED TO THE ENGINEER SHALL BE GROUND SURFACE ELEVATIONS AND TOP OF PIPE ELEVATIONS AT 50 FOOT INTERVALS ON CENTER AND AT EACH FITTING, LATERAL CONNECTION, VALVE, BEND AND AT OTHER SIGNIFICANT FEATURES.

4. ALL REQUESTED SURVEY DATA MUST BE PROVIDED TO THE ENGINEER IN FLORIDA STATE PLANE COORDINATES AND BE SIGNED AND SEALED BY A STATE OF FLORIDA LICENSED SURVEYOR.

ADDITIONAL NOTES:

1. THE CONTRACTOR IS ADVISED THAT NO ACTIVITIES MAY INTERFERE, DISRUPT, BLOCK, OR OTHERWISE CONFLICT WITH LANDFILL OPERATIONS. IF CONFLICTS ARE ANTICIPATED, THEY SHALL BE COORDINATED AND APPROVED BY THE OWNER AND ENGINEER PRIOR TO DISRUPTION.

2. THE PROJECT SITE IS A SOLID WASTE CLASS I LANDFILL, AS SUCH, CONDITIONS ARE SUBJECT TO CHANGE WITH TIME. CONTROLS, IN PARTICULAR VERTICAL GROUND ELEVATION, SHOULD BE EXPECTED (AND ANTICIPATED) TO VARY FROM THOSE SHOWN ON THESE DRAWINGS DUE TO ONGOING SUBSIDENCE RESULTING FROM REFUSE DECOMPOSITION WITHIN THE PROJECT LIMITS. RELATIVE ELEVATION DIFFERENCES IN EXISTING AND PROPOSED ELEVATIONS SHOWN ON THE DRAWINGS SHALL BE ADJUSTED ACCORDINGLY AND THE ENGINEER NOTIFIED. LOCATION OF STRUCTURES SHALL BE PLACED IN ACCORDANCE WITH HORIZONTAL CONTROLS. VERTICAL PLACEMENT OF STRUCTURES SHALL BE IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS, OR AS APPROVED BY THE ENGINEER.

3. REPAIRS TO THE LANDFILL GAS COLLECTION SYSTEM AND PREPARATION FOR SHEET PILE INSTALLATION WILL INVOLVE REFUSE EXCAVATION. THE CONTRACTOR SHALL MAKE ALL SAFETY AND ENVIRONMENTAL PRECAUTIONS TO PROTECT ITS WORKERS AND SUBCONTRACTORS, AT NO ADDITIONAL COST TO THE OWNER. UNLESS OTHERWISE DIRECTED BY ENGINEER, ALL EXCAVATED WASTES SHALL BE PLACED AT THE DESIGNATED WASTE STOCKPILE AND RELOCATION AREA. ALL EXCAVATED WASTE SHALL BE STOCKPILED BY END OF EACH DAY. CONTRACTOR IS ADVISED THAT THE POTENTIAL FOR ENCOUNTERING ASBESTOS CONTAINING MATERIAL EXISTS. SHOULD SUSPECT ASBESTOS-CONTAINING MATERIAL BE ENCOUNTERED, IT SHALL BE MAINTAINED IN A MOIST CONDITION DURING THE REMOVAL AND TRANSFER PROCESS TO MINIMIZE/PREVENT EMISSIONS FROM SUCH. DISTURBED ASBESTOS-CONTAINING MATERIAL WILL BE TRANSPORTED BY THE CONTRACTOR TO THE WORKING FACE OF THE LANDFILL BY THE END OF EACH WORKING DAY FOR PROPER DISPOSAL AND BURIED BY THE LANDFILL OPERATOR WITH A MINIMUM OF SIX (6) INCHES OF SOIL COVER. DISPOSAL OF ASBESTOS-CONTAINING MATERIAL WILL NEED TO BE COORDINATED WITH THE LANDFILL OPERATOR PRIOR TO DELIVERY TO ACTIVE AREA.

4. ANY AND ALL FINES IMPOSED ON THE OWNER BY ANY REGULATORY AGENCY DUE TO ACTIONS OF THE CONTRACTOR SHALL BE PAID BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

5. INSPECTION: EXAMINE AREAS FOR CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. REPORT IN WRITING TO THE ENGINEER ALL CONDITIONS CONTRARY TO THOSE SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN AND ALL OTHER CONDITIONS THAT WILL AFFECT SATISFACTORY EXECUTION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. STARTING WORK CONSTITUTES ACCEPTANCE OF THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. AFTER SUCH ACCEPTANCE, THE CONTRACTOR SHALL, AT CONTRACTORS EXPENSE, BE RESPONSIBLE FOR CORRECTING ALL UNSATISFACTORY AND DEFECTIVE WORK RESULTING FROM SUCH UNSATISFACTORY CONDITIONS.

6. PROTECTIONS: INSTALL TEMPORARY BARRIERS, FENCES, BARRICADES, LIGHTS, WARNING SIGNS AND OTHER DEVICES NECESSARY TO PROTECT STRUCTURES, UTILITIES, LANDSCAPING, EXCAVATIONS, AND OTHER ITEMS AS NECESSARY. PROTECT SURVEY BENCHMARKS AND MONUMENTS FROM DISPLACEMENT.

7. ALL WORK SHALL BE PERFORMED IN A QUALITY WORKMANLIKE MANNER.

8. DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER OR OWNER MAY CAUSE THE WORK TO BE UNACCEPTABLE AND WILL BE ADJUSTED OR REPAIRED AT THE CONTRACTOR'S EXPENSE.

9. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY LICENSES AND PERMITS ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT UNLESS NOTIFIED OTHERWISE IN WRITING BY THE OWNER.

10. LANDFILL GAS COLLECTION SYSTEM PIPING ALIGNMENTS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY TO ASSURE REQUIRED SLOPE AND DIRECTION OF GAS AND CONDENSATE FLOW.

11. THE EXISTING LANDFILL GAS SYSTEM LOCATION AND ELEVATIONS ARE BASED UPON AS-BUILT SURVEY DATA PROVIDED BY OTHERS, NOTIFY THE ENGINEER IF DIFFERENT.

12. PRIOR TO COMMENCEMENT OF ALL WORK, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SURVEY TO CONFIRM EXISTING CONDITION, AS DEFINED BY SECTION 01050 OF CONSTRUCTION SPECIFICATIONS.

13. ALL WORK, UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS, SHALL HAVE A ONE YEAR WARRANTY. ONE YEAR WARRANTY WILL BECOME EFFECTIVE WHEN THE PROJECT IS SUBSTANTIALLY COMPLETE, AS DETERMINED BY ENGINEER.

14. ACTUAL DIMENSIONS AND LOCATIONS MAY VARY BASED ON FIELD LOCATIONS AND WITH APPROVAL OF THE ENGINEER.

15. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIALS.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING THE COST FOR ALL INSPECTION FEES AND ENGINEERING HOURS OVER THE 50 HOURS PER WEEK WORK SCHEDULE AT ACTUAL BILLING RATES. CONTRACTOR SHALL SUBMIT IN WRITING TO THE ENGINEER WITHIN FIVE CALENDAR DAYS NOTICE TO JUSTIFY THE EXTENSION OF TIME.

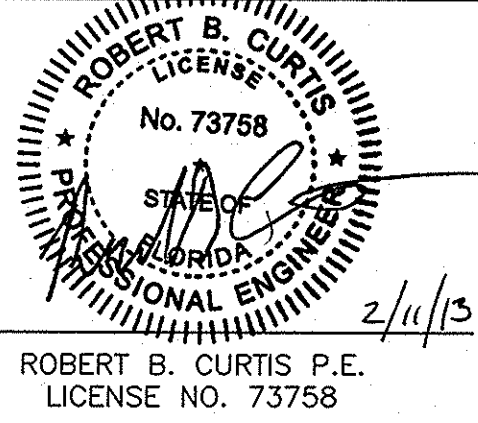


Civil Design Services, Inc.
11012 N. Ridgedale Road
Tampa, FL 33617
CAP 28923

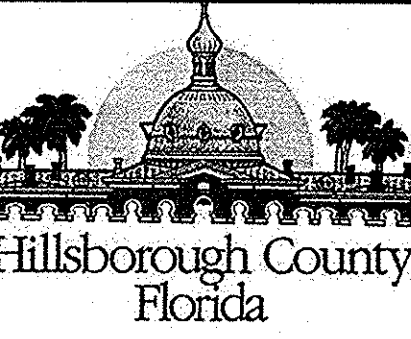


HDR Engineering, Inc.
5428 Bay Center Drive
Suite 400
Tampa, FL 33609-3444
HDR CAP 4213

PROJECT MANAGER	R. SIEMERING
REVIEWED BY	T. YANOSCHAK
CIVIL DESIGN BY	J. O'NEILL
CIVIL DESIGN BY	C. KOENIG
DRAWN BY	B. JOHNSON
DRAWN BY	L. RODRIGUEZ
PROJECT NUMBER	0096-193814-002



ROBERT B. CURTIS
P.E.
LICENSE NO. 73758



SOUTHEAST COUNTY LANDFILL
SINKHOLE REMEDIATION STAGE 5
ISOLATION OF IMPACTED
CLAY LINER
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA

0

1"

2"

FILENAME

00G-02.DWG

SCALE

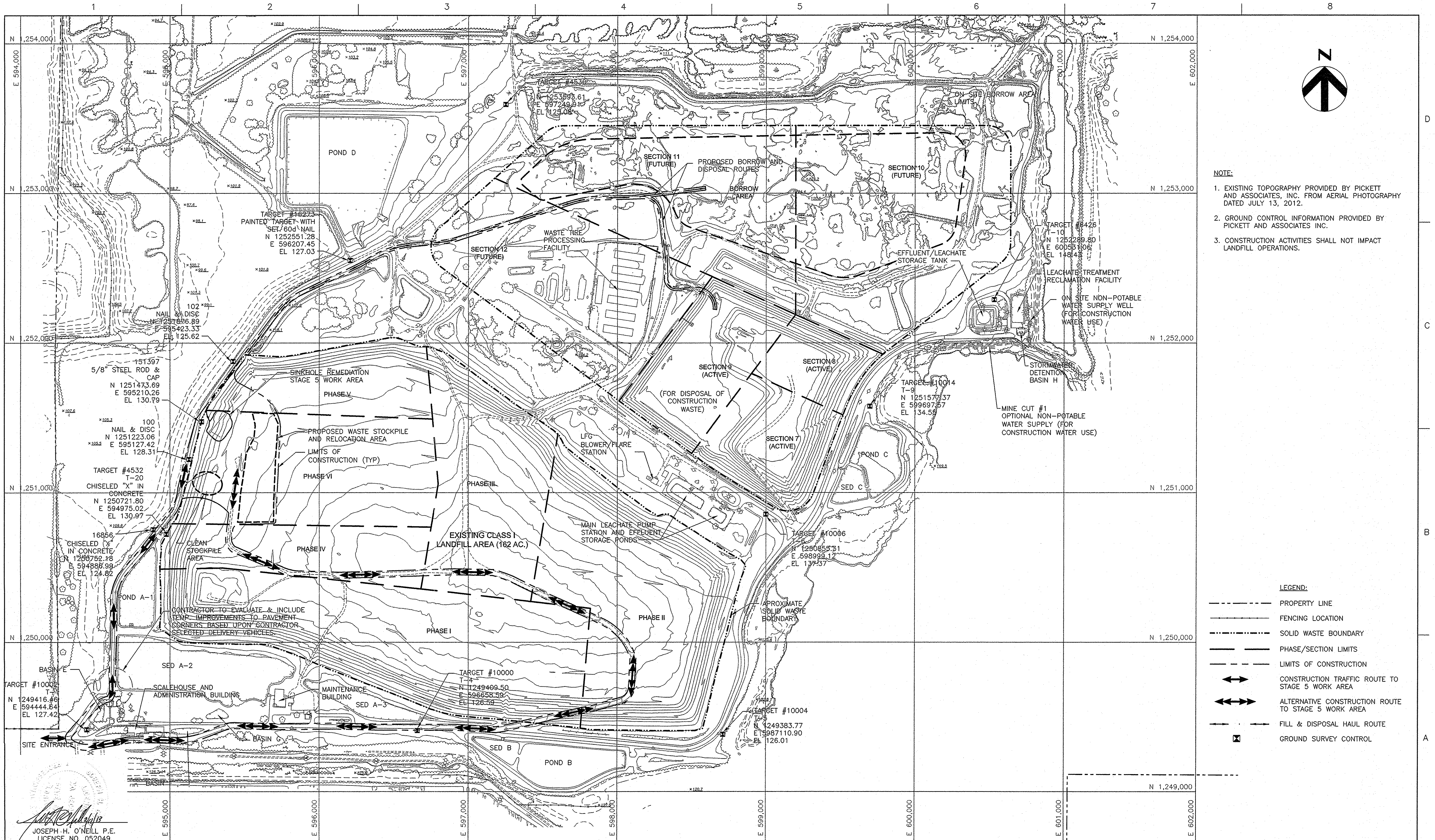
AS SHOWN

SHEET

G-02

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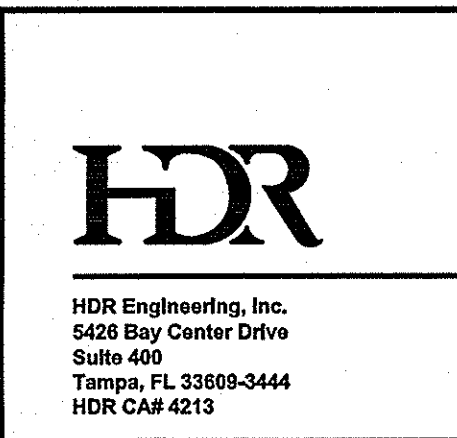
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Civil Design Services
INCORPORATED

Civil Design Services, Inc.
11012 N. Ridgedale Road
Tampa, FL 33617
CAP 28923

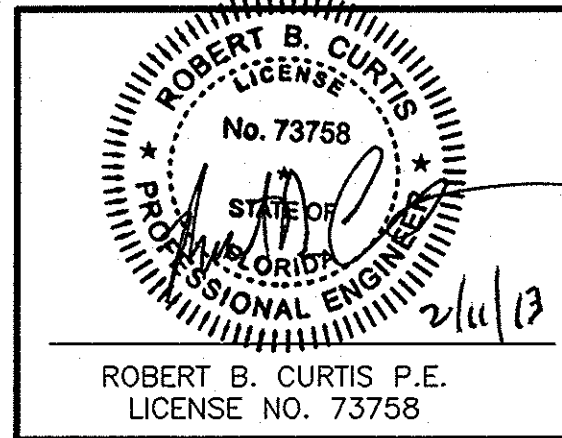


HDR

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, FL 33609-3444
HDR CAP 4213

ISSUE	DATE	DESCRIPTION
	02/11/2013	ISSUED FOR BID
	01/11/2013	ISSUED FOR REVIEW

PROJECT MANAGER	R. SIEMERING
REVIEWED BY	T. YANOSCHAK
CIVIL DESIGN BY	J. O'NEILL
CIVIL DESIGN BY	C. KOENIG
DRAWN BY	B. JOHNSON
DRAWN BY	L. RODRIGUEZ
PROJECT NUMBER	0096-193814-002



ROBERT B. CURTIS
No. 73758
STATE OF FLORIDA
PROFESSIONAL ENGINEER
2/11/13

ROBERT B. CURTIS P.E.
LICENSE NO. 73758



Hillsborough County
Florida

**SOUTHEAST COUNTY LANDFILL
SINKHOLE REMEDIATION STAGE 5
ISOLATION OF IMPACTED
CLAY LINER**

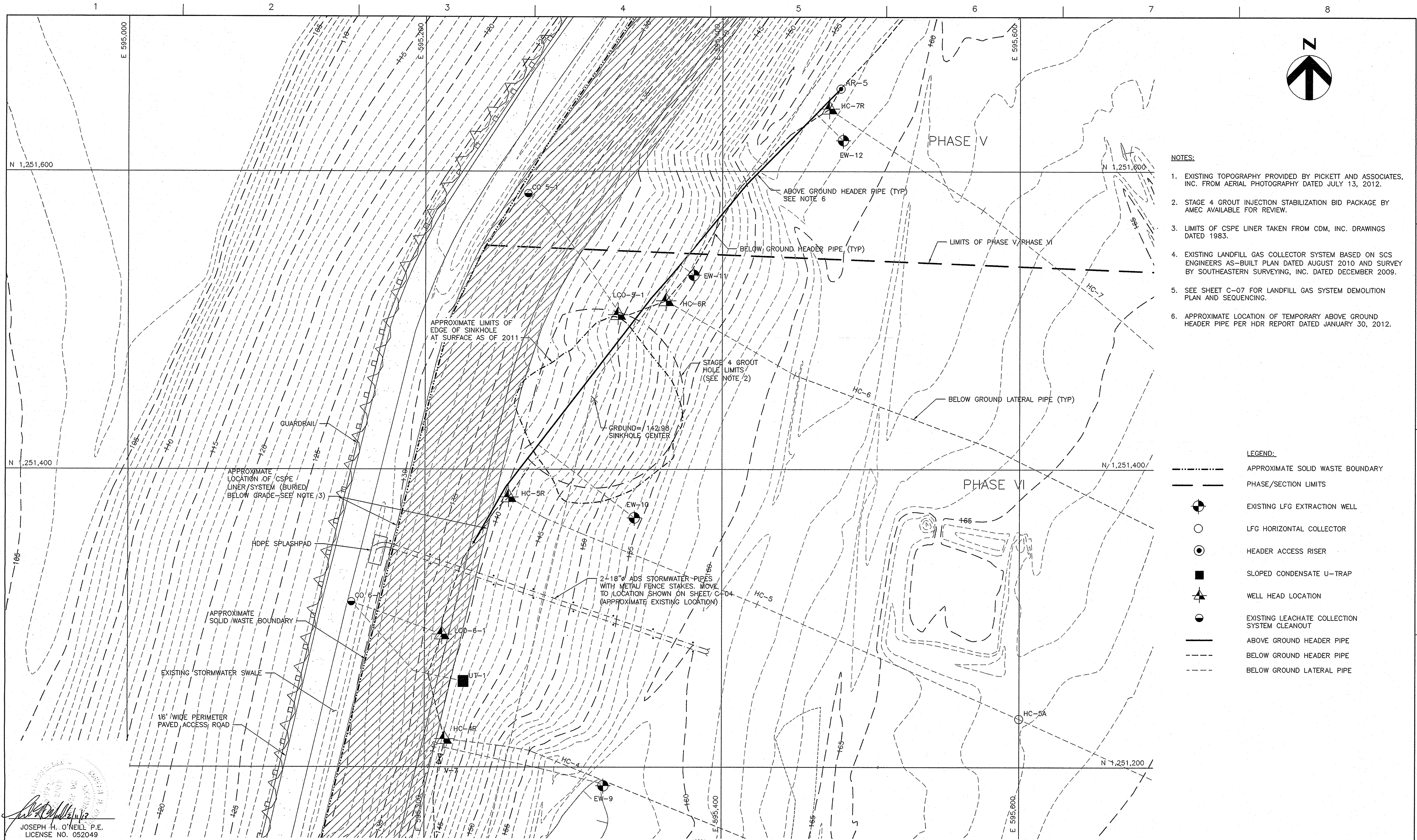
**SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA**

OVERALL SITE PLAN

0 1" 2"

FILENAME 00C-01.DWG
SCALE 1=300'

SHEET
C-01



- NOTES:
1. EXISTING TOPOGRAPHY PROVIDED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JULY 13, 2012.
 2. STAGE 4 GROUT INJECTION STABILIZATION BID PACKAGE BY AMEC AVAILABLE FOR REVIEW.
 3. LIMITS OF CSPE LINER TAKEN FROM CDM, INC. DRAWINGS DATED 1983.
 4. EXISTING LANDFILL GAS COLLECTOR SYSTEM BASED ON SCS ENGINEERS AS-BUILT PLAN DATED AUGUST 2010 AND SURVEY BY SOUTHEASTERN SURVEYING, INC. DATED DECEMBER 2009.
 5. SEE SHEET C-07 FOR LANDFILL GAS SYSTEM DEMOLITION PLAN AND SEQUENCING.
 6. APPROXIMATE LOCATION OF TEMPORARY ABOVE GROUND HEADER PIPE PER HDR REPORT DATED JANUARY 30, 2012.

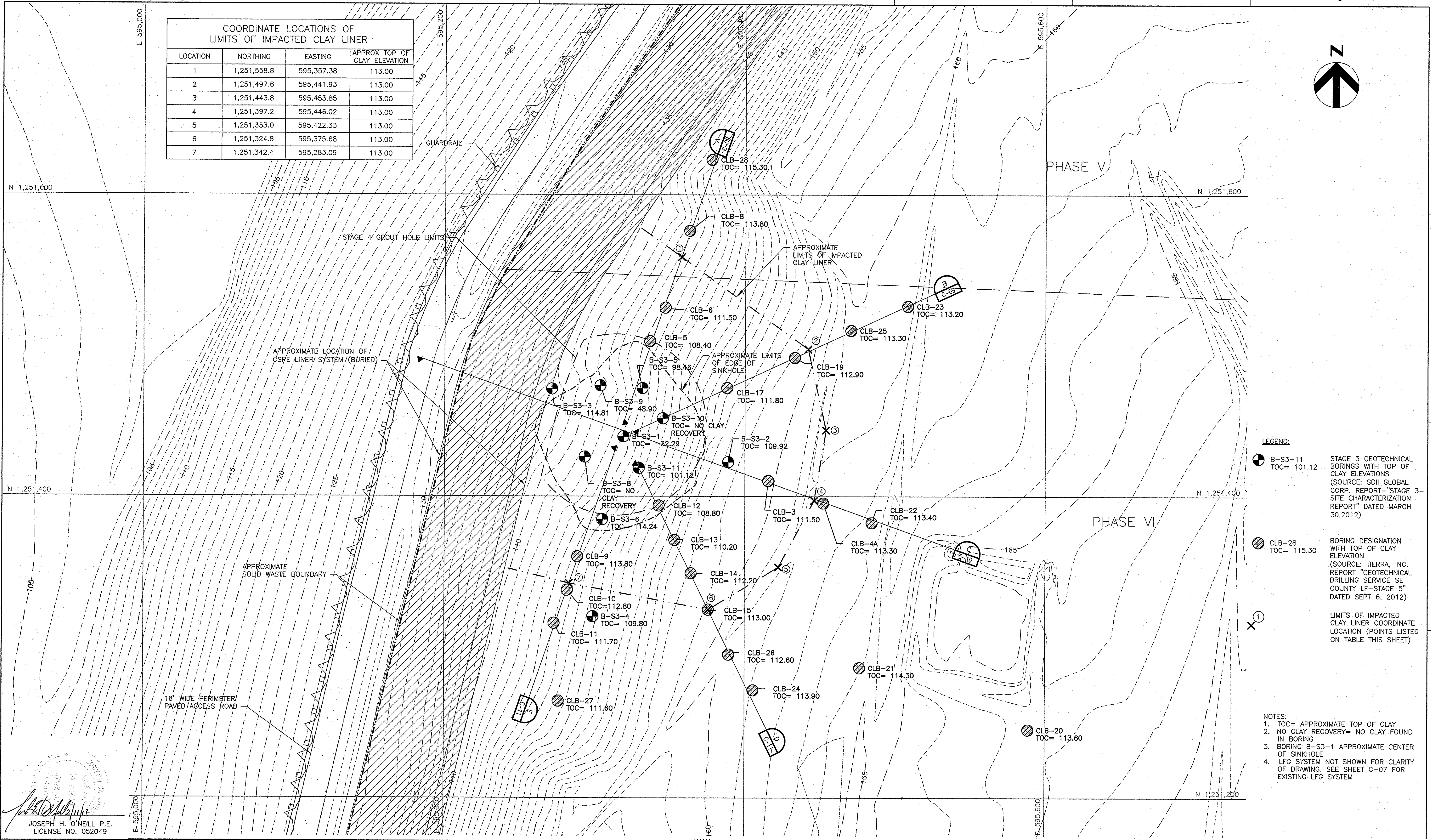
- LEGEND:
- APPROXIMATE SOLID WASTE BOUNDARY
 - PHASE/SECTION LIMITS
 - EXISTING LFG EXTRACTION WELL
 - LFG HORIZONTAL COLLECTOR
 - HEADER ACCESS RISER
 - SLOPED CONDENSATE U-TRAP
 - ▲ WELL HEAD LOCATION
 - EXISTING LEACHATE COLLECTION SYSTEM CLEANOUT
 - ABOVE GROUND HEADER PIPE
 - - - BELOW GROUND HEADER PIPE
 - - - BELOW GROUND LATERAL PIPE

JOSEPH H. O'NEILL P.E.
LICENSE NO. 052049

 Civil Design Services, Inc. 11012 N. Ridgedale Road Tampa, FL 33617 CA# 26925	 HDR Engineering, Inc. 5426 Bay Center Drive Suite 400 Tampa, FL 33609-3444 HDR CA# 4215	02/11/2013	ISSUED FOR BID
		01/11/2013	ISSUED FOR REVIEW
ISSUE		DATE	DESCRIPTION
PROJECT MANAGER		R. SIEMERING	
REVIEWED BY		T. YANOSCHAK	
CIVIL DESIGN BY		J. O'NEILL	
CIVIL DESIGN BY		C. KOENIG	
DRAWN BY		B. JOHNSON	
DRAWN BY		L. RODRIGUEZ	
PROJECT NUMBER		0096-193814-002	

 ROBERT B. CURTIS P.E. LICENSE NO. 73758	 SOUTHEAST COUNTY LANDFILL SINKHOLE REMEDIATION STAGE 5 ISOLATION OF IMPACTED CLAY LINER SOUTHEAST COUNTY LANDFILL HILLSBOROUGH COUNTY, FLORIDA	EXISTING CONDITIONS	
		0 1" 2" SCALE 1"=30'	FILENAME 00C-02.dwg SHEET C-02

COORDINATE LOCATIONS OF LIMITS OF IMPACTED CLAY LINER			
LOCATION	NORTHING	EASTING	APPROX TOP OF CLAY ELEVATION
1	1,251,558.8	595,357.38	113.00
2	1,251,497.6	595,441.93	113.00
3	1,251,443.8	595,453.85	113.00
4	1,251,397.2	595,446.02	113.00
5	1,251,353.0	595,422.33	113.00
6	1,251,324.8	595,375.68	113.00
7	1,251,342.4	595,283.09	113.00



- LEGEND:**
- B-S3-11 TOC= 101.12 STAGE 3 GEOTECHNICAL BORINGS WITH TOP OF CLAY ELEVATIONS (SOURCE: SDII GLOBAL CORP. REPORT-"STAGE 3-SITE CHARACTERIZATION REPORT" DATED MARCH 30,2012)
 - CLB-28 TOC= 115.30 BORING DESIGNATION WITH TOP OF CLAY ELEVATION (SOURCE: TIERRA, INC. REPORT "GEOTECHNICAL DRILLING SERVICE SE COUNTY LF-STAGE 5" DATED SEPT 6, 2012)
 - LIMITS OF IMPACTED CLAY LINER COORDINATE LOCATION (POINTS LISTED ON TABLE THIS SHEET)
- NOTES:**
1. TOC= APPROXIMATE TOP OF CLAY
 2. NO CLAY RECOVERY= NO CLAY FOUND IN BORING
 3. BORING B-S3-1 APPROXIMATE CENTER OF SINKHOLE
 4. LFG SYSTEM NOT SHOWN FOR CLARITY OF DRAWING. SEE SHEET C-07 FOR EXISTING LFG SYSTEM

JOSEPH H. O'NEILL P.E.
LICENSE NO. 052049

CIVIL DESIGN SERVICES
INCORPORATED
Civil Design Services, Inc.
11012 N. Ridgeway Road
Tampa, FL 33617
CA# 26925

HDR
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ROBERT B. CURTIS
No. 73758
PROFESSIONAL ENGINEER
2/11/13
ROBERT B. CURTIS P.E.
LICENSE NO. 73758

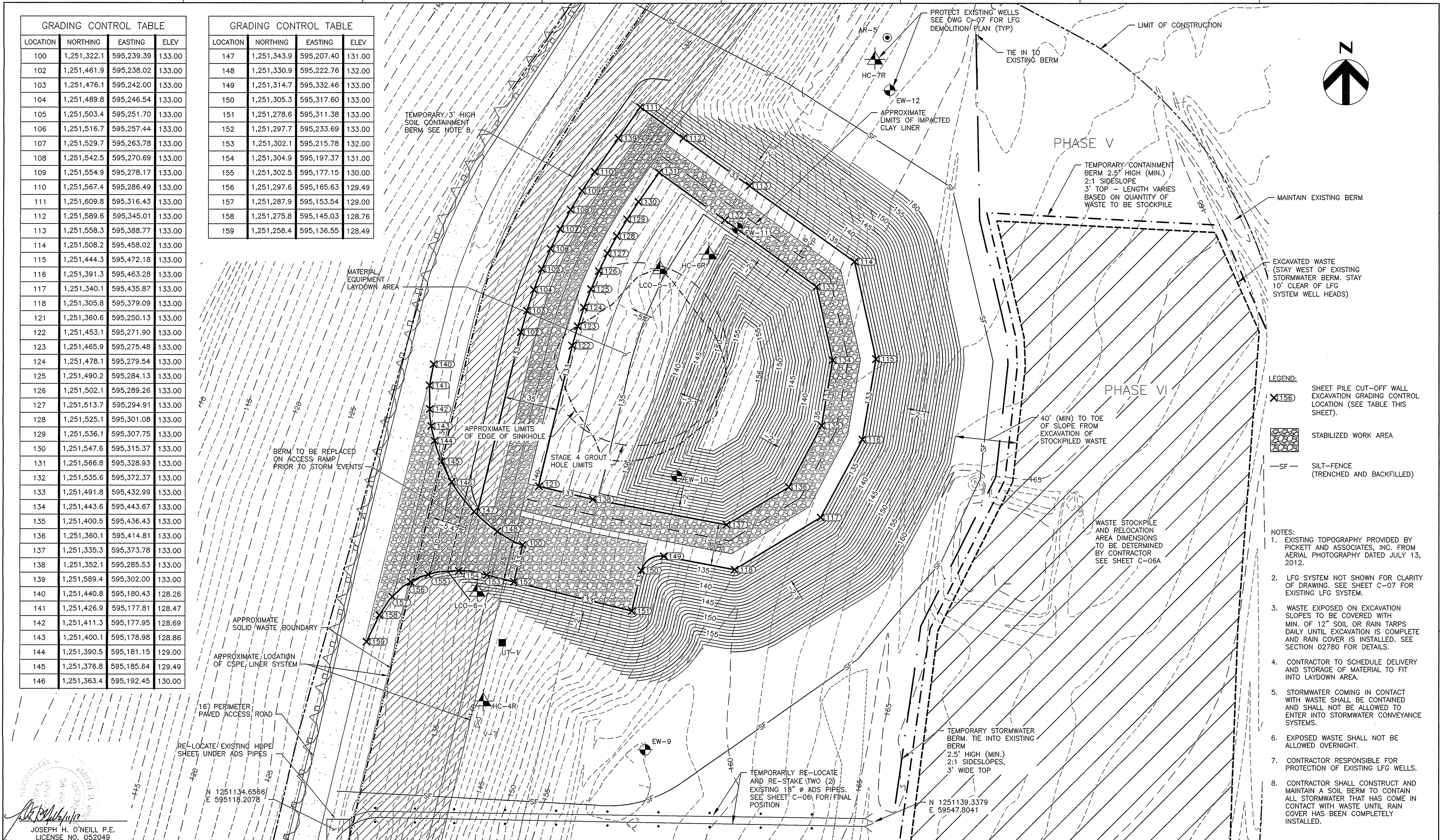
Hillsborough County
Florida

**SOUTHEAST COUNTY LANDFILL
SINKHOLE REMEDIATION STAGE 5
ISOLATION OF IMPACTED
CLAY LINER
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA**

GEOTECHNICAL BORINGS AND LIMITS OF IMPACTED CLAY LINER	
0 1" 2"	FILENAME 00C-02_03.dwg
SCALE 1"=30'	SHEET C-03

GRADING CONTROL TABLE			
LOCATION	NORTHING	EASTING	ELEV
100	1,251,322.1	595,239.39	133.00
102	1,251,461.9	595,238.02	133.00
103	1,251,476.1	595,242.00	133.00
104	1,251,489.8	595,246.54	133.00
105	1,251,503.4	595,251.70	133.00
106	1,251,516.7	595,257.44	133.00
107	1,251,529.7	595,263.78	133.00
108	1,251,542.5	595,270.69	133.00
109	1,251,554.9	595,278.17	133.00
110	1,251,567.4	595,286.49	133.00
111	1,251,609.8	595,316.43	133.00
112	1,251,589.6	595,345.01	133.00
113	1,251,558.3	595,388.77	133.00
114	1,251,508.2	595,458.02	133.00
115	1,251,444.3	595,472.18	133.00
116	1,251,391.3	595,463.28	133.00
117	1,251,340.1	595,435.87	133.00
118	1,251,305.8	595,379.09	133.00
121	1,251,360.6	595,250.13	133.00
122	1,251,453.1	595,271.90	133.00
123	1,251,465.9	595,275.48	133.00
124	1,251,478.1	595,279.54	133.00
125	1,251,490.2	595,284.13	133.00
126	1,251,502.1	595,289.26	133.00
127	1,251,513.7	595,294.91	133.00
128	1,251,525.1	595,301.08	133.00
129	1,251,536.1	595,307.75	133.00
130	1,251,547.6	595,315.37	133.00
131	1,251,566.8	595,328.93	133.00
132	1,251,535.6	595,372.37	133.00
133	1,251,491.8	595,432.99	133.00
134	1,251,443.6	595,443.67	133.00
135	1,251,400.5	595,436.43	133.00
136	1,251,360.1	595,414.81	133.00
137	1,251,335.3	595,373.78	133.00
138	1,251,352.1	595,285.53	133.00
139	1,251,589.4	595,302.00	133.00
140	1,251,440.8	595,180.43	128.26
141	1,251,426.9	595,177.81	128.47
142	1,251,411.3	595,177.95	128.69
143	1,251,400.1	595,178.98	128.86
144	1,251,390.5	595,181.15	129.00
145	1,251,376.8	595,185.64	129.49
146	1,251,363.4	595,192.45	130.00

GRADING CONTROL TABLE			
LOCATION	NORTHING	EASTING	ELEV
147	1,251,343.9	595,207.40	131.00
148	1,251,330.9	595,222.76	132.00
149	1,251,314.7	595,332.46	133.00
150	1,251,305.3	595,317.60	133.00
151	1,251,278.6	595,311.38	133.00
152	1,251,297.7	595,233.69	133.00
153	1,251,302.1	595,215.78	132.00
154	1,251,304.9	595,197.37	131.00
155	1,251,302.5	595,177.15	130.00
156	1,251,297.6	595,165.63	129.49
157	1,251,287.9	595,153.54	129.00
158	1,251,275.8	595,145.03	128.76
159	1,251,258.4	595,136.55	128.49

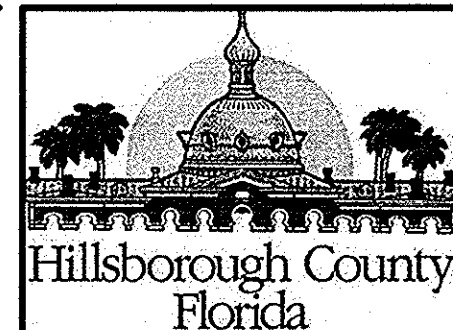
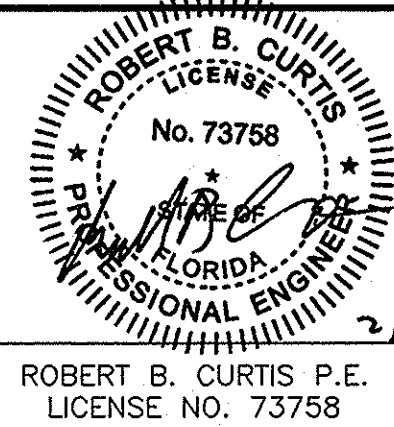


JOSEPH H. O'NEILL P.E.
LICENSE NO. 052049



	02/11/2013	ISSUED FOR BID
	01/11/2013	ISSUED FOR REVIEW
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	R. SIEMERING
REVIEWED BY	T. YANOSCHAK
CIVIL DESIGN BY	J. O'NEILL
CIVIL DESIGN BY	C. KOENIG
DRAWN BY	B. JOHNSON
DRAWN BY	L. RODRIGUEZ
PROJECT NUMBER	0096-193814-002

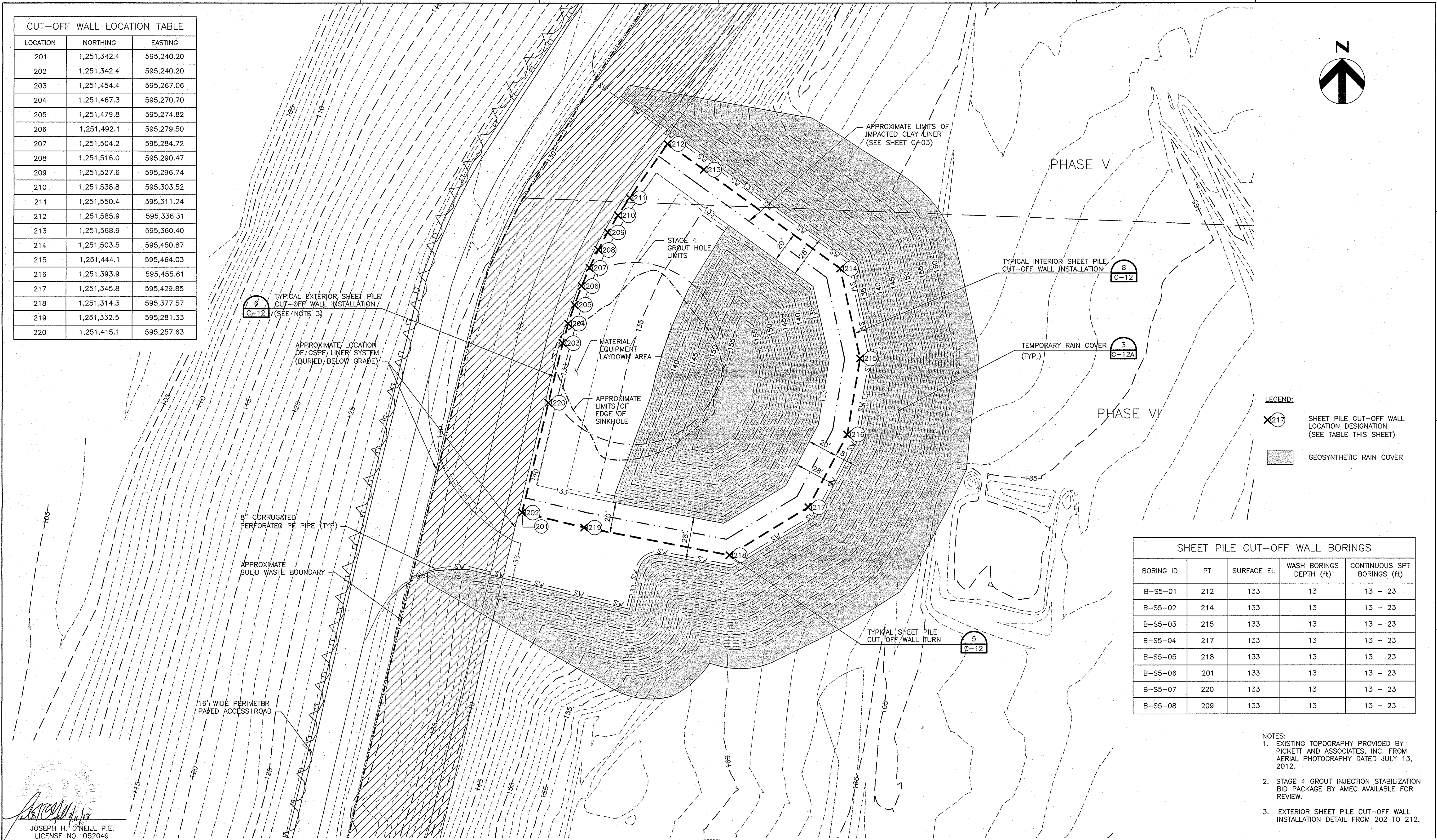


**SOUTHEAST COUNTY LANDFILL
SINKHOLE REMEDIATION STAGE 5
ISOLATION OF IMPACTED
CLAY LINER
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA**

SHEET PILE CUT-OFF WALL EXCAVATION PLAN

0 1" 2"	FILENAME	00C-02_03.dwg	SHEET
	SCALE	1"=30'	C-04

CUT-OFF WALL LOCATION TABLE		
LOCATION	NORTHING	EASTING
201	1,251,342.4	595,240.20
202	1,251,342.4	595,240.20
203	1,251,454.4	595,267.06
204	1,251,467.3	595,270.70
205	1,251,479.8	595,274.82
206	1,251,492.1	595,279.50
207	1,251,504.2	595,284.72
208	1,251,516.0	595,290.47
209	1,251,527.6	595,296.74
210	1,251,538.8	595,303.52
211	1,251,550.4	595,311.24
212	1,251,585.9	595,336.31
213	1,251,568.9	595,360.40
214	1,251,503.5	595,450.87
215	1,251,444.1	595,464.03
216	1,251,393.9	595,455.61
217	1,251,345.8	595,429.85
218	1,251,314.3	595,377.57
219	1,251,332.5	595,281.33
220	1,251,415.1	595,257.63



- LEGEND:
- SHEET PILE CUT-OFF WALL LOCATION DESIGNATION (SEE TABLE THIS SHEET)
 - GEOSYNTHETIC RAIN COVER

SHEET PILE CUT-OFF WALL BORINGS				
BORING ID	PT	SURFACE EL	WASH BORINGS DEPTH (ft)	CONTINUOUS SPT BORINGS (ft)
B-S5-01	212	133	13	13 - 23
B-S5-02	214	133	13	13 - 23
B-S5-03	215	133	13	13 - 23
B-S5-04	217	133	13	13 - 23
B-S5-05	218	133	13	13 - 23
B-S5-06	201	133	13	13 - 23
B-S5-07	220	133	13	13 - 23
B-S5-08	209	133	13	13 - 23

- NOTES:
- EXISTING TOPOGRAPHY PROVIDED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JULY 13, 2012.
 - STAGE 4 GROUT INJECTION STABILIZATION BID PACKAGE BY AMEC AVAILABLE FOR REVIEW.
 - EXTERIOR SHEET PILE CUT-OFF WALL INSTALLATION DETAIL FROM 202 TO 212.

JOSEPH H. O'NEILL P.E.
LICENSE NO. 052049

Civil Design Services, Inc.
11012 N. Ridgedale Road
Tampa, FL 33617
CA# 28923

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, FL 33609-3444
HDR CA# 4219

PROJECT MANAGER	R. SIEMERING
REVIEWED BY	T. YANOSCHAK
CIVIL DESIGN BY	J. O'NEILL
CIVIL DESIGN BY	C. KOENIG
DRAWN BY	B. JOHNSON
DRAWN BY	L. RODRIGUEZ
PROJECT NUMBER	0096-193814-002

ROBERT B. CURTIS P.E.
LICENSE NO. 73758

SOUTHEAST COUNTY LANDFILL
SINKHOLE REMEDIATION STAGE 5
ISOLATION OF IMPACTED
CLAY LINER
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA

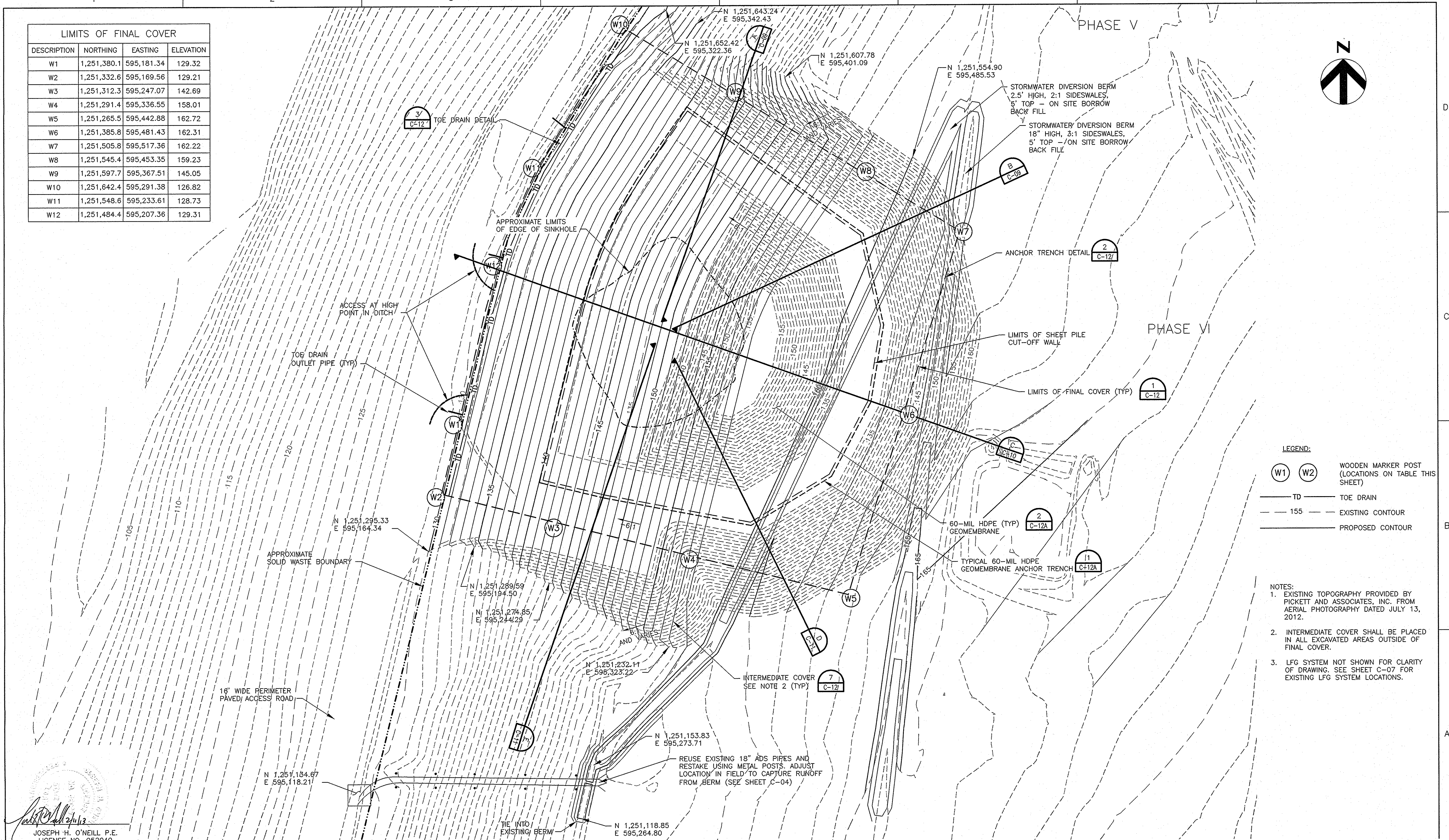
SHEET PILE CUT-OFF WALL INSTALLATION PLAN

0 1" 2"

FILENAME: 00C-02_03.dwg
SCALE: 1"=30'

SHEET
C-05

LIMITS OF FINAL COVER			
DESCRIPTION	NORTHING	EASTING	ELEVATION
W1	1,251,380.1	595,181.34	129.32
W2	1,251,332.6	595,169.56	129.21
W3	1,251,312.3	595,247.07	142.69
W4	1,251,291.4	595,336.55	158.01
W5	1,251,265.5	595,442.88	162.72
W6	1,251,385.8	595,481.43	162.31
W7	1,251,505.8	595,517.36	162.22
W8	1,251,545.4	595,453.35	159.23
W9	1,251,597.7	595,367.51	145.05
W10	1,251,642.4	595,291.38	126.82
W11	1,251,548.6	595,233.61	128.73
W12	1,251,484.4	595,207.36	129.31



LEGEND:

- WOODEN MARKER POST (LOCATIONS ON TABLE THIS SHEET)
- TD TOE DRAIN
- 155 EXISTING CONTOUR
- PROPOSED CONTOUR

NOTES:

- EXISTING TOPOGRAPHY PROVIDED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JULY 13, 2012.
- INTERMEDIATE COVER SHALL BE PLACED IN ALL EXCAVATED AREAS OUTSIDE OF FINAL COVER.
- LFG SYSTEM NOT SHOWN FOR CLARITY OF DRAWING. SEE SHEET C-07 FOR EXISTING LFG SYSTEM LOCATIONS.

JOSEPH H. O'NEILL P.E.
LICENSE NO. 052049

CIVIL DESIGN SERVICES
INCORPORATED
Civil Design Services, Inc.
11012 N. Ridgedale Road
Tampa, FL 33609-3444
HDR C&B 4213

HDR
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, FL 33609-3444
HDR C&B 4213

ISSUE	DATE	DESCRIPTION
	02/11/2013	ISSUED FOR BID
	01/11/2013	ISSUED FOR REVIEW

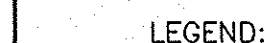
PROJECT MANAGER	R. SIEMERING
REVIEWED BY	T. YANOSCHAK
CIVIL DESIGN BY	J. O'NEILL
CIVIL DESIGN BY	C. KOENIG
DRAWN BY	B. JOHNSON
DRAWN BY	L. RODRIGUEZ
PROJECT NUMBER	0096-193814-002

ROBERT B. CURTIS
No. 73758
STATE OF FLORIDA
PROFESSIONAL ENGINEER
2/1/12
ROBERT B. CURTIS P.E.
LICENSE NO. 73758

Hillsborough County
Florida

**SOUTHEAST COUNTY LANDFILL
SINKHOLE REMEDIATION STAGE 5
ISOLATION OF IMPACTED
CLAY LINER
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA**

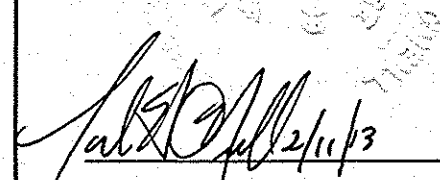
FINAL COVER GRADING PLAN		SHEET C-06
0 1" 2"	FILENAME 00C-06.dwg SCALE 1"=30'	



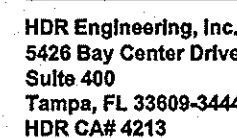
— 155 — — EXISTING CONTOUR
 — 155 — — PROPOSED CONTOUR
 ~~~~~ DRAINAGE FLOW

NOTES:

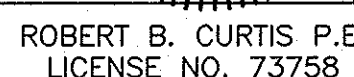
1. EXISTING TOPOGRAPHY PROVIDED BY PLINTT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JULY 13, 2012.
2. THE WASTE STOCKPILE AND RELOCATION AREA FOOTPRINT MAY VARY FROM WHAT IS SHOWN BASED UPON THE QUANTITY OF WASTE AND CLEAN SOILS REMOVED AND REMAINING AS THE PROJECT PROGRESSES; HOWEVER, CONSTRUCTION OF CONTAINMENT BERMS, SLOPES AND STOCKPILE HEIGHTS ARE TO BE ACHIEVED.
3. FINAL WASTE STOCKPILE GRADES SHOWN ARE APPROXIMATE. FINAL GRADES WILL BE BASED ON REMAINING WASTE AFTER BACKFILLING.
4. INTERMEDIATE COVER SHALL BE PLACED IN AREAS SHOWN.



JOSEPH H. O'NEILL P.E.  
LICENSE NO. 052049

[illegible]

|                 |                 |
|-----------------|-----------------|
| PROJECT MANAGER | R. SIEMERING    |
| REVIEWED BY     | T. YANOSCHAK    |
| CIVIL DESIGN BY | J. O'NEILL      |
| CIVIL DESIGN BY | C. KOENIG       |
| DRAWN BY        | B. JOHNSON      |
| DRAWN BY        | L. RODRIGUEZ    |
|                 |                 |
|                 |                 |
| PROJECT NUMBER  | 0096-193814-002 |



**SOUTHEAST COUNTY LANDFILL  
SINKHOLE REMEDIATION STAGE 5  
ISOLATION OF IMPACTED  
CLAY LINER  
SOUTHEAST COUNTY LANDFILL  
HILLSBOROUGH COUNTY, FLORIDA**



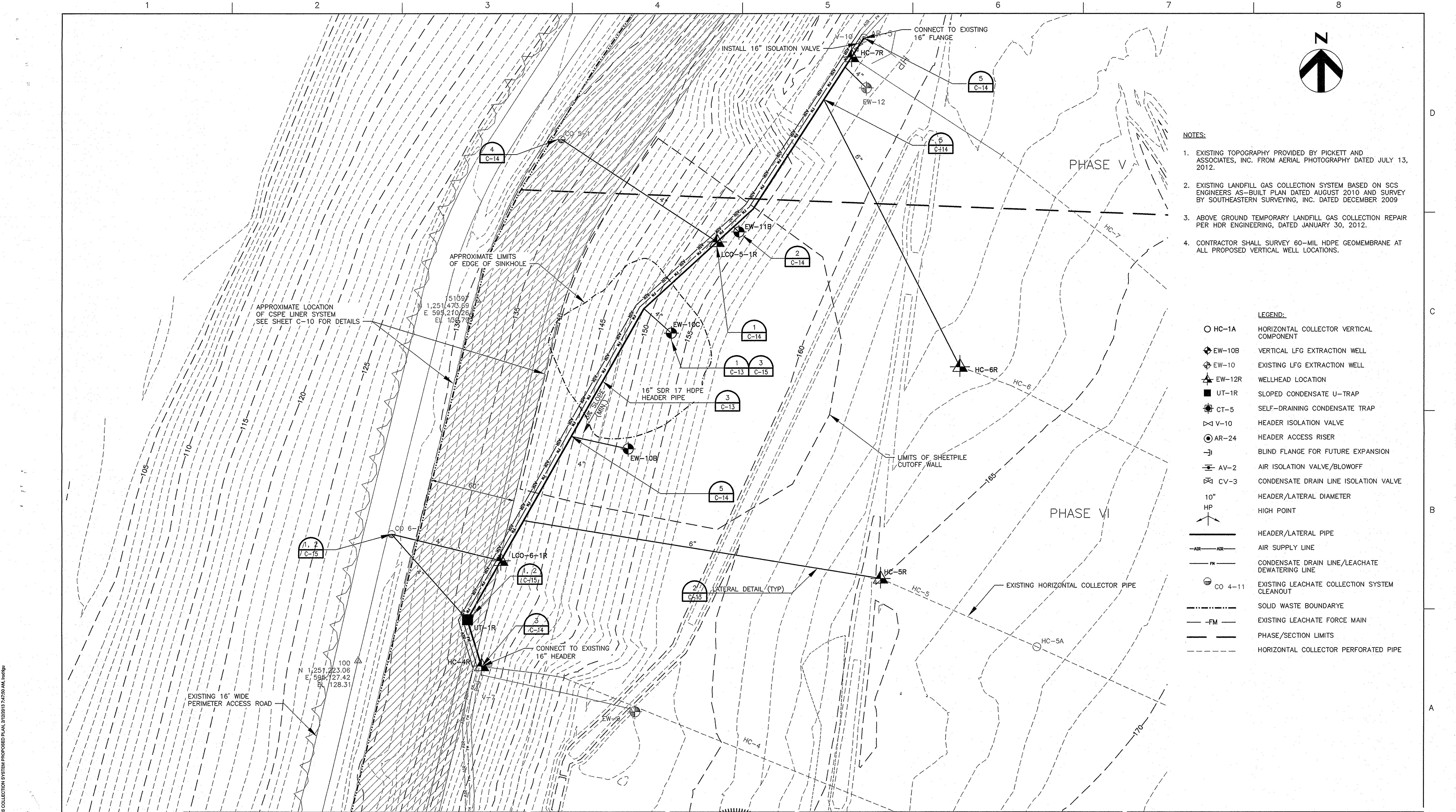
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| SCALE    | 1"=60'          |

SHEET  
**C-06A**









- NOTES:
- EXISTING TOPOGRAPHY PROVIDED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JULY 13, 2012.
  - EXISTING LANDFILL GAS COLLECTION SYSTEM BASED ON SCS ENGINEERS AS-BUILT PLAN DATED AUGUST 2010 AND SURVEY BY SOUTHEASTERN SURVEYING, INC. DATED DECEMBER 2009
  - ABOVE GROUND TEMPORARY LANDFILL GAS COLLECTION REPAIR PER HDR ENGINEERING, DATED JANUARY 30, 2012.
  - CONTRACTOR SHALL SURVEY 60-MIL HDPE GEOMEMBRANE AT ALL PROPOSED VERTICAL WELL LOCATIONS.

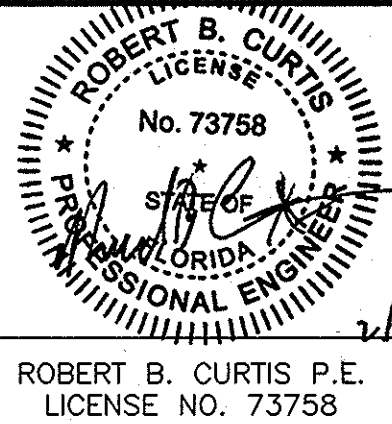
- LEGEND:
- HC-1A HORIZONTAL COLLECTOR VERTICAL COMPONENT
  - EW-10B VERTICAL LFG EXTRACTION WELL
  - EW-10 EXISTING LFG EXTRACTION WELL
  - EW-12R WELLHEAD LOCATION
  - UT-1R SLOPED CONDENSATE U-TRAP
  - CT-5 SELF-DRAINING CONDENSATE TRAP
  - V-10 HEADER ISOLATION VALVE
  - AR-24 HEADER ACCESS RISER
  - BLIND FLANGE FOR FUTURE EXPANSION
  - AV-2 AIR ISOLATION VALVE/BLOWOFF
  - CV-3 CONDENSATE DRAIN LINE ISOLATION VALVE
  - 10" HP HEADER/LATERAL DIAMETER
  - HP HIGH POINT
  - HEADER/LATERAL PIPE
  - AIR AIR SUPPLY LINE
  - FM CONDENSATE DRAIN LINE/LEACHATE DEWATERING LINE
  - CO 4-11 EXISTING LEACHATE COLLECTION SYSTEM CLEANOUT
  - SOLID WASTE BOUNDARY
  - FM EXISTING LEACHATE FORCE MAIN
  - PHASE/SECTION LIMITS
  - HORIZONTAL COLLECTOR PERFORATED PIPE



HDR Engineering, Inc.  
5426 Bay Center Drive  
Suite 400  
Tampa, FL 33609-3444  
HDR CAP 4213

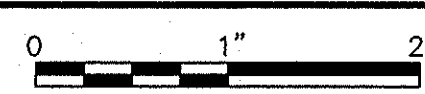
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|       | 02/11/2013 | ISSUED FOR BID    |
|       | 01/11/2013 | ISSUED FOR REVIEW |
| ISSUE | DATE       | DESCRIPTION       |

|                 |                 |
|-----------------|-----------------|
| PROJECT MANAGER | R. SIEMERING    |
| REVIEWED BY     | T. YANOSCHAK    |
| REVIEWED BY     | J. O'NEILL      |
| CIVIL DESIGN BY | C. KOENIG       |
| DRAWN BY        | B. JOHNSON      |
| DRAWN BY        | L. KARSHNER     |
| PROJECT NUMBER  | 0096-193814-002 |



SOUTHEAST COUNTY LANDFILL  
SINKHOLE REMEDIATION STAGE 5  
ISOLATION OF IMPACTED  
CLAY LINER  
SOUTHEAST COUNTY LANDFILL  
HILLSBOROUGH COUNTY, FLORIDA

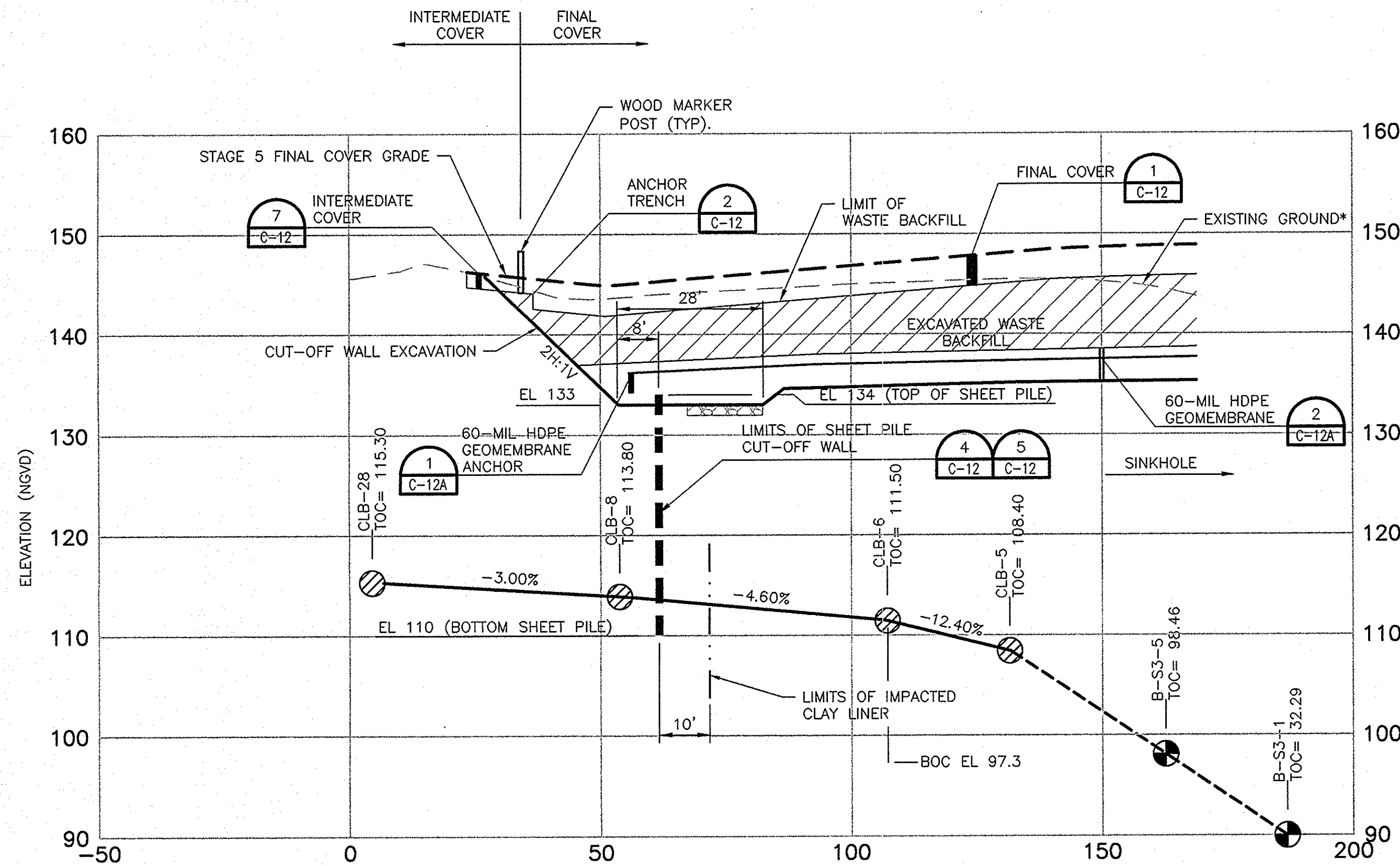
GCCS PROPOSED REPAIR PLAN



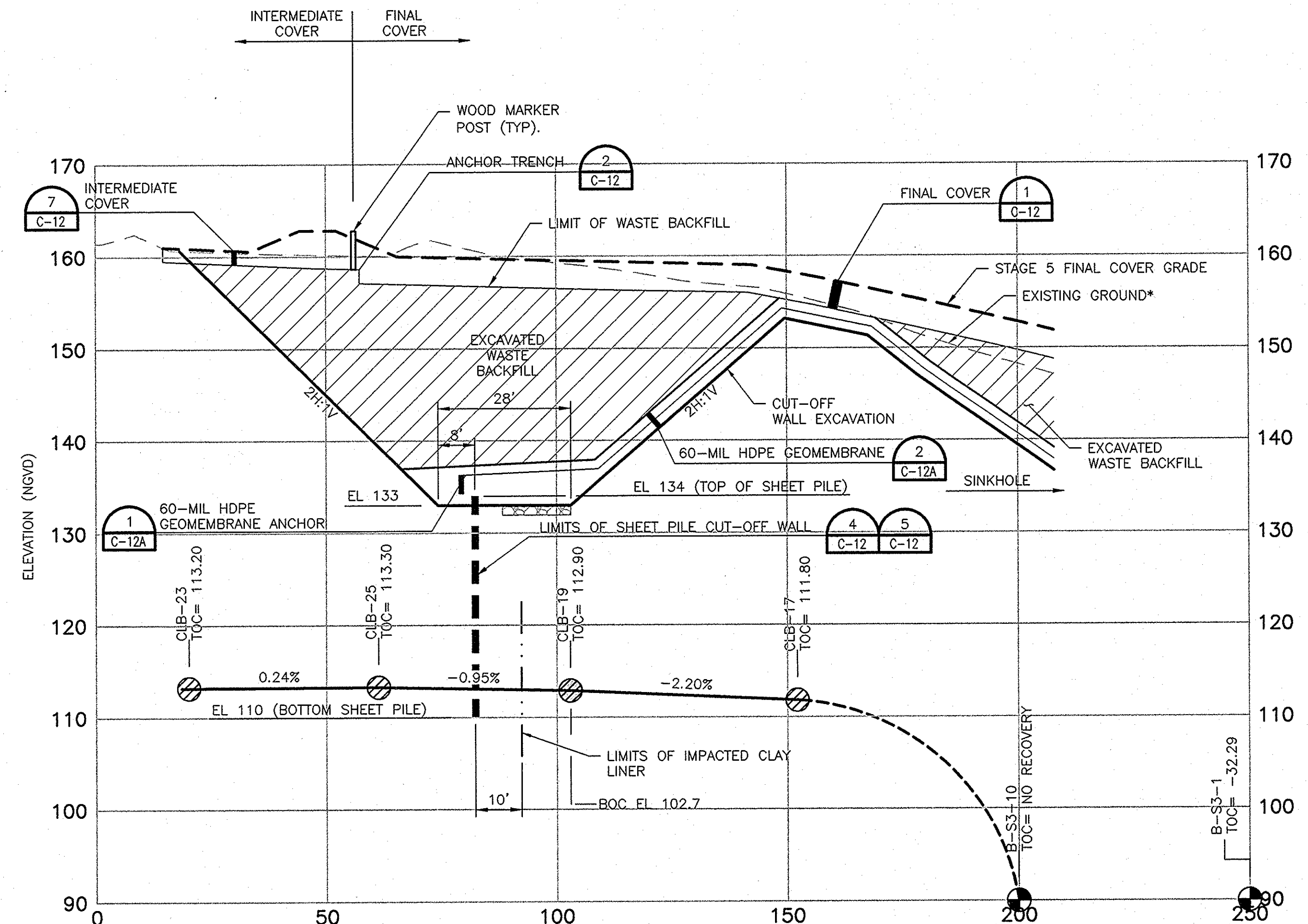
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| SCALE    | 1"=30'     |

|       |      |
|-------|------|
| SHEET | C-08 |
|-------|------|





**SECTION A**  
 SCALE: 1"=20' (HORIZONTAL)  
 1"=10' (VERTICAL)



**SECTION B**  
 SCALE: 1"=20' (HORIZONTAL)  
 1"=10' (VERTICAL)

\* EXISTING GROUND ELEVATION AS OF JULY 13, 2012.  
 TOC - TOP OF WASTE PHOSPHATIC CLAY  
 BOC - BOTTOM OF WASTE PHOSPHATIC CLAY

JOSEPH H. O'NEILL P.E.  
 LICENSE NO. 052049

**CIVIL DESIGN SERVICES**  
 INCORPORATED  
 Civil Design Services, Inc.  
 11012 N. Ridgedale Road  
 Tampa, FL 33617  
 CDP 28923

**HDR**  
 HDR Engineering, Inc.  
 5426 Bay Center Drive  
 Suite 400  
 Tampa, FL 33609-3444  
 HDR GAB 4213

| ISSUE | DATE       | DESCRIPTION       |
|-------|------------|-------------------|
|       | 02/11/2013 | ISSUED FOR BID    |
|       | 01/11/2013 | ISSUED FOR REVIEW |

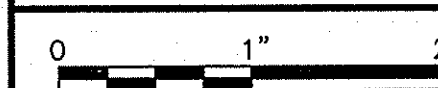
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| PROJECT MANAGER | R. SIEMERING    |
| REVIEWED BY     | T. YANOSCHAK    |
| CIVIL DESIGN BY | J. O'NEILL      |
| CIVIL DESIGN BY | C. KOENIG       |
| DRAWN BY        | B. JOHNSON      |
| DRAWN BY        | L. RODRIGUEZ    |
| PROJECT NUMBER  | 0096-193814-002 |

ROBERT B. CURTIS  
 LICENSE NO. 73758  
 PROFESSIONAL ENGINEER  
 2/11/13



**SOUTHEAST COUNTY LANDFILL  
 SINKHOLE REMEDIATION STAGE 5  
 ISOLATION OF IMPACTED  
 CLAY LINER  
 SOUTHEAST COUNTY LANDFILL  
 HILLSBOROUGH COUNTY, FLORIDA**

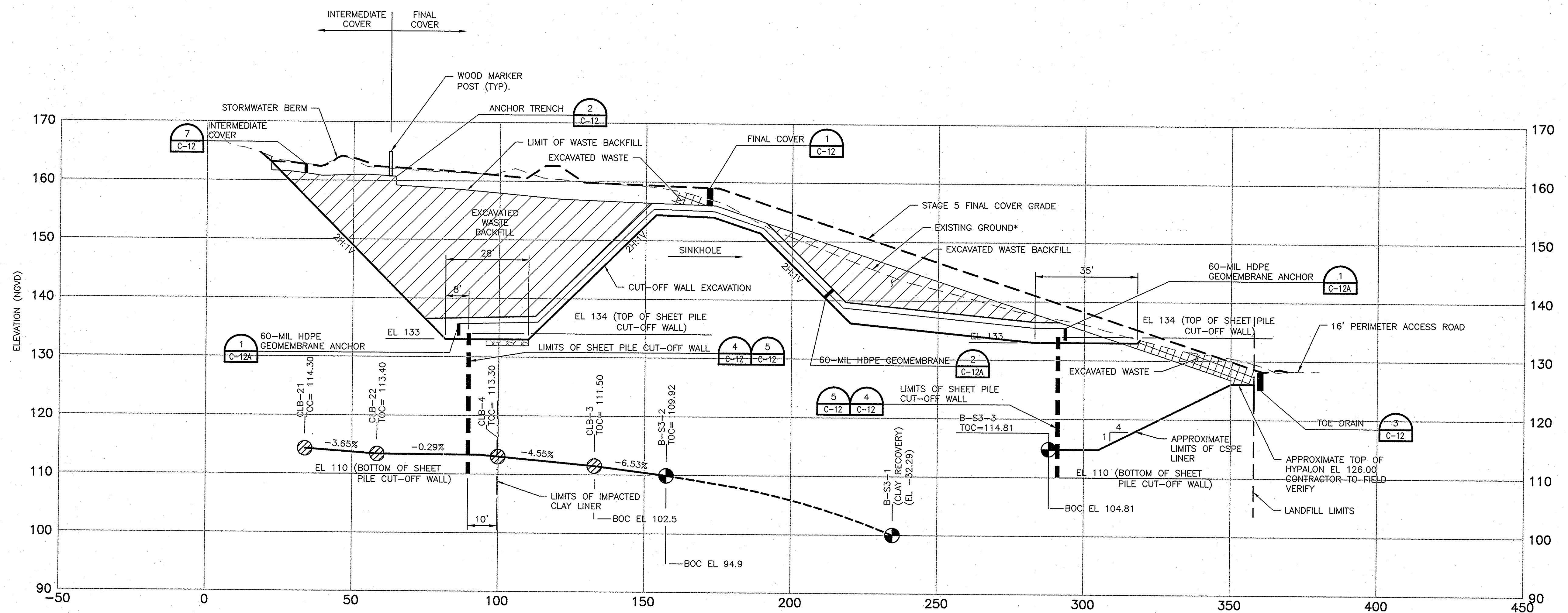
**CLAY LINER BORINGS SECTIONS A AND B**



FILENAME: 00C-02\_03.dwg  
 SCALE: AS SHOWN

SHEET  
**C-09**





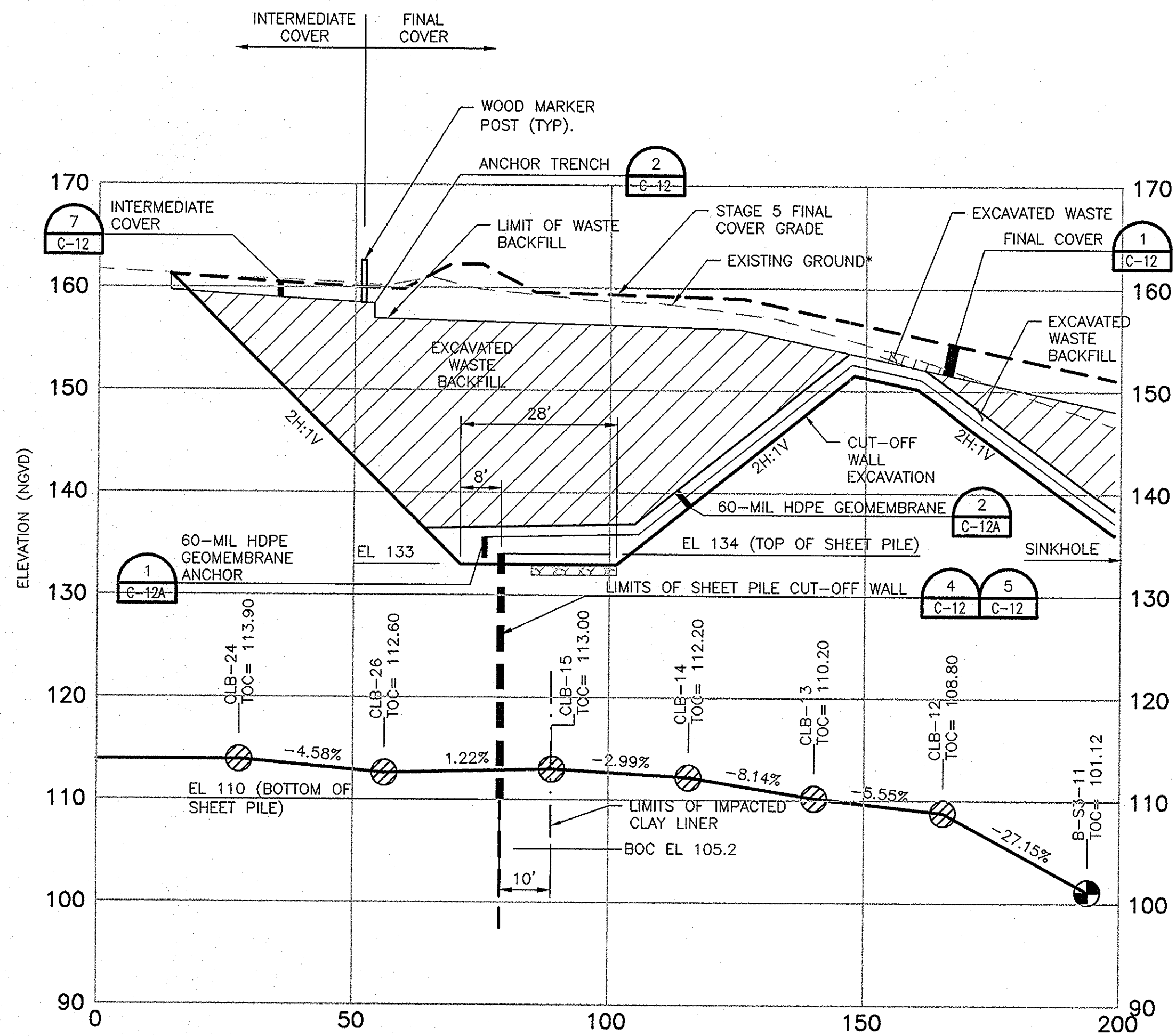
SECTION  
SCALE: 1"=20' (HORIZONTAL)  
1"=10' (VERTICAL)

JOSEPH H. O'NEILL P.E.  
LICENSE NO. 052049

\* EXISTING GROUND ELEVATION AS OF JULY 13, 2012.  
TOC - TOP OF WASTE PHOSPHATIC CLAY  
BOC - BOTTOM OF WASTE PHOSPHATIC CLAY

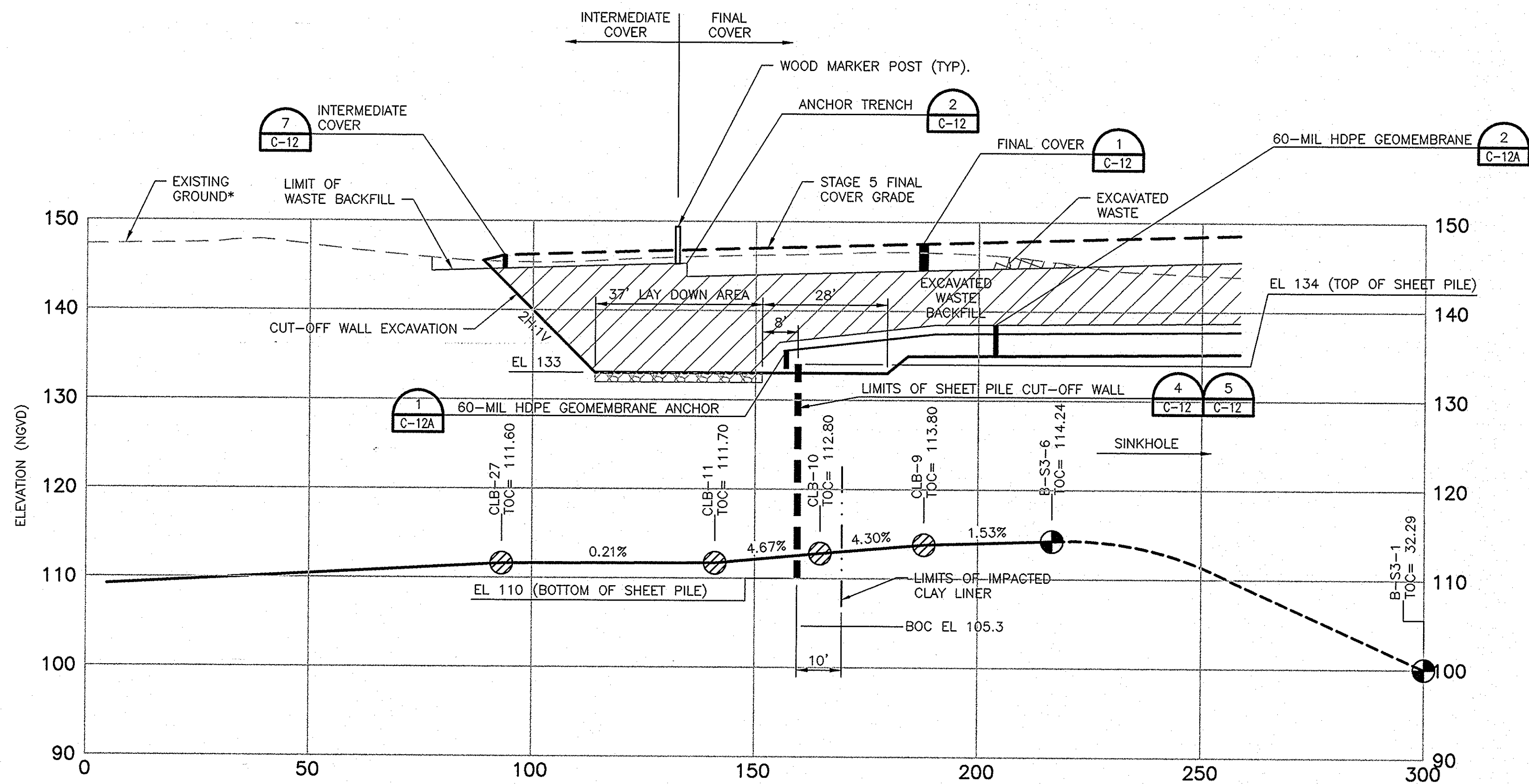
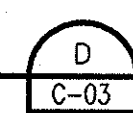
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| <br>Civil Design Services, Inc.<br>11012 N. Ridgedale Road<br>Tampa, FL 33617<br>CAP 28923                                                                          | <br>HDR Engineering, Inc.<br>5428 Bay Center Drive<br>Suite 400<br>Tampa, FL 33609-3444<br>HDR CAP 4213 | 02/11/2013                                                                                                                                                        | ISSUED FOR BID    |
|                                                                                                                                                                     |                                                                                                         | 01/11/2013                                                                                                                                                        | ISSUED FOR REVIEW |
| ISSUE DATE DESCRIPTION                                                                                                                                              |                                                                                                         | PROJECT NUMBER 0096-193814-002                                                                                                                                    |                   |
| PROJECT MANAGER R. SIEMERING<br>REVIEWED BY T. YANOSCHAK<br>CIVIL DESIGN BY J. O'NEILL<br>CIVIL DESIGN BY C. KOENIG<br>DRAWN BY B. JOHNSON<br>DRAWN BY L. RODRIGUEZ |                                                                                                         | PROJECT NUMBER 0096-193814-002                                                                                                                                    |                   |
| <br>ROBERT B. CURTIS P.E.<br>LICENSE NO. 73758                                                                                                                      |                                                                                                         | <br>SOUTHEAST COUNTY LANDFILL<br>SINKHOLE REMEDIATION STAGE 5<br>ISOLATION OF IMPACTED<br>CLAY LINER<br>SOUTHEAST COUNTY LANDFILL<br>HILLSBOROUGH COUNTY, FLORIDA |                   |
| <br>0 1 2                                                                                                                                                           |                                                                                                         | FILENAME 00C-02_03.dwg                                                                                                                                            |                   |
|                                                                                                                                                                     |                                                                                                         | SCALE AS SHOWN                                                                                                                                                    |                   |
| SHEET C-10                                                                                                                                                          |                                                                                                         | C-10                                                                                                                                                              |                   |
|                                                                                                                                                                     |                                                                                                         | C-10                                                                                                                                                              |                   |





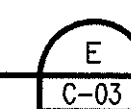
### SECTION

SCALE: 1"=20' (HORIZONTAL)  
1"=10' (VERTICAL)



### SECTION

SCALE: 1"=20' (HORIZONTAL)  
1"=10' (VERTICAL)



\* EXISTING GROUND ELEVATION AS OF JULY 13, 2012.  
TOC - TOP OF WASTE PHOSPHATIC CLAY  
BOC - BOTTOM OF WASTE PHOSPHATIC CLAY

JOSEPH H. O'NEILL P.E.  
LICENSE NO. 052049

**CIVIL DESIGN SERVICES**  
INCORPORATED  
Civil Design Services, Inc.  
11012 N. Ridgeway Road  
Temple Terrace, FL 33617  
CAP 28823

**HDR**  
HDR Engineering, Inc.  
5428 Bay Center Drive  
Suite 400  
Tampa, FL 33609-3444  
HDR CAP 4213

| ISSUE | DATE       | DESCRIPTION       |
|-------|------------|-------------------|
|       | 02/11/2013 | ISSUED FOR BID    |
|       | 01/11/2013 | ISSUED FOR REVIEW |

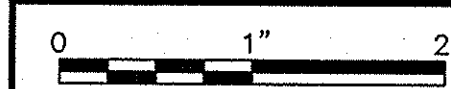
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|-----------------|-----------------|
| PROJECT MANAGER | R. SIEMERING    |
| REVIEWED BY     | T. YANOSCHAK    |
| CIVIL DESIGN BY | J. O'NEILL      |
| CIVIL DESIGN BY | C. KOENIG       |
| DRAWN BY        | B. JOHNSON      |
| DRAWN BY        | L. RODRIGUEZ    |
| PROJECT NUMBER  | 0096-193814-002 |

ROBERT B. CURTIS  
No. 73758  
FLORIDA  
PROFESSIONAL ENGINEER  
2/6/13  
ROBERT B. CURTIS P.E.  
LICENSE NO. 73758



**SOUTHEAST COUNTY LANDFILL  
SINKHOLE REMEDIATION STAGE 5  
ISOLATION OF IMPACTED  
CLAY LINER  
SOUTHEAST COUNTY LANDFILL  
HILLSBOROUGH COUNTY, FLORIDA**

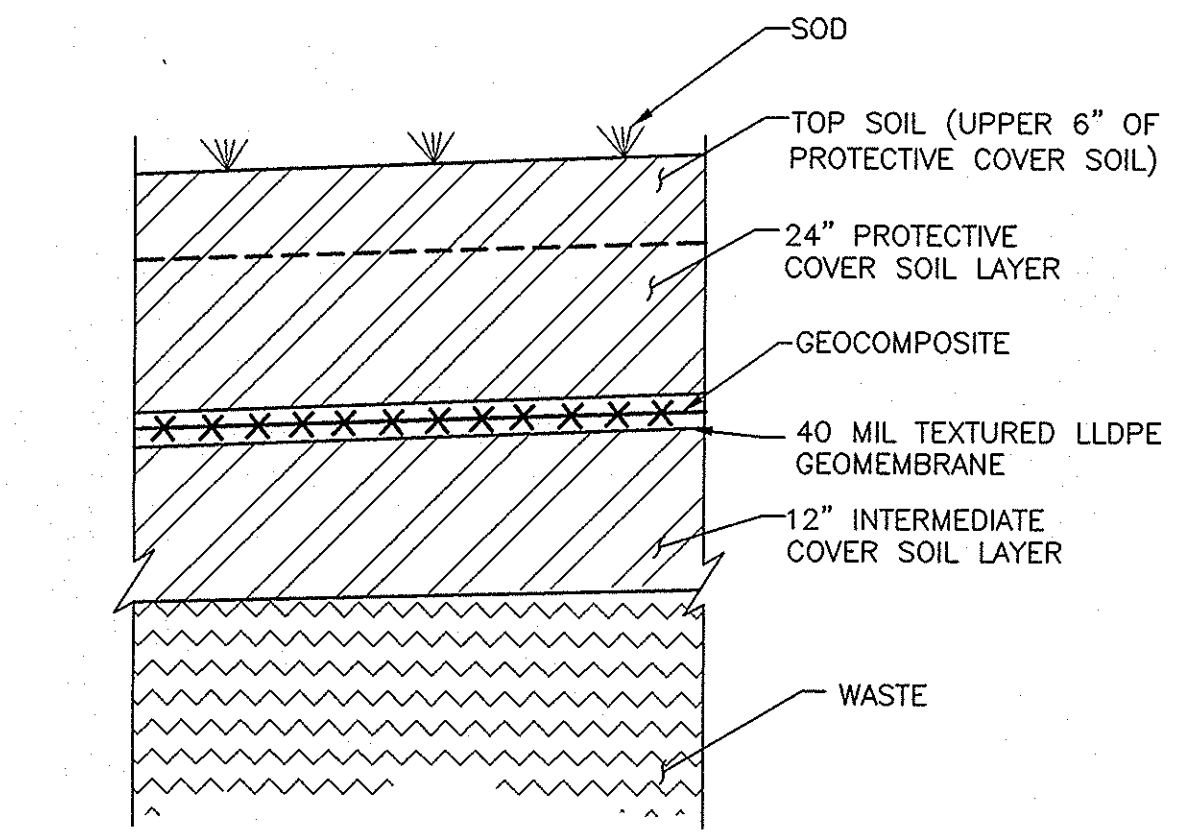
### CLAY LINER BORINGS SECTIONS D AND E



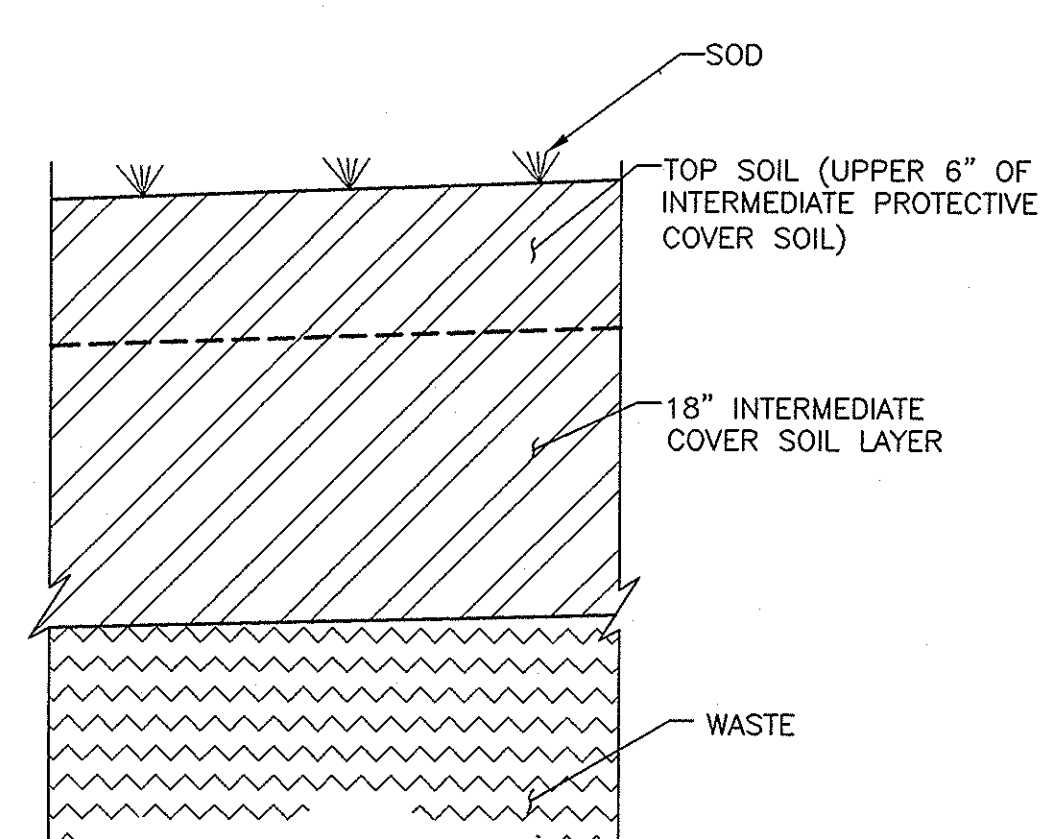
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SHEET  
**C-11**

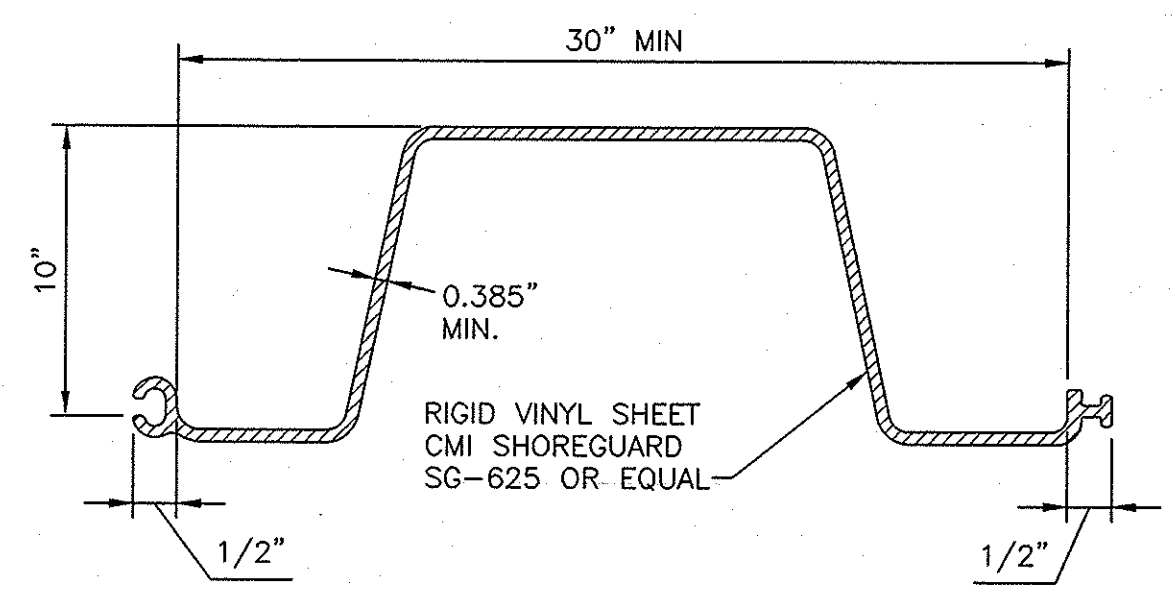




**FINAL COVER DETAIL**  
NOT TO SCALE

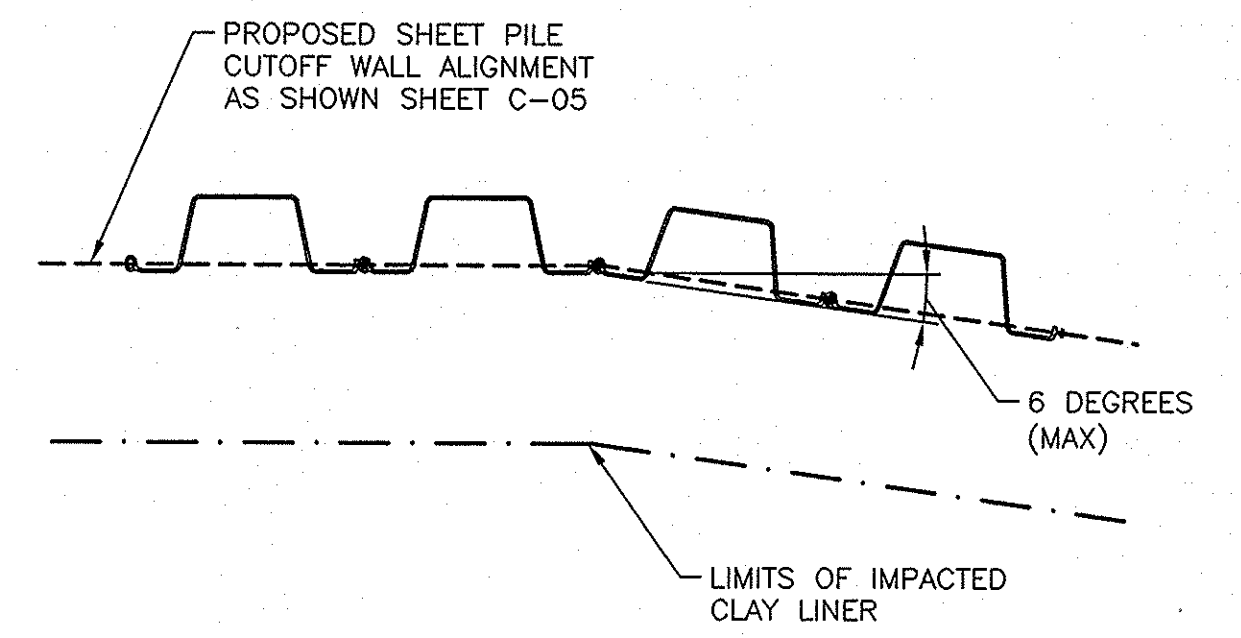


**INTERMEDIATE COVER DETAIL**  
NOT TO SCALE



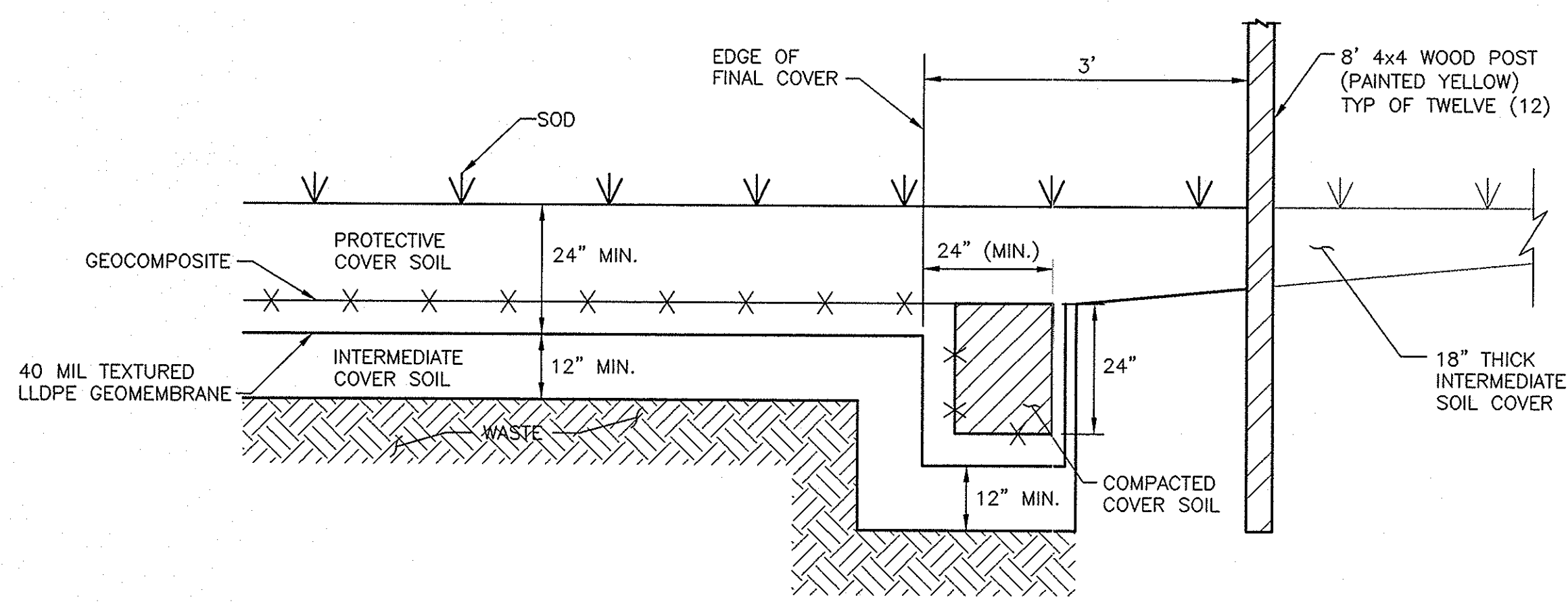
\* STEEL GUIDE METAL THICKNESS SUFFICIENT TO PENETRATE THROUGH MATERIALS SHOWN ON BORINGS.

**TYPICAL SHEET PILE CUT-OFF WALL DETAIL**  
NOT TO SCALE

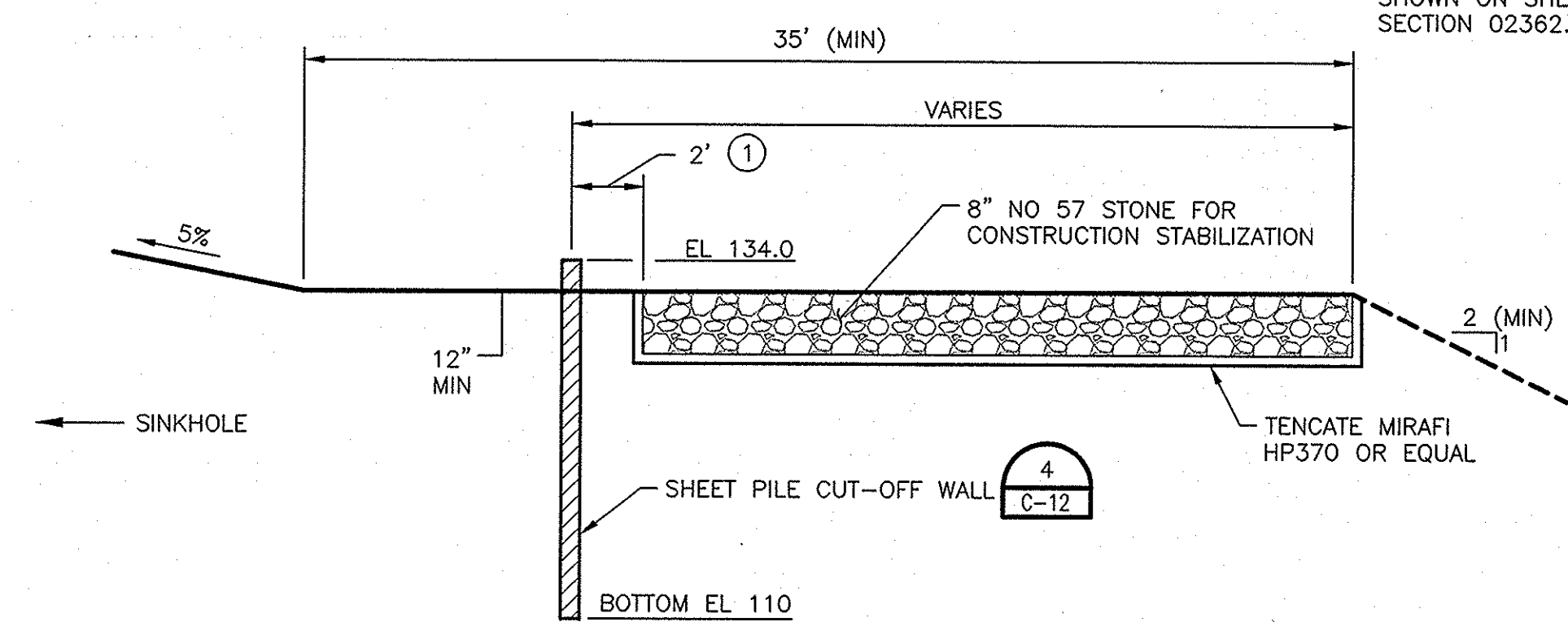


**TYPICAL SHEET PILE CUT-OFF WALL TURN DETAIL**  
NOT TO SCALE

NOTES:  
6-DEGREE MAX DEFLECTION WITH MIN DEVIATION FROM THE SHEET PILE CUTOFF WALL LOCATIONS SHOWN ON SHEET C-05. SEE SPECIFICATION SECTION 02362.

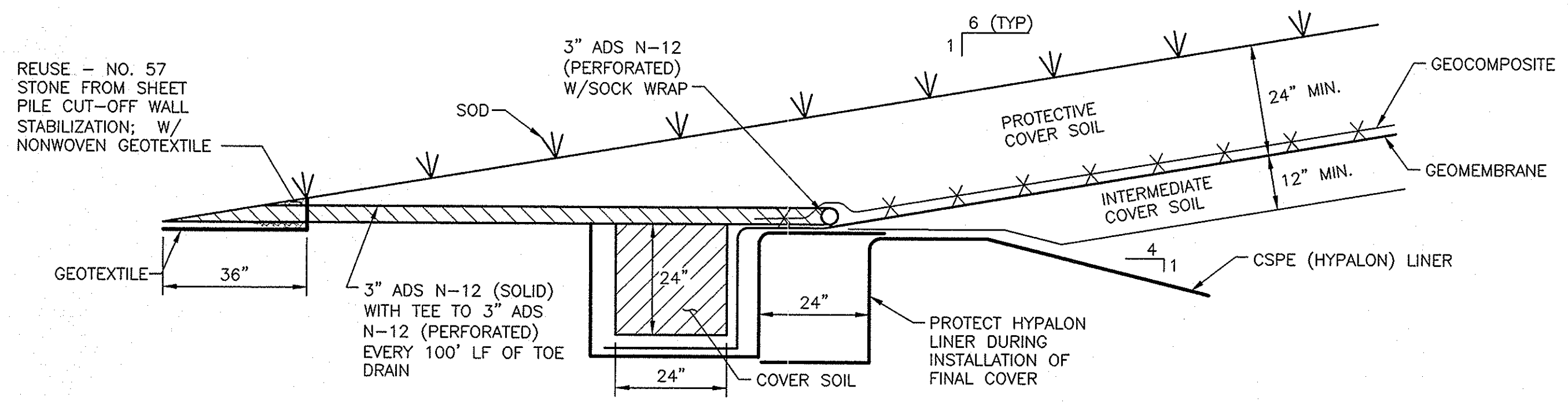


**TYPICAL ANCHOR TRENCH DETAIL**  
NOT TO SCALE

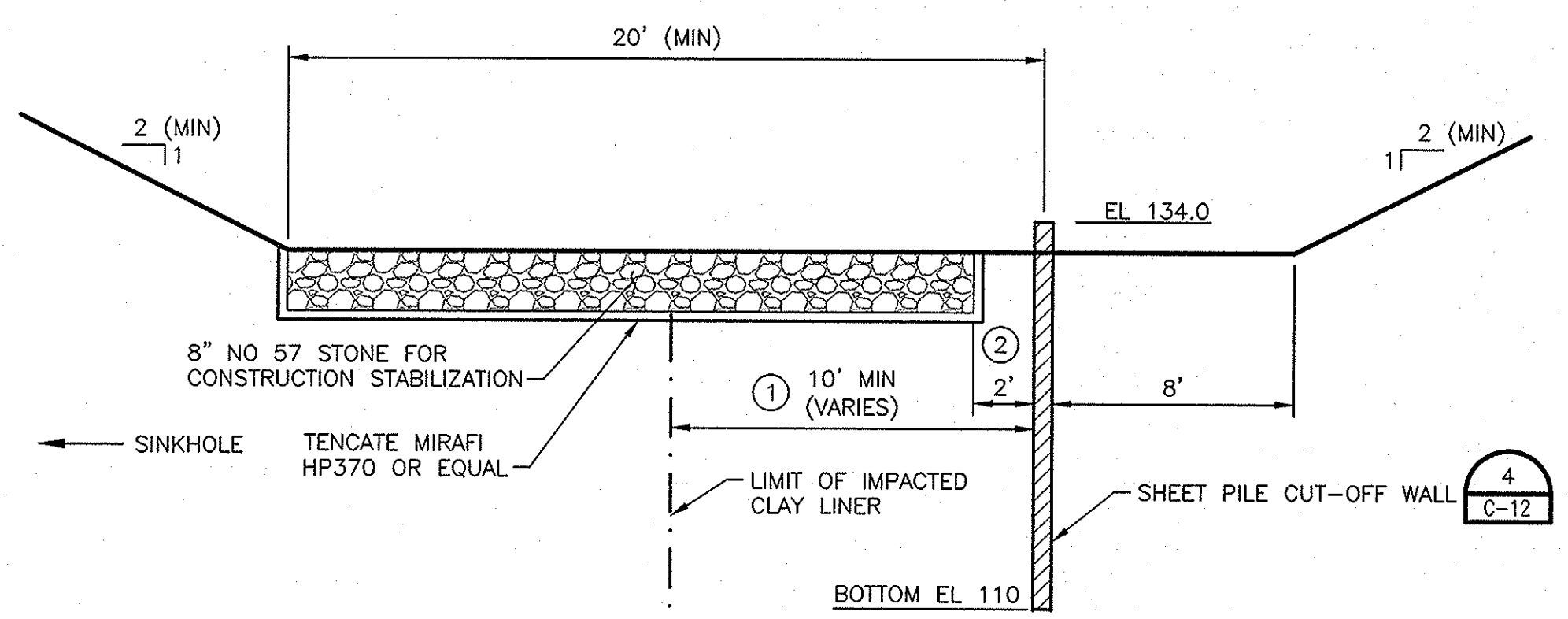


NOTES:  
① VARIES ON CONTRACTOR REQUIREMENTS.

**TYPICAL EXTERIOR SHEET PILE CUT-OFF WALL INSTALLATION DETAIL**  
NOT TO SCALE



**TYPICAL TOE DRAIN DETAIL**  
NOT TO SCALE



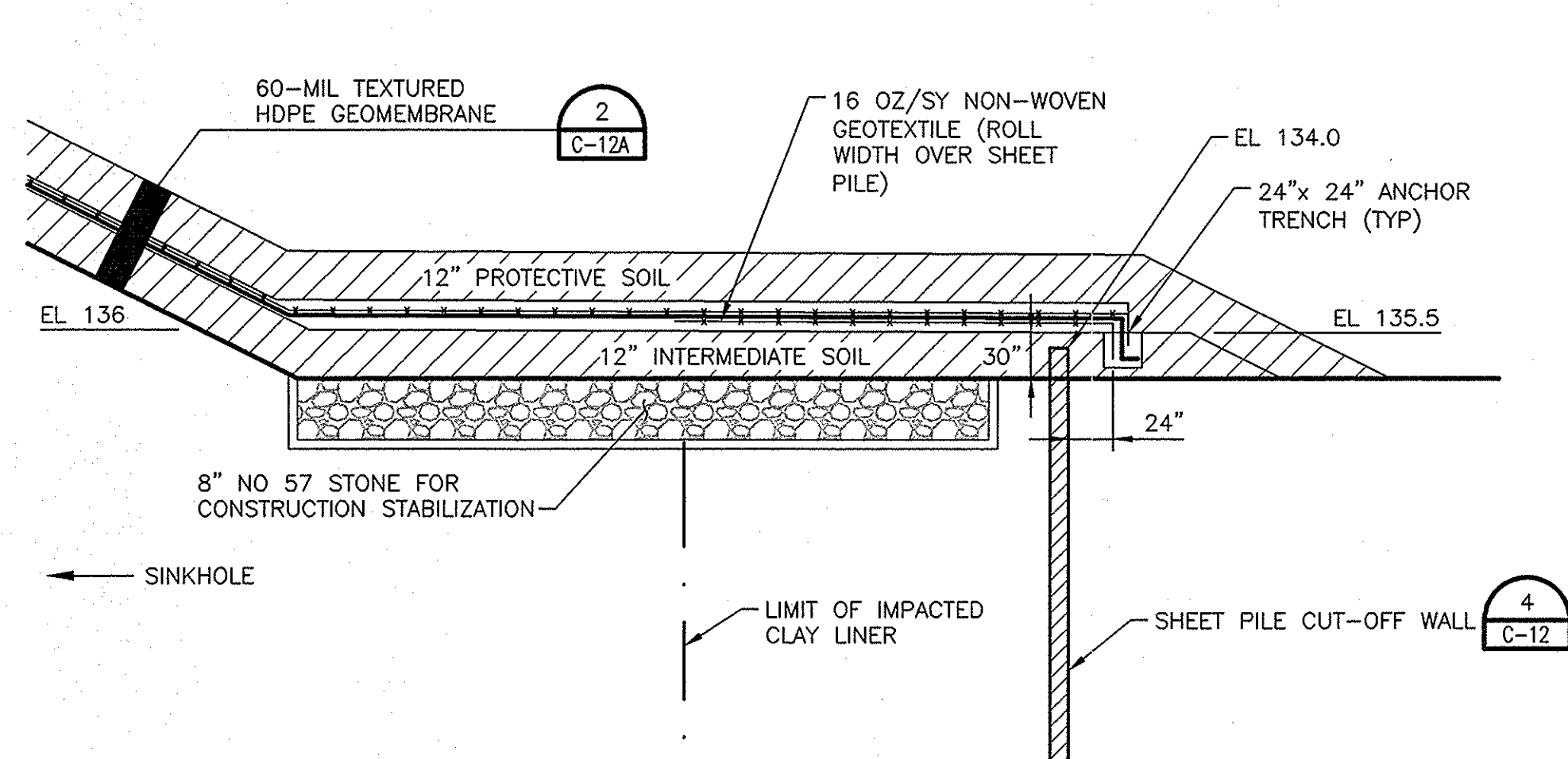
NOTES:  
① 10' (MIN) BUT VARIES WITH SHEET PILE LAYOUT.  
② VARIES ON CONTRACTOR REQUIREMENTS.

**TYPICAL INTERIOR SHEET PILE CUT-OFF WALL INSTALLATION DETAIL**  
NOT TO SCALE

JOSEPH H. O'NEILL P.E.  
LICENSE NO. 052049

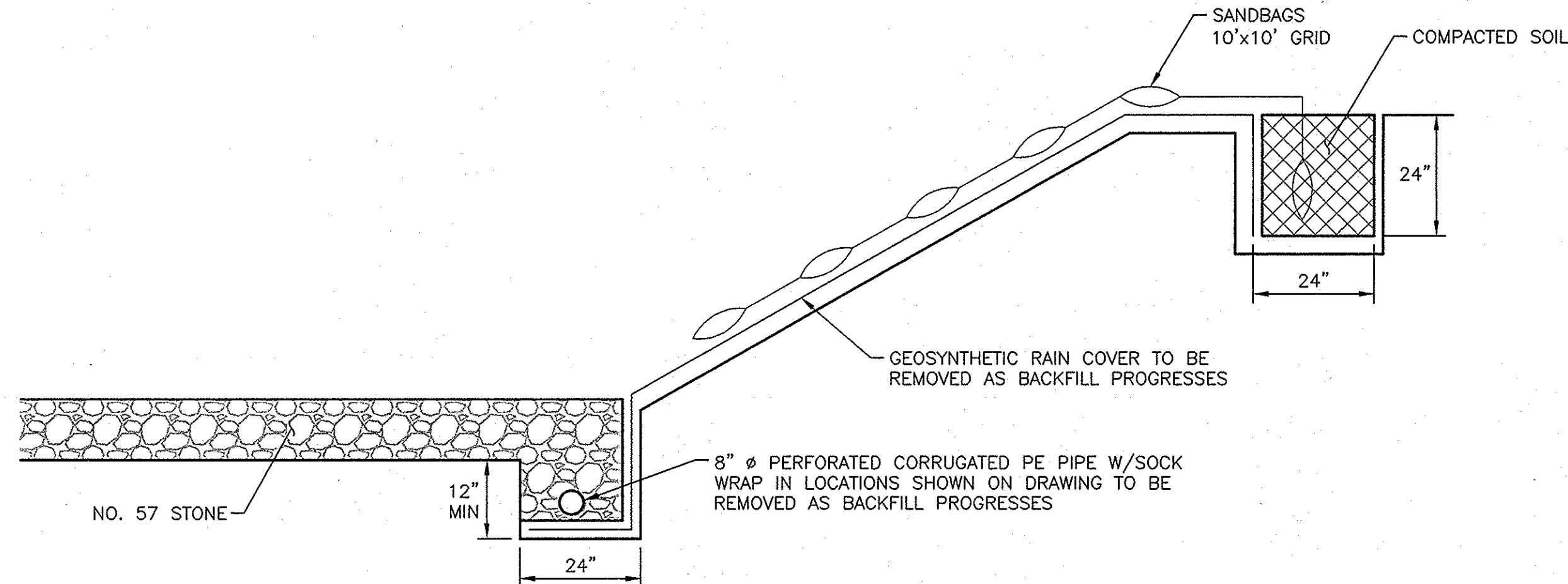
|                                                                                                 |                                                                                                                |                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------|-------------|--------------|-----------------|------------|-----------------|-----------|----------|------------|----------|--------------|----------------|-----------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|----------------------|-------|----------|
| <p>Civil Design Services, Inc.<br/>11012 N. Ridgeway Road<br/>Tempe, FL 33617<br/>CAP 28923</p> | <p>HDR Engineering, Inc.<br/>5426 Bay Center Drive<br/>Suite 400<br/>Tampa, FL 33609-3444<br/>HDR CAP 4213</p> | 02/11/2013           | ISSUED FOR BID | <table border="1"> <tr> <td>PROJECT MANAGER</td> <td>R. SIEMERING</td> </tr> <tr> <td>REVIEWED BY</td> <td>T. YANOSCHAK</td> </tr> <tr> <td>CIVIL DESIGN BY</td> <td>J. O'NEILL</td> </tr> <tr> <td>CIVIL DESIGN BY</td> <td>C. KOENIG</td> </tr> <tr> <td>DRAWN BY</td> <td>B. JOHNSON</td> </tr> <tr> <td>DRAWN BY</td> <td>L. RODRIGUEZ</td> </tr> <tr> <td>PROJECT NUMBER</td> <td>0096-193814-002</td> </tr> </table> | PROJECT MANAGER | R. SIEMERING | REVIEWED BY | T. YANOSCHAK | CIVIL DESIGN BY | J. O'NEILL | CIVIL DESIGN BY | C. KOENIG | DRAWN BY | B. JOHNSON | DRAWN BY | L. RODRIGUEZ | PROJECT NUMBER | 0096-193814-002 | <p>ROBERT B. CURTIS P.E.<br/>LICENSE NO. 73758</p> | <p>SOUTHEAST COUNTY LANDFILL<br/>SINKHOLE REMEDIATION STAGE 5<br/>ISOLATION OF IMPACTED<br/>CLAY LINER<br/>SOUTHEAST COUNTY LANDFILL<br/>HILLSBOROUGH COUNTY, FLORIDA</p> | <p><b>DETAILS SHEET 1</b></p> <p>0 1" 2"</p> <table border="1"> <tr> <td>FILENAME</td> <td>00C-12.DWG</td> <td rowspan="2">SHEET<br/><b>C-12</b></td> </tr> <tr> <td>SCALE</td> <td>AS SHOWN</td> </tr> </table> | FILENAME | 00C-12.DWG | SHEET<br><b>C-12</b> | SCALE | AS SHOWN |
|                                                                                                 |                                                                                                                | PROJECT MANAGER      | R. SIEMERING   |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |
| REVIEWED BY                                                                                     | T. YANOSCHAK                                                                                                   |                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |
| CIVIL DESIGN BY                                                                                 | J. O'NEILL                                                                                                     |                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |
| CIVIL DESIGN BY                                                                                 | C. KOENIG                                                                                                      |                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |
| DRAWN BY                                                                                        | B. JOHNSON                                                                                                     |                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |
| DRAWN BY                                                                                        | L. RODRIGUEZ                                                                                                   |                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |
| PROJECT NUMBER                                                                                  | 0096-193814-002                                                                                                |                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |
| FILENAME                                                                                        | 00C-12.DWG                                                                                                     | SHEET<br><b>C-12</b> |                |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |
| SCALE                                                                                           | AS SHOWN                                                                                                       |                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |
| 01/11/2013                                                                                      | ISSUED FOR REVIEW                                                                                              |                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |              |             |              |                 |            |                 |           |          |            |          |              |                |                 |                                                    |                                                                                                                                                                           |                                                                                                                                                                                                                  |          |            |                      |       |          |





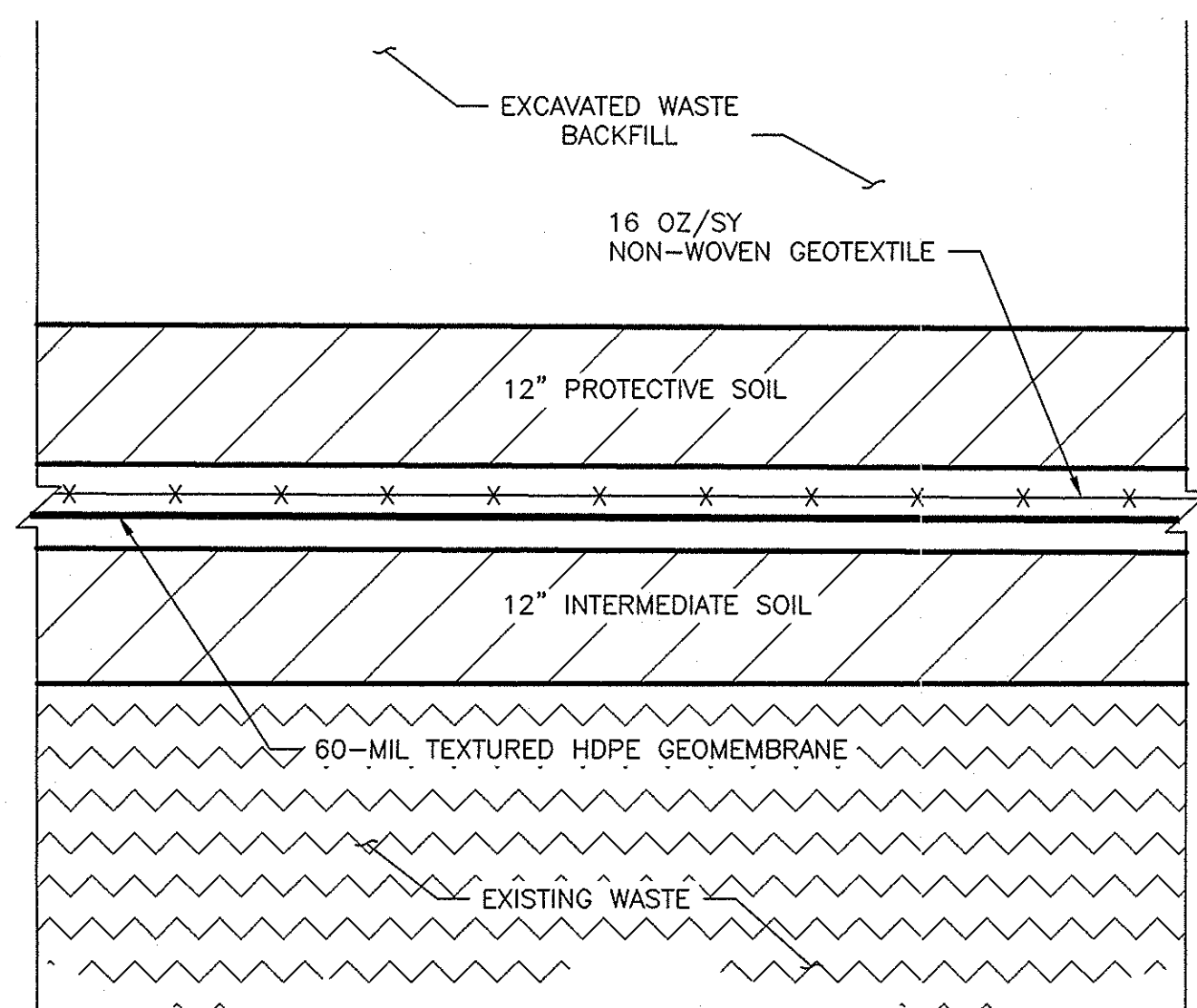
60-MIL HDPE GEOMEMBRANE ANCHOR DETAIL

NOT TO SCALE



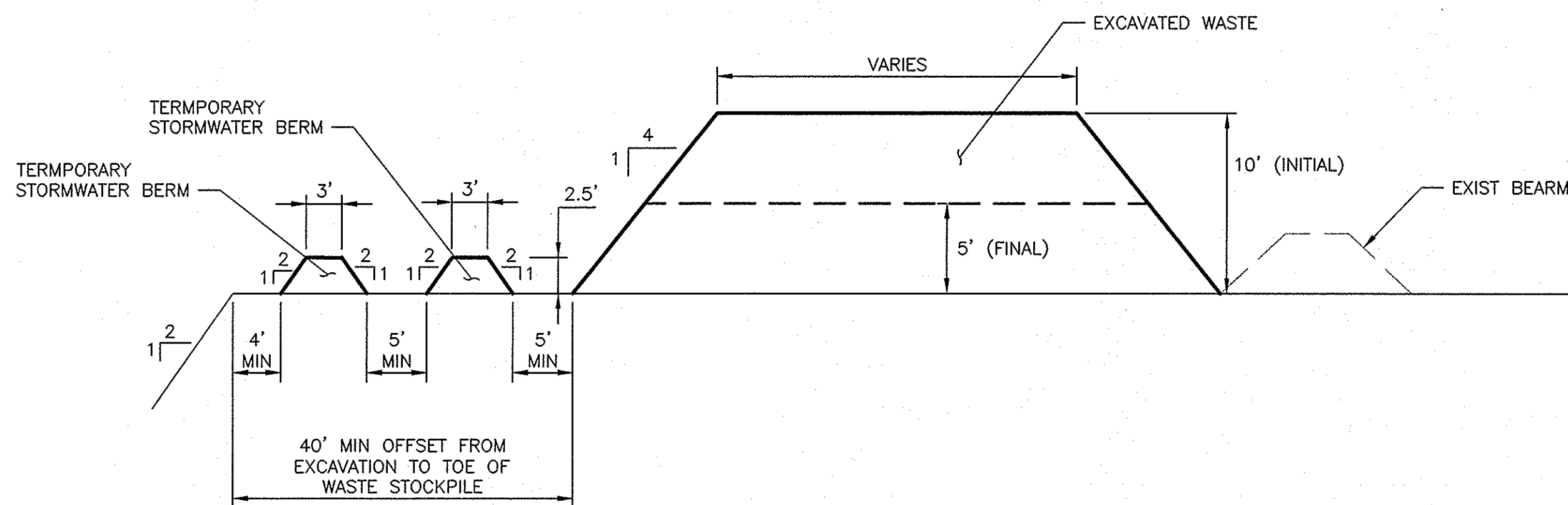
TEMPORARY RAIN COVER DETAIL

NOT TO SCALE



60-MIL HDPE GEOMEMBRANE DETAIL

NOT TO SCALE



WASTE STOCKPILE AND RELOCATION AREA TYPICAL CROSS SECTION

NOT TO SCALE

JOSEPH H. O'NEILL P.E.  
LICENSE NO. 052049

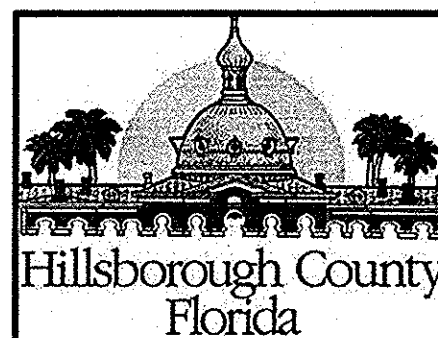
**CIVIL DESIGN SERVICES**  
INCORPORATED  
Civil Design Services, Inc.  
11012 N. Ridgedale Road  
Tampa, FL 33617  
CAP 28923

**HDR**  
HDR Engineering, Inc.  
5426 Bay Center Drive  
Suite 400  
Tampa, FL 33609-3444  
HDR CAP 4213

| ISSUE | DATE       | DESCRIPTION       |
|-------|------------|-------------------|
|       | 02/11/2013 | ISSUED FOR BID    |
|       | 01/11/2013 | ISSUED FOR REVIEW |

|                 |                 |
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| PROJECT MANAGER | R. SIEMERING    |
| REVIEWED BY     | T. YANOSCHAK    |
| CIVIL DESIGN BY | J. O'NEILL      |
| CIVIL DESIGN BY | C. KOENIG       |
| DRAWN BY        | B. JOHNSON      |
| DRAWN BY        | L. RODRIGUEZ    |
| PROJECT NUMBER  | 0096-193814-002 |

ROBERT B. CURTIS  
No. 73758  
FLORIDA  
PROFESSIONAL ENGINEER  
1/11/13  
ROBERT B. CURTIS P.E.  
LICENSE NO. 73758



**SOUTHEAST COUNTY LANDFILL  
SINKHOLE REMEDIATION STAGE 5  
ISOLATION OF IMPACTED  
CLAY LINER  
SOUTHEAST COUNTY LANDFILL  
HILLSBOROUGH COUNTY, FLORIDA**

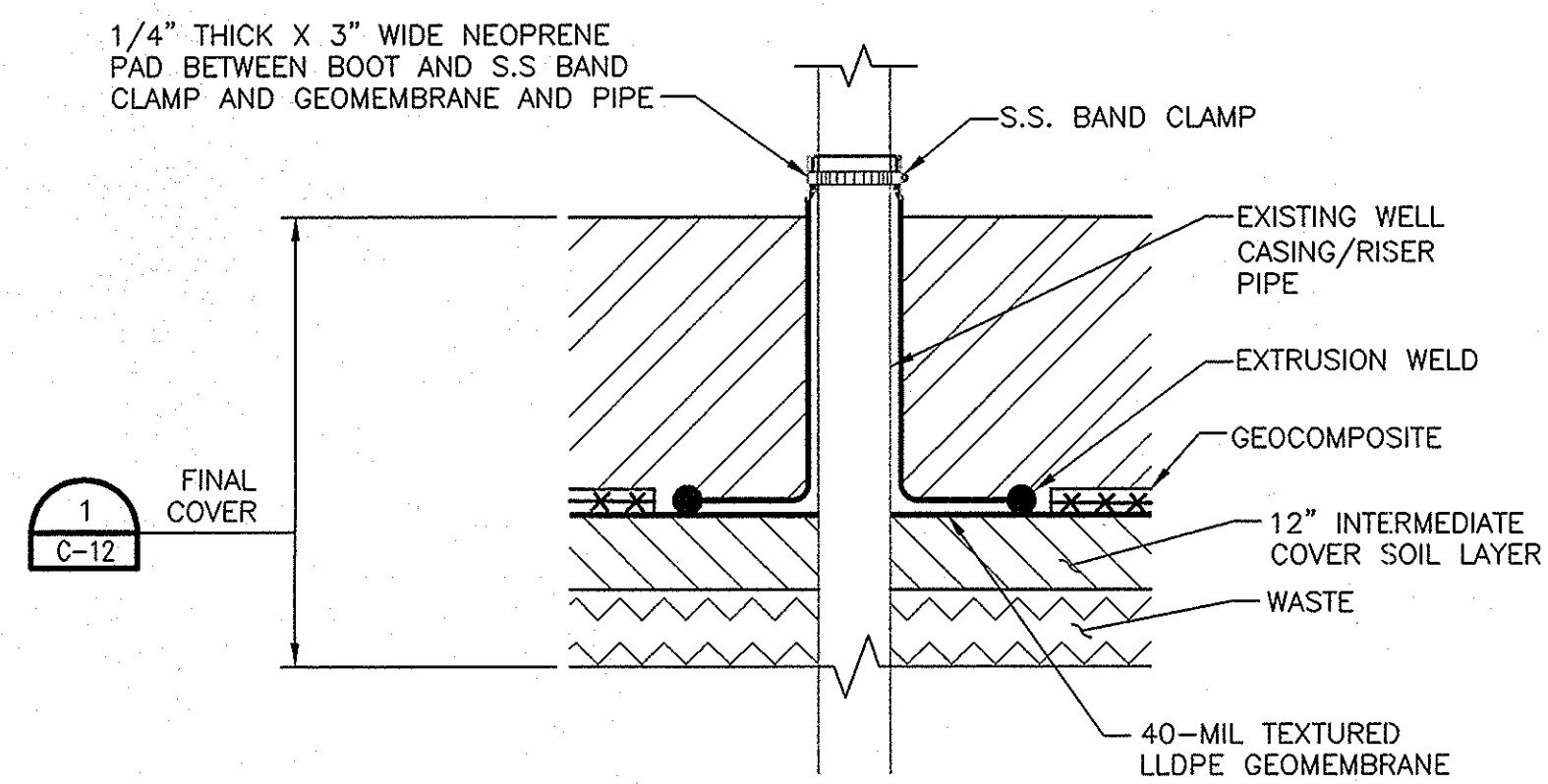
**DETAILS SHEET 2**

0 1" 2"

FILENAME OOC-12A.DWG  
SCALE AS SHOWN

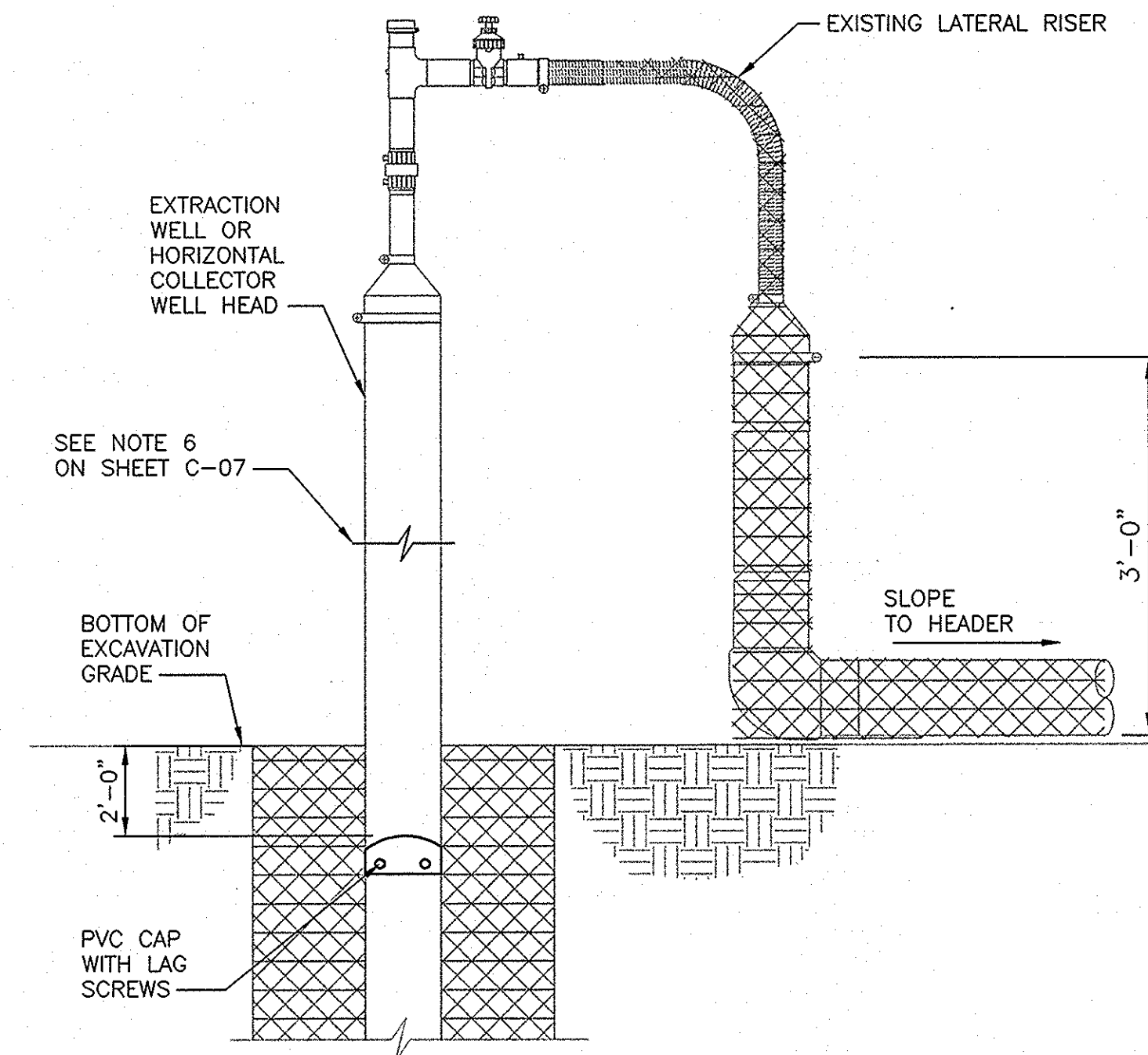
SHEET  
**C-12A**





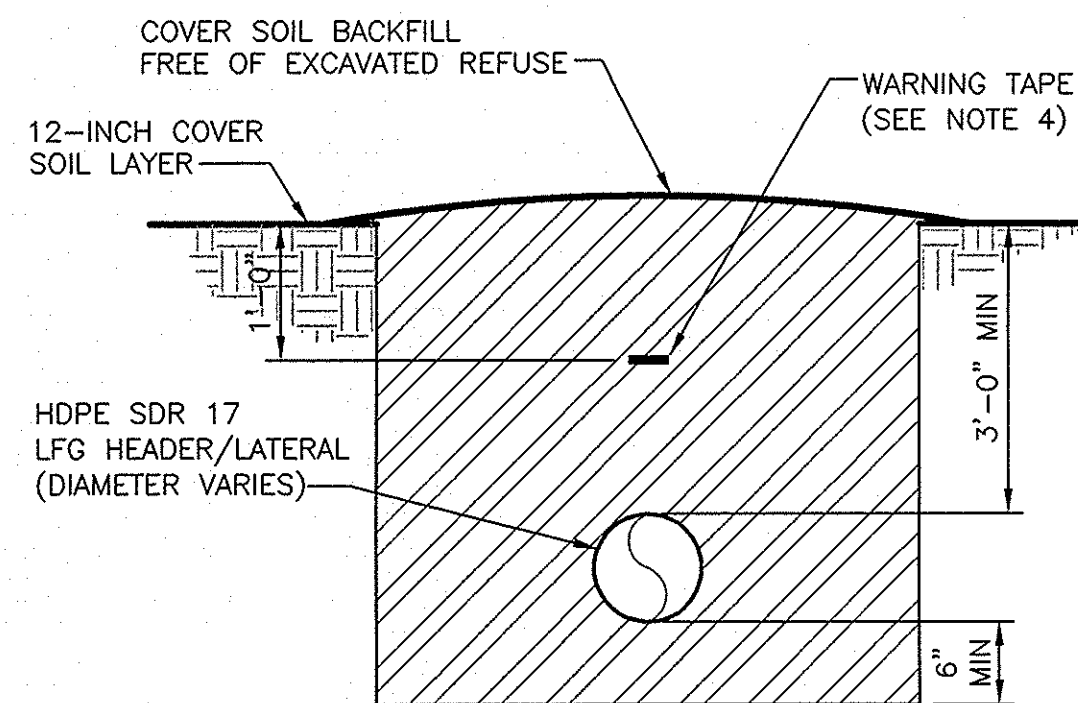
**LANDFILL GAS EXTRACTION  
WELL BOOT DETAIL**

NOT TO SCALE



**WELL ABANDONMENT**

NOT TO SCALE

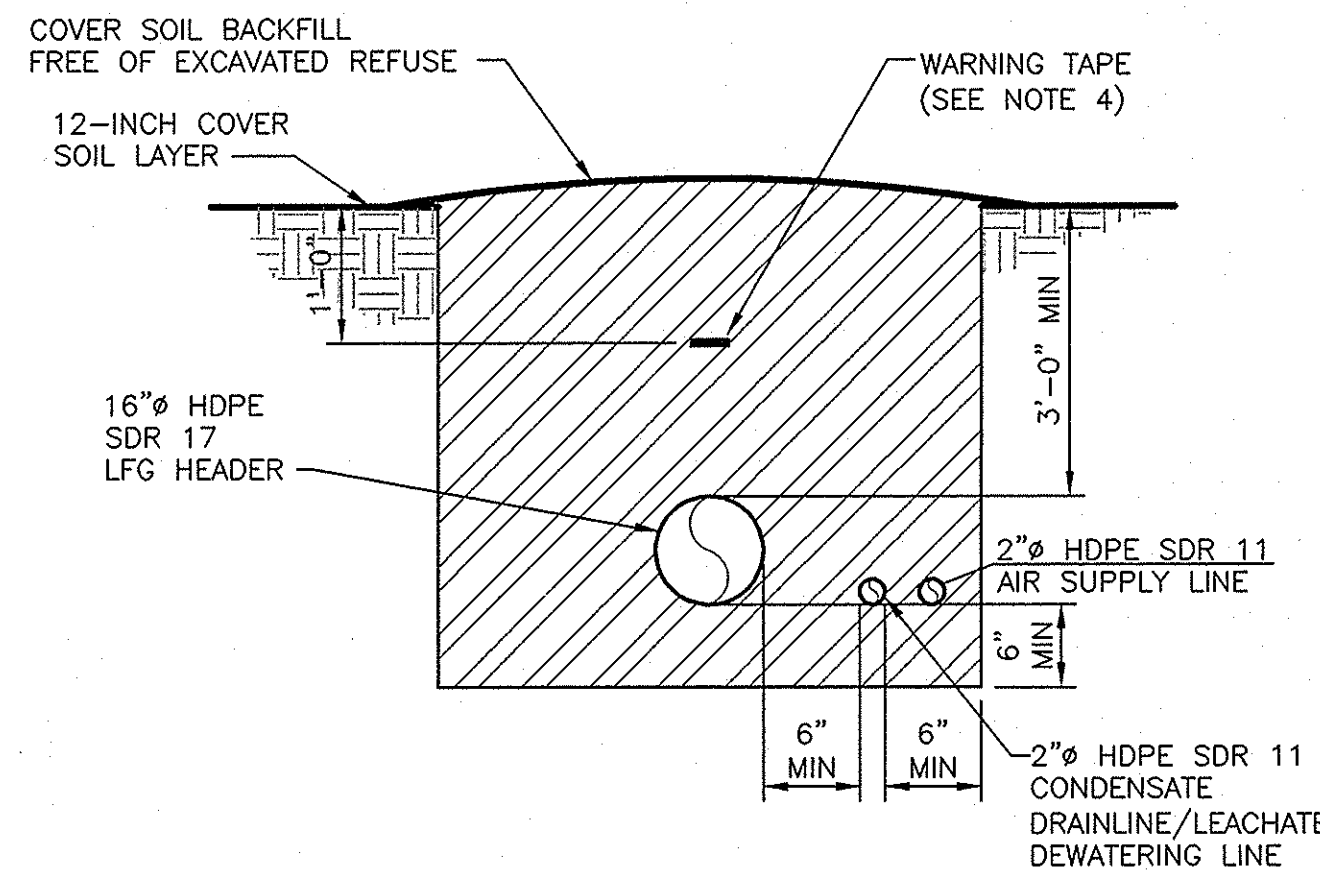


**LATERAL  
TRENCH DETAIL**

NOT TO SCALE

**NOTES:**

1. LATERALS SHALL BE SDR 17 WITH DIAMETERS SHOWN ON THE PLANS, AND INSTALLED WITH MINIMUM 3% SLOPE.
2. INSTALL FINAL COVER IN AREAS SHOWN ON PLANS.
3. HORIZONTAL WELL BACKFILL MAY UTILIZE EXCAVATED SOIL/WASTE UP TO DEPTH OF 3 FEET OF CLOSURE GRADE BASED ON ENGINEER APPROVAL.
4. WARNING TAPE SHALL BE MIN 3" WIDE AND IMPRINTED WITH "GAS LINE BURIED BELOW".



**HEADER  
TRENCH DETAIL**

NOT TO SCALE

**NOTES:**

1. HEADER SHALL BE HDPE SDR 17, WITH THE DIAMETERS AND MINIMUM 3% SLOPES AS SHOWN ON THE PLANS.
2. INSTALL FINAL COVER IN AREAS SHOWN ON PLANS.
3. DEWATERING DISCHARGE LINE AND AIR SUPPLY LINE SHALL BE 2" HDPE SDR 11.
4. WARNING TAPE SHALL BE MIN 3" WIDE AND IMPRINTED WITH "GAS LINE BURIED BELOW".



HDR Engineering, Inc.  
5428 Bay Center Drive  
Suite 400  
Tampa, FL 33609-3444  
HDR CAP 4213

02/11/2013

ISSUED FOR BID

01/11/2013

ISSUED FOR REVIEW

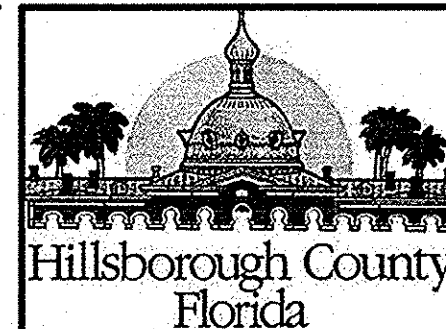
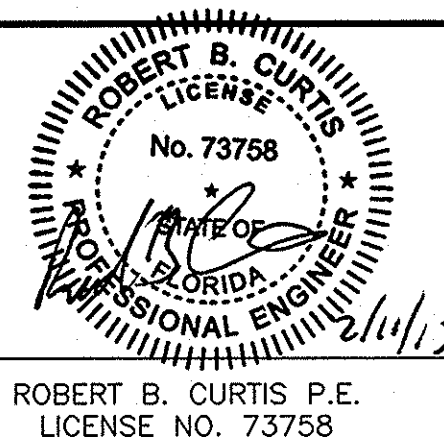
ISSUE

DATE

DESCRIPTION

PROJECT MANAGER R. SIEMERING  
REVIEWED BY T. YANOSCHAK  
REVIEWED BY J. O'NEILL  
CIVIL DESIGN BY C. KOENIG  
DRAWN BY B. JOHNSON  
DRAWN BY L. KARSHNER

PROJECT NUMBER 0096-193814-002



**SOUTHEAST COUNTY LANDFILL  
SINKHOLE REMEDIATION STAGE 5  
ISOLATION OF IMPACTED  
CLAY LINER  
SOUTHEAST COUNTY LANDFILL  
HILLSBOROUGH COUNTY, FLORIDA**

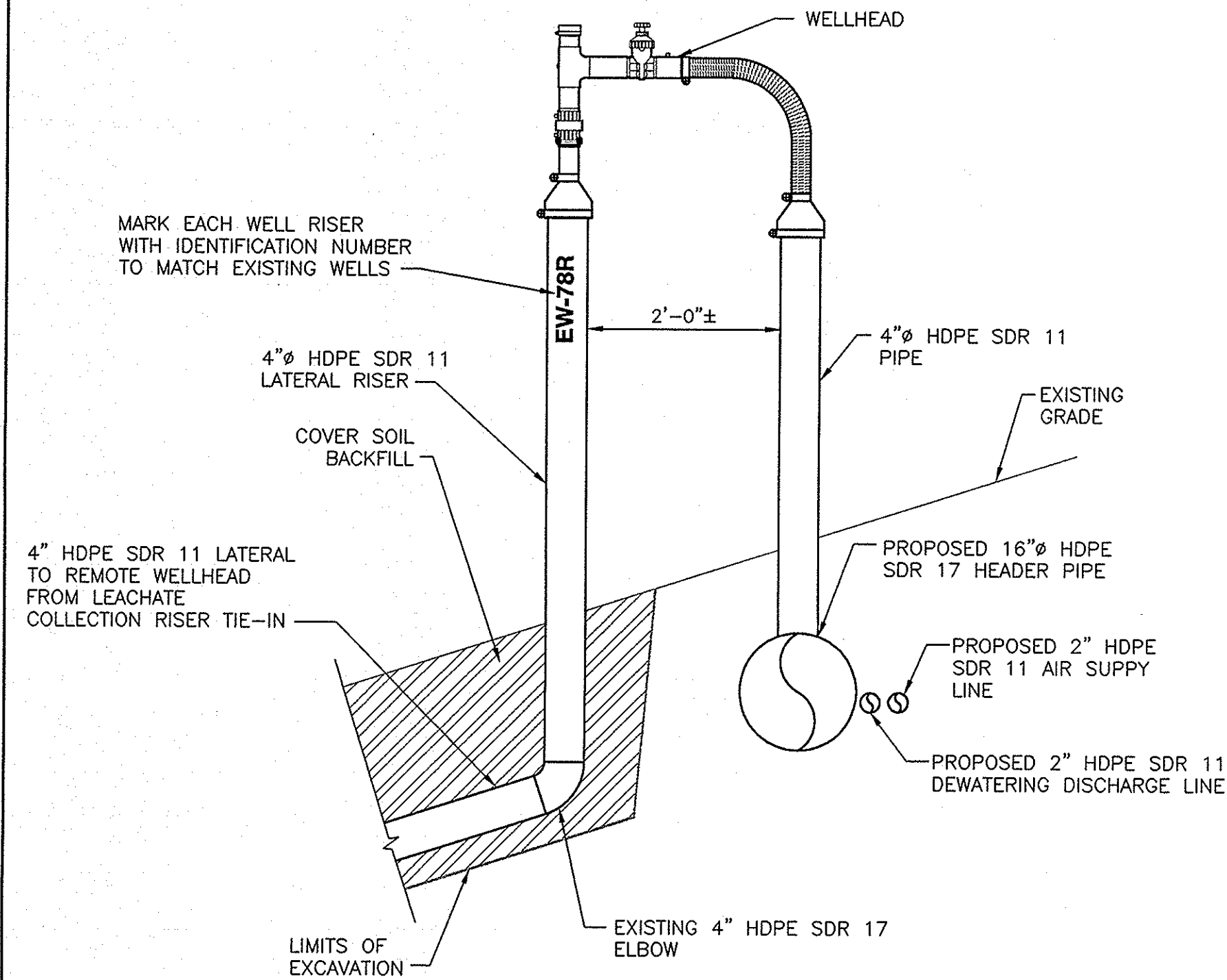
**GCCS REPAIR DETAILS 1**



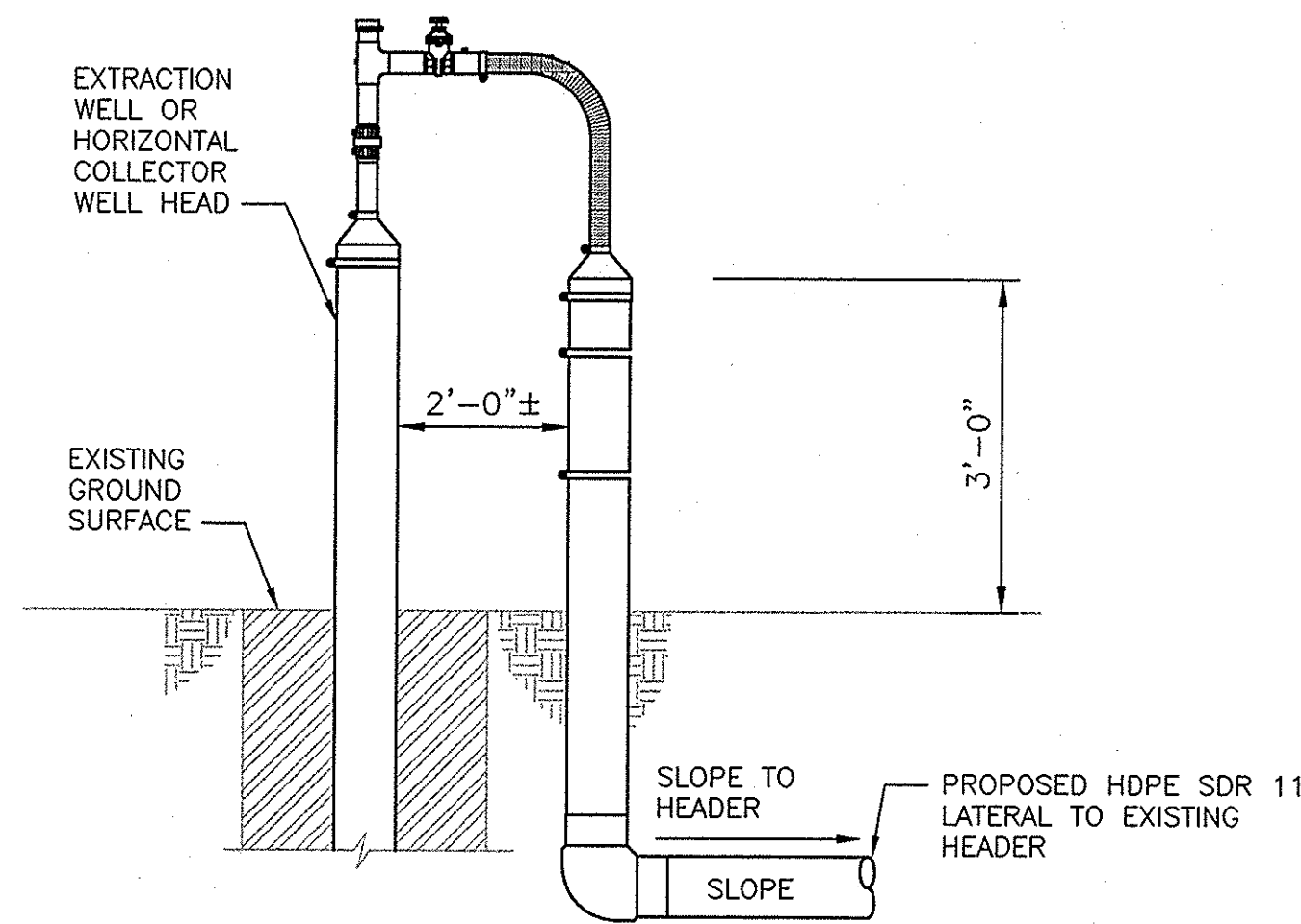
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SCALE AS SHOWN

SHEET  
**C-13**

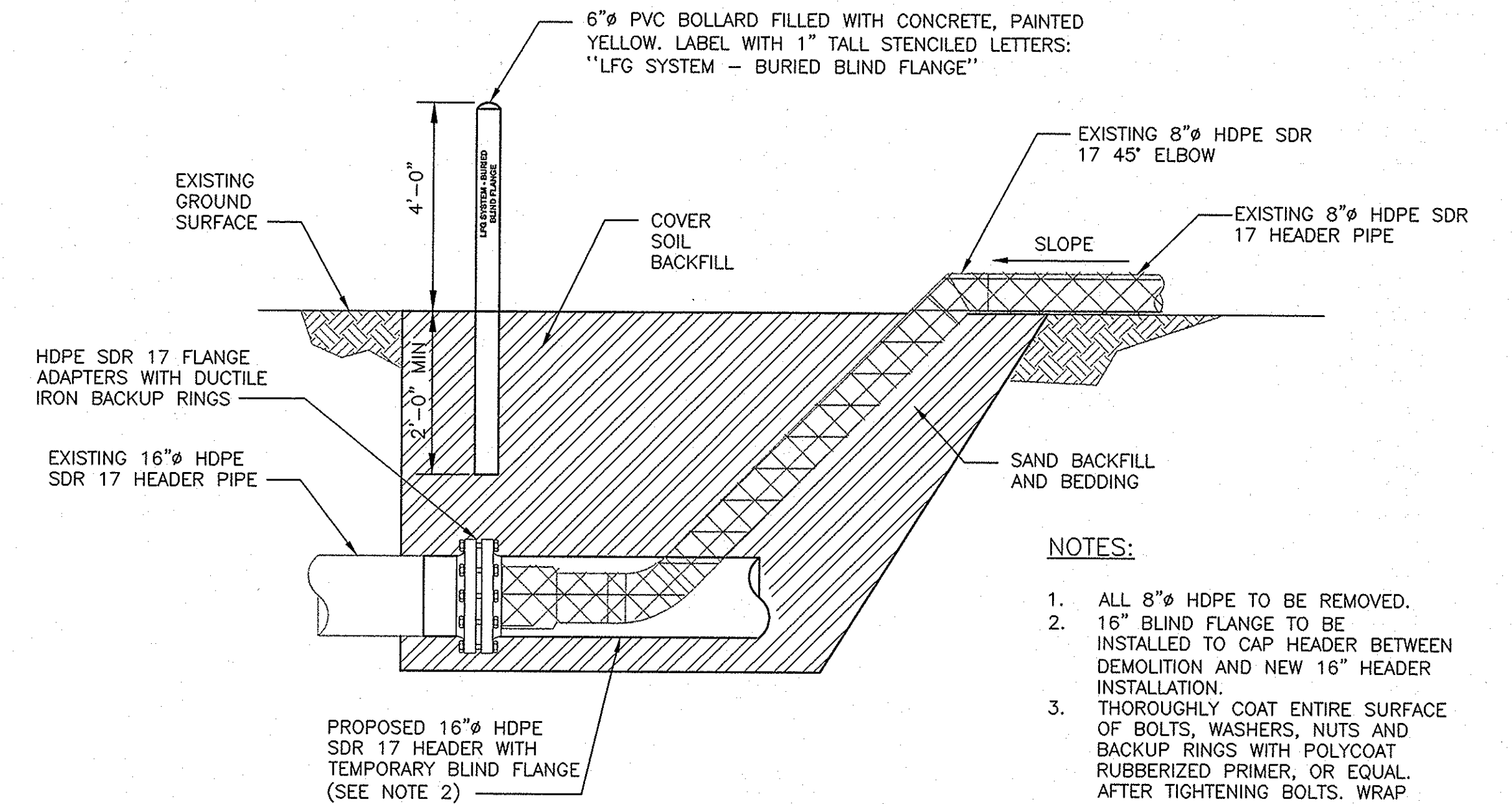




REMOTE WELLHEAD DETAIL 1  
NOT TO SCALE C-08

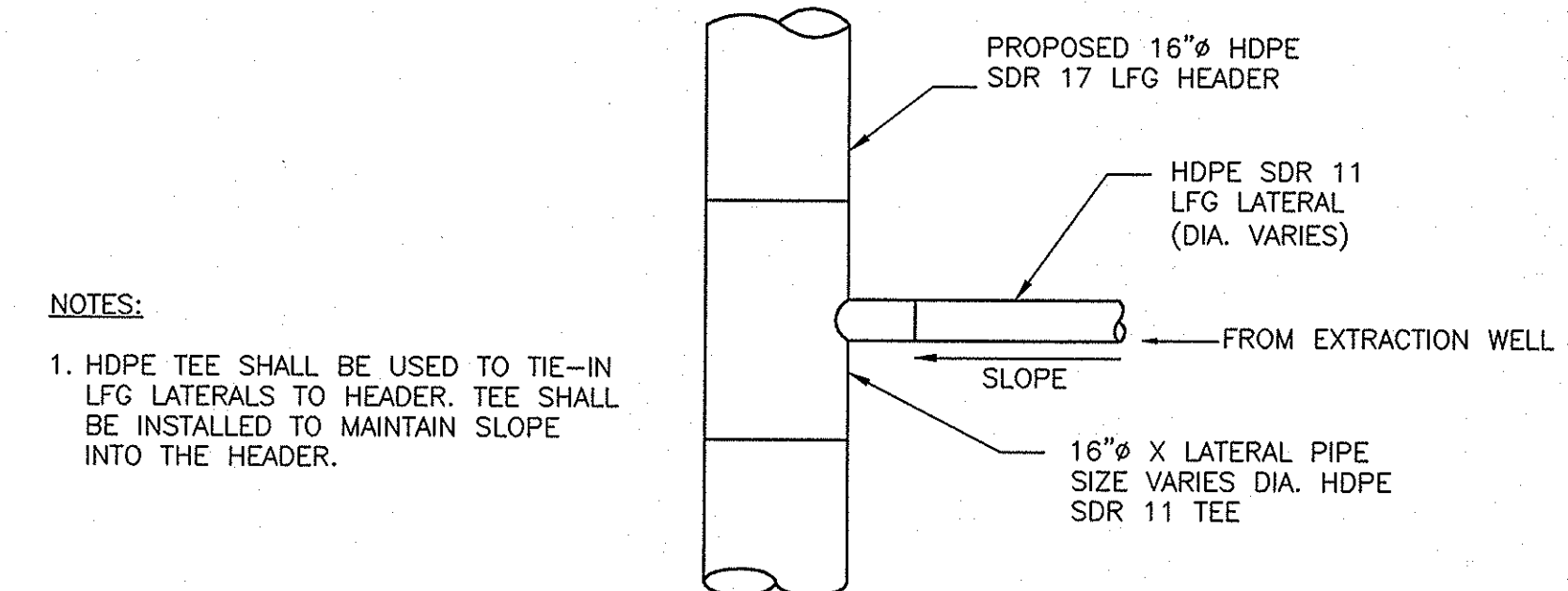


TYPICAL LATERAL-RISER CONNECTION 2  
NOT TO SCALE C-08



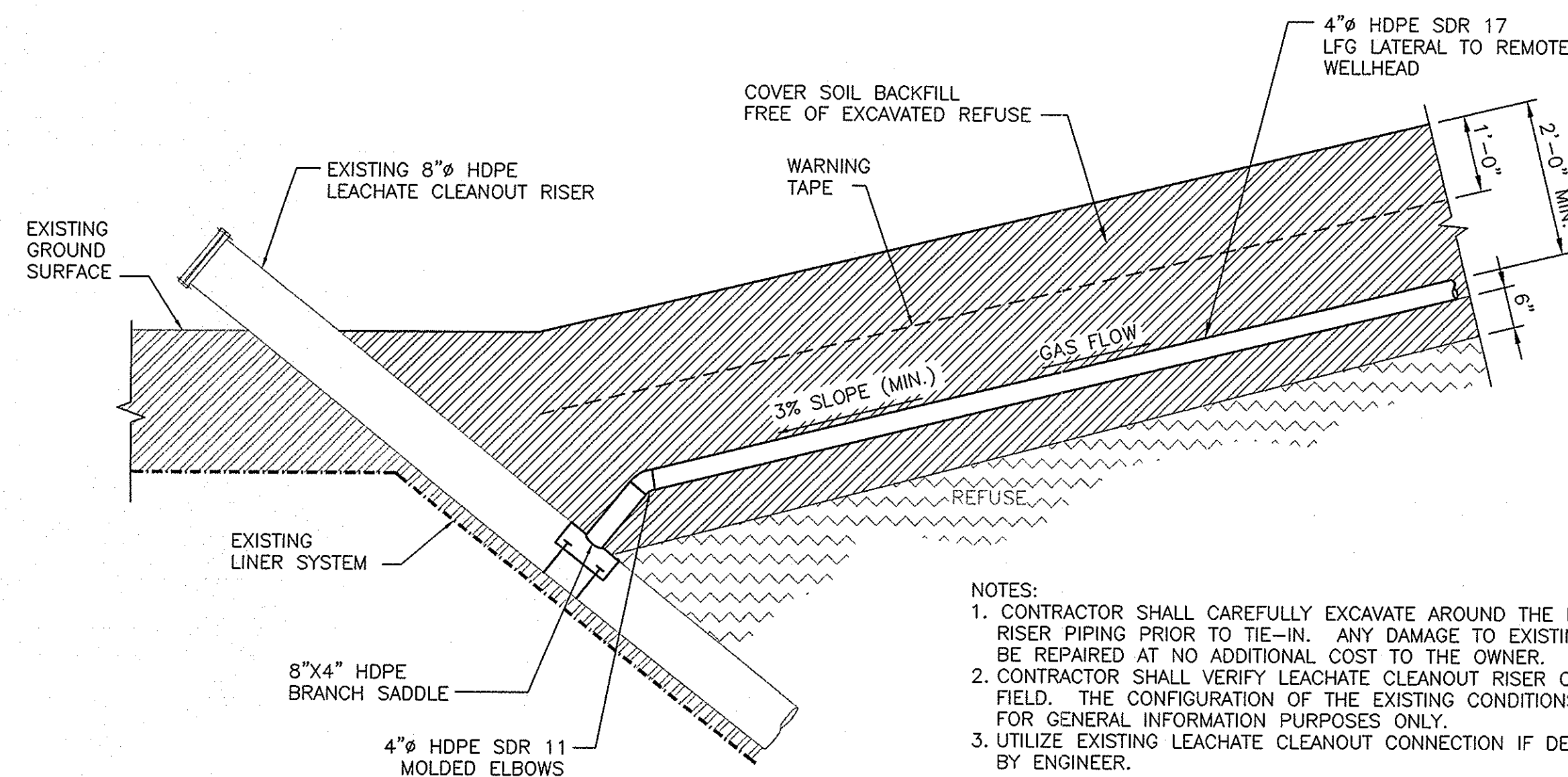
- NOTES:
- ALL 8" HDPE TO BE REMOVED.
  - 16" BLIND FLANGE TO BE INSTALLED TO CAP HEADER BETWEEN DEMOLITION AND NEW 16" HEADER INSTALLATION.
  - THOROUGHLY COAT ENTIRE SURFACE OF BOLTS, WASHERS, NUTS AND BACKUP RINGS WITH POLYCOAT RUBBERIZED PRIMER, OR EQUAL. AFTER TIGHTENING BOLTS. WRAP FLANGE IN PLASTIC WRAP PRIOR TO BACKFILLING.
  - FLANGE SHALL BE INSTALLED WITH THE PROPER SLOPE ANGLE TO PROVIDE FOR FUTURE CONDENSATE DRAINAGE.

HEADER CONNECTION 3  
NOT TO SCALE C-07 C-08



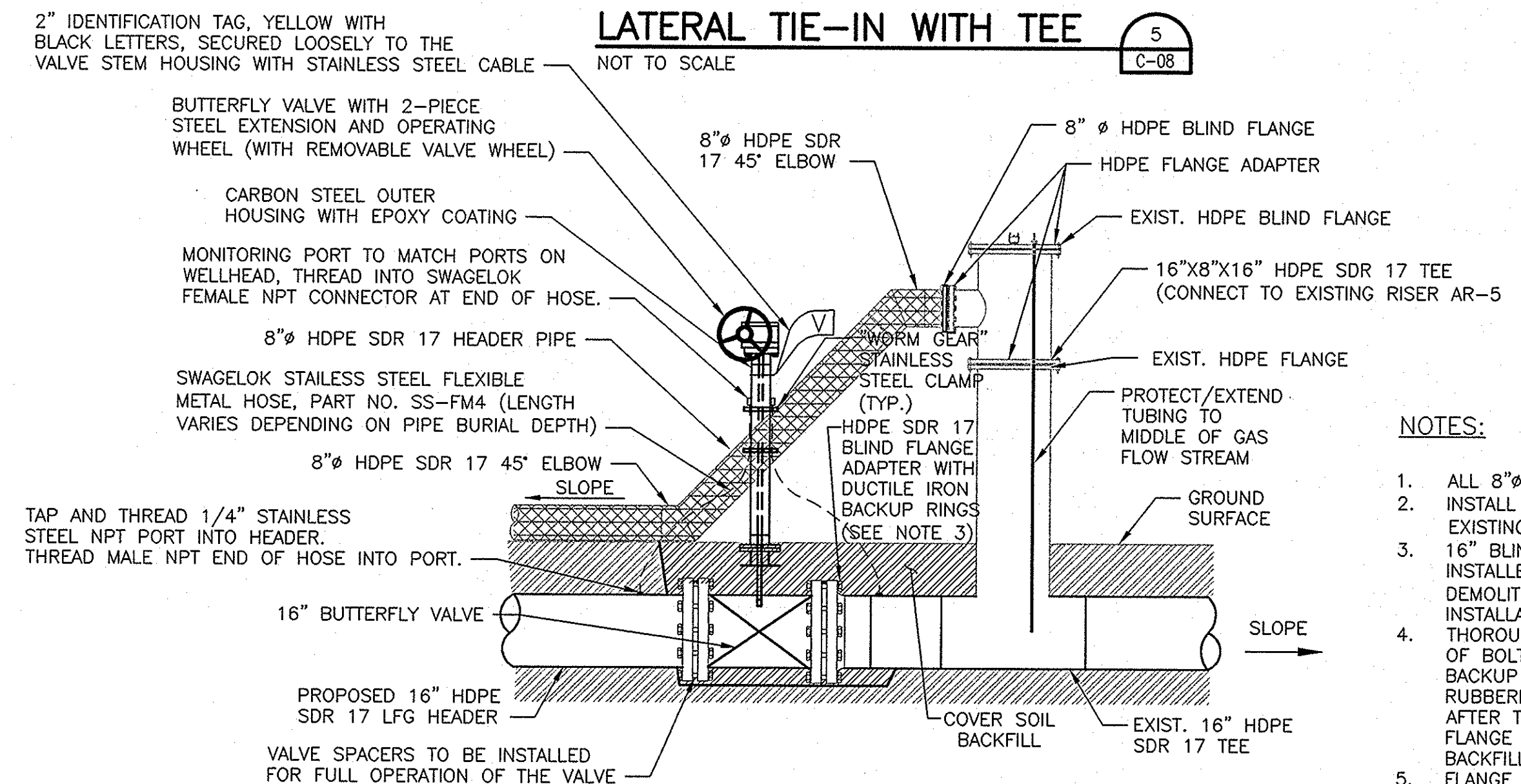
- NOTES:
- HDPE TEE SHALL BE USED TO TIE-IN LFG LATERALS TO HEADER. TEE SHALL BE INSTALLED TO MAINTAIN SLOPE INTO THE HEADER.

LATERAL TIE-IN WITH TEE 5  
NOT TO SCALE C-08



- NOTES:
- CONTRACTOR SHALL CAREFULLY EXCAVATE AROUND THE LEACHATE CLEANOUT RISER PIPING PRIOR TO TIE-IN. ANY DAMAGE TO EXISTING FEATURES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
  - CONTRACTOR SHALL VERIFY LEACHATE CLEANOUT RISER CONFIGURATION IN FIELD. THE CONFIGURATION OF THE EXISTING CONDITIONS SHOWN HERE IS FOR GENERAL INFORMATION PURPOSES ONLY.
  - UTILIZE EXISTING LEACHATE CLEANOUT CONNECTION IF DEEMED ACCEPTABLE BY ENGINEER.

LFG COLLECTION TIE-IN TO LEACHATE CLEANOUT DETAIL 4  
NOT TO SCALE C-08



- NOTES:
- ALL 8" HDPE TO BE REMOVED.
  - INSTALL 8" BLIND FLANGE ON EXISTING 16"X 8"X 16" TEE.
  - 16" BLIND FLANGE TO BE INSTALLED TO CAP HEADER BETWEEN DEMOLITION AND NEW 16" HEADER INSTALLATION.
  - THOROUGHLY COAT ENTIRE SURFACE OF BOLTS, WASHERS, NUTS AND BACKUP RINGS WITH POLYCOAT RUBBERIZED PRIMER, OR EQUAL. AFTER TIGHTENING BOLTS. WRAP FLANGE IN PLASTIC WRAP PRIOR TO BACKFILLING.
  - FLANGE SHALL BE INSTALLED WITH THE PROPER SLOPE ANGLE TO PROVIDE FOR FUTURE CONDENSATE DRAINAGE.

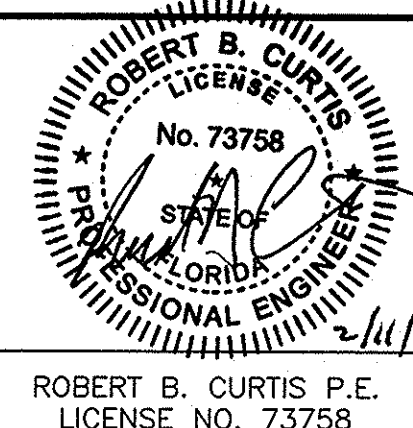
HEADER TO ACCESS RISER CONNECTION 6  
NOT TO SCALE C-07 C-08

HDR

HDR Engineering, Inc.  
5426 Bay Center Drive  
Suite 400  
Tampa, FL 33609-3444  
HDR CA# 4213

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| REVIEWED BY     | T. YANOSCHAK    |
| REVIEWED BY     | J. O'NEILL      |
| CIVIL DESIGN BY | C. KOENIG       |
| DRAWN BY        | B. JOHNSON      |
| DRAWN BY        | L. KARSHNER     |
| PROJECT NUMBER  | 0096-193814-002 |



SOUTHEAST COUNTY LANDFILL  
SINKHOLE REMEDIATION STAGE 5  
ISOLATION OF IMPACTED  
CLAY LINER  
SOUTHEAST COUNTY LANDFILL  
HILLSBOROUGH COUNTY, FLORIDA

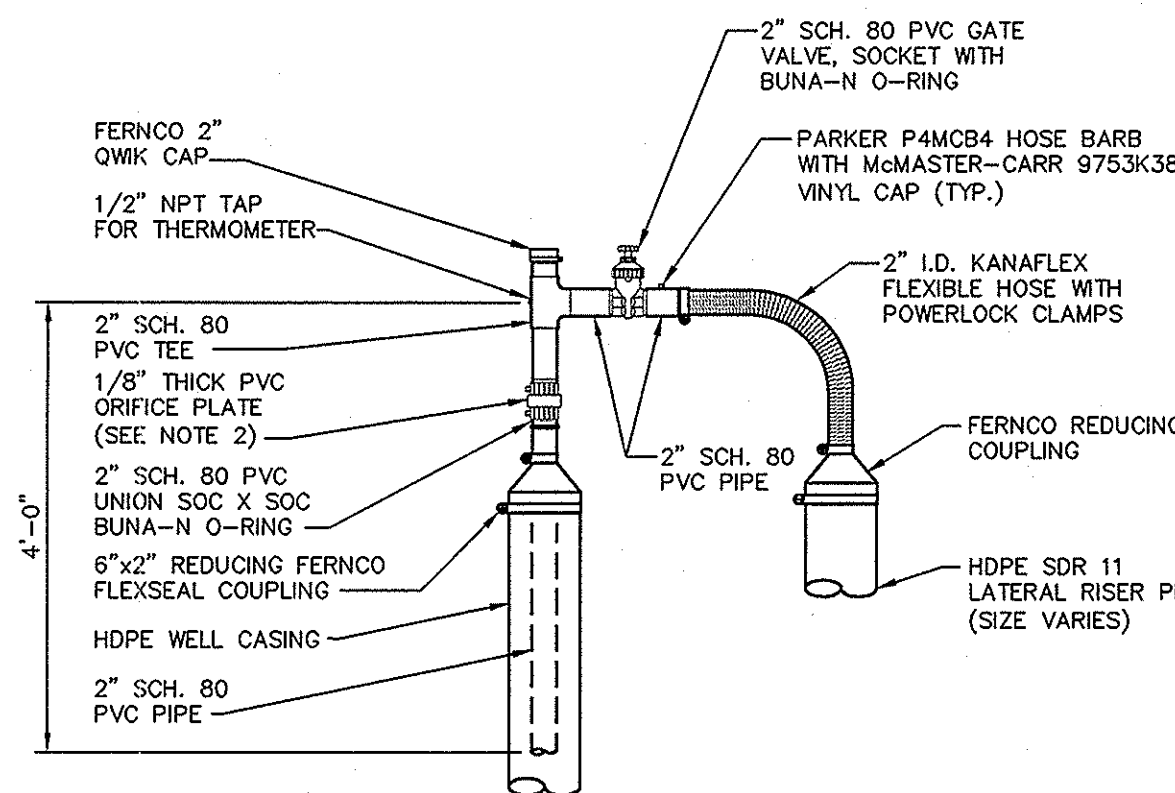
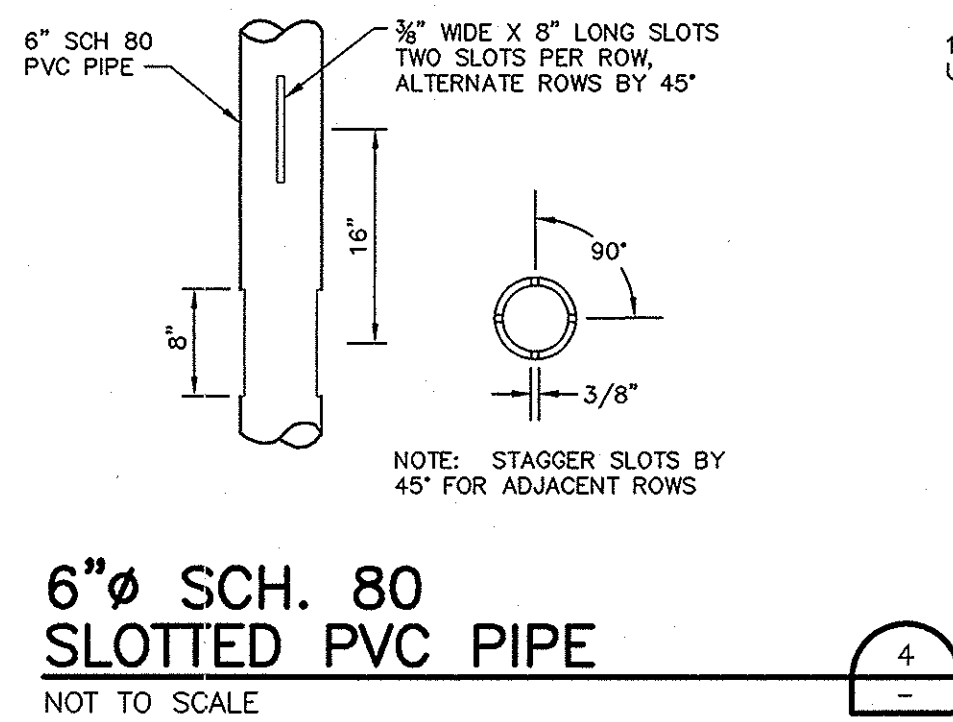
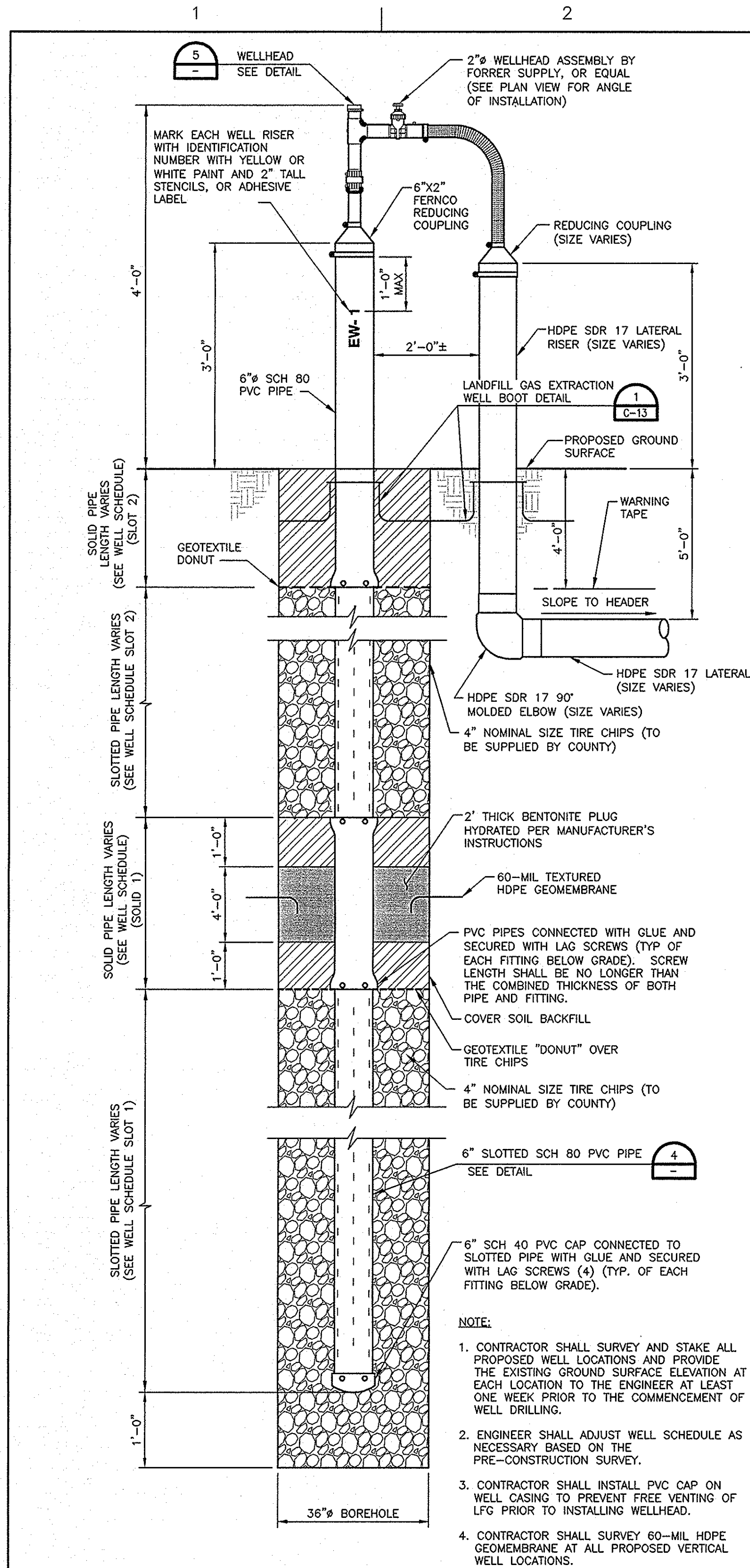
GCCS REPAIR DETAILS 2



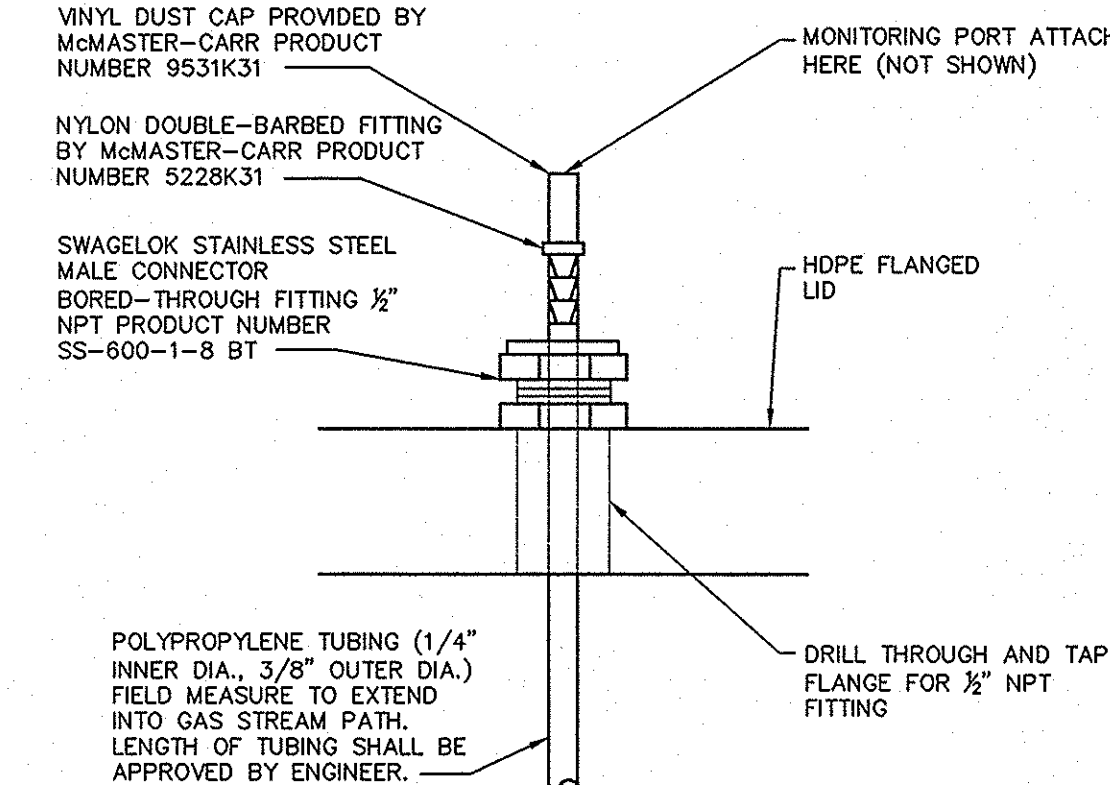
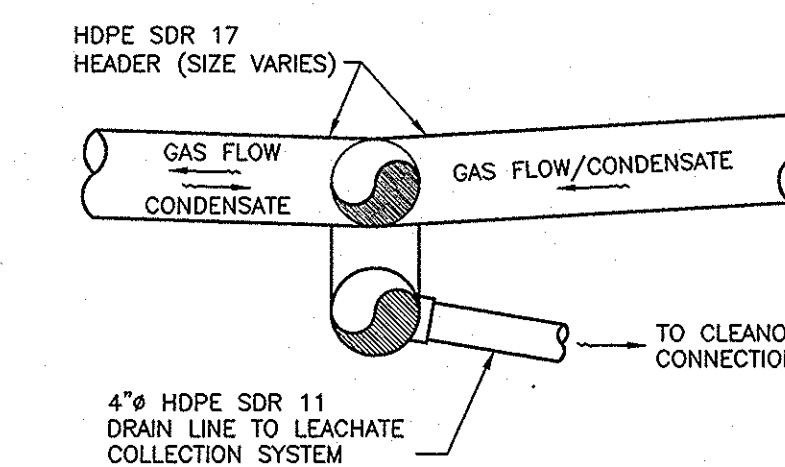
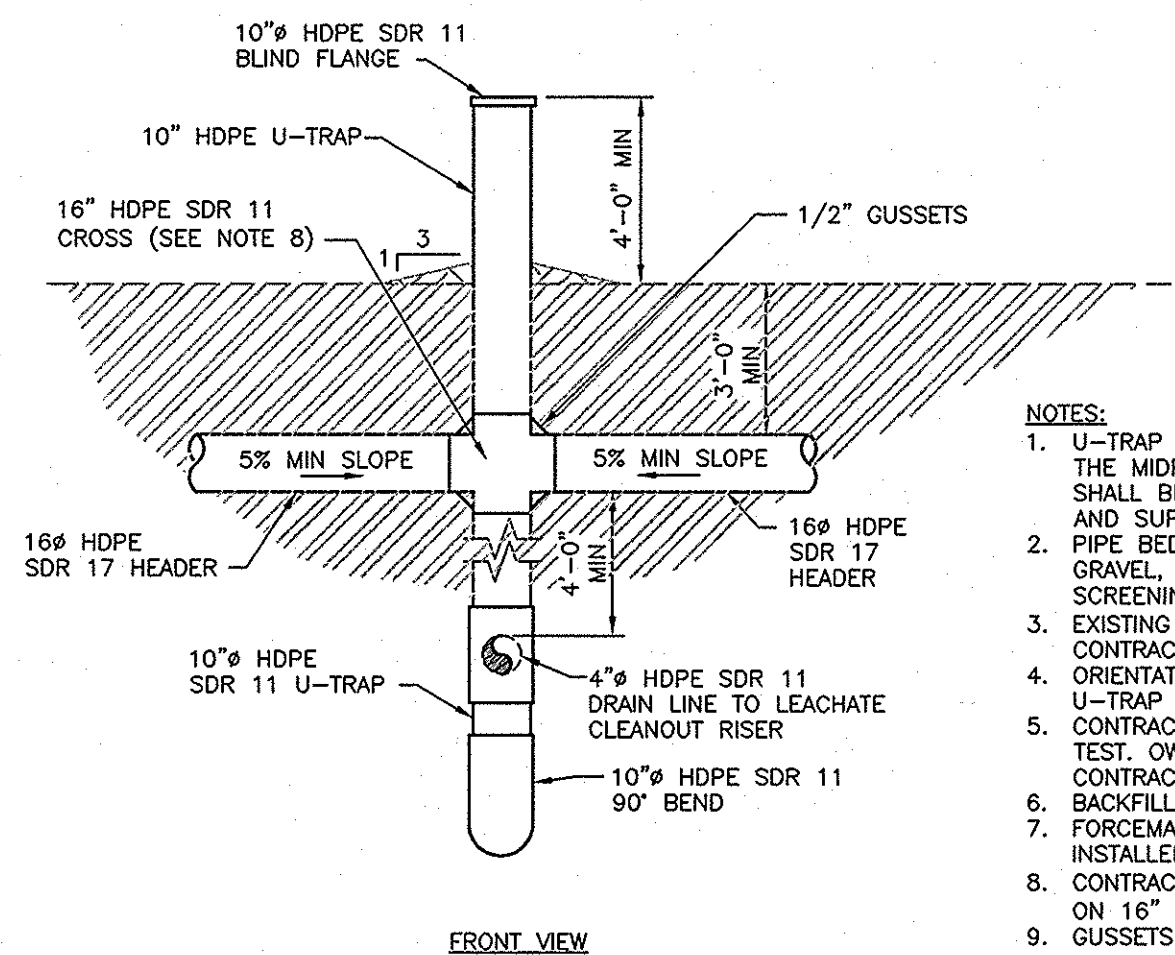
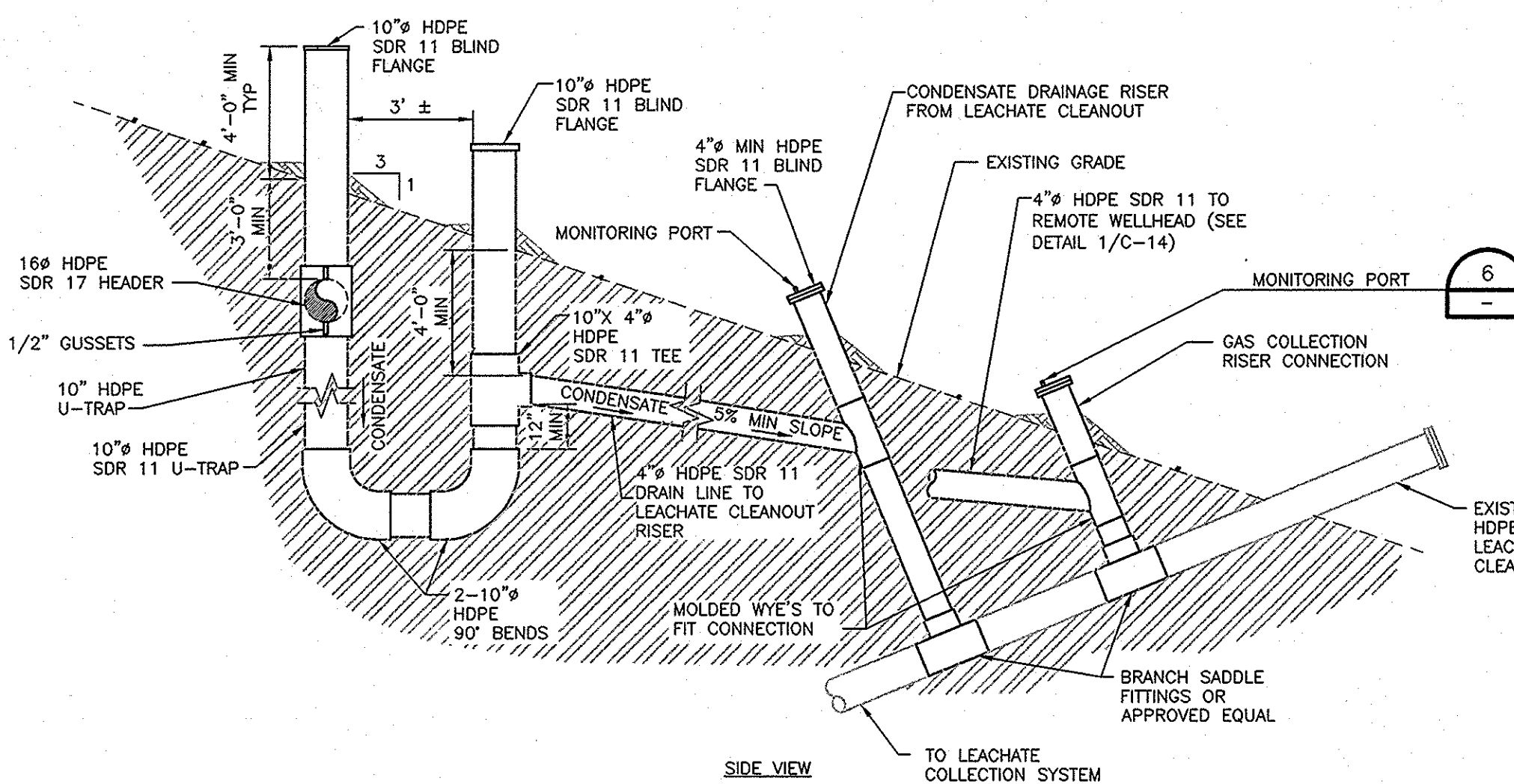
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| SCALE    | AS SHOWN         |

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|-------|------|
| SHEET | C-14 |
|-------|------|





| WELL SCHEDULE |                  |         |                        |                         |            |                       |                     |                       |                     |
|---------------|------------------|---------|------------------------|-------------------------|------------|-----------------------|---------------------|-----------------------|---------------------|
| WELL ID       | GRID COORDINATES |         | APPROX. GROUND SURFACE | APPROX. DEPTH OF REFUSE | WELL DEPTH | SLOTTED PIPE (SLOT-1) | SOLID PIPE (SLOT-1) | SLOTTED PIPE (SLOT-2) | SOLID PIPE (SLOT-2) |
|               | NORTHING         | EASTING | (ft)                   | (ft)                    | (ft)       | (ft)                  | (ft)                | (ft)                  | (ft)                |
| EW-10B        | 1,251,370        | 595,315 | 152                    | 32                      | 32         | 24                    | 6                   | 0                     | 2                   |
| EW-10C        | 1,251,450        | 595,345 | 153                    | 38                      | 38         | 21                    | 6                   | 8                     | 3                   |
| EW-11B        | 1,251,520        | 595,392 | 154                    | 39                      | 39         | 10                    | 6                   | 14                    | 3                   |

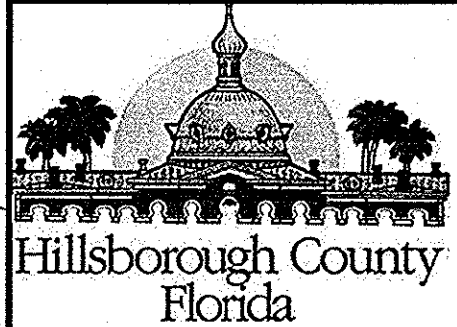
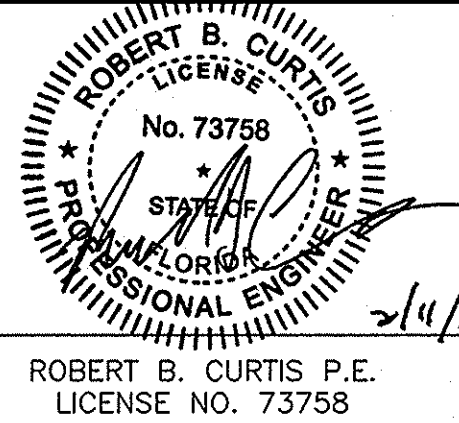


**HDR**

HDR Engineering, Inc.  
5429 Bay Center Drive  
Suite 400  
Tampa, FL 33609-3444  
HDR CAP 4219

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| REVIEWED BY     | J. O'NEILL      |
| CIVIL DESIGN BY | C. KOENIG       |
| DRAWN BY        | B. JOHNSON      |
| DRAWN BY        | L. KARSHNER     |
| PROJECT NUMBER  | 0096-193814-002 |



**SOUTHEAST COUNTY LANDFILL  
SINKHOLE REMEDIATION STAGE 5  
ISOLATION OF IMPACTED  
CLAY LINER  
SOUTHEAST COUNTY LANDFILL  
HILLSBOROUGH COUNTY, FLORIDA**

**GCCS REPAIR DETAILS 3**

0 1" 2"

|          |                  |
|----------|------------------|
| FILENAME | 00C-13-14-15.dwg |
| SCALE    | AS SHOWN         |

SHEET  
**C-15**