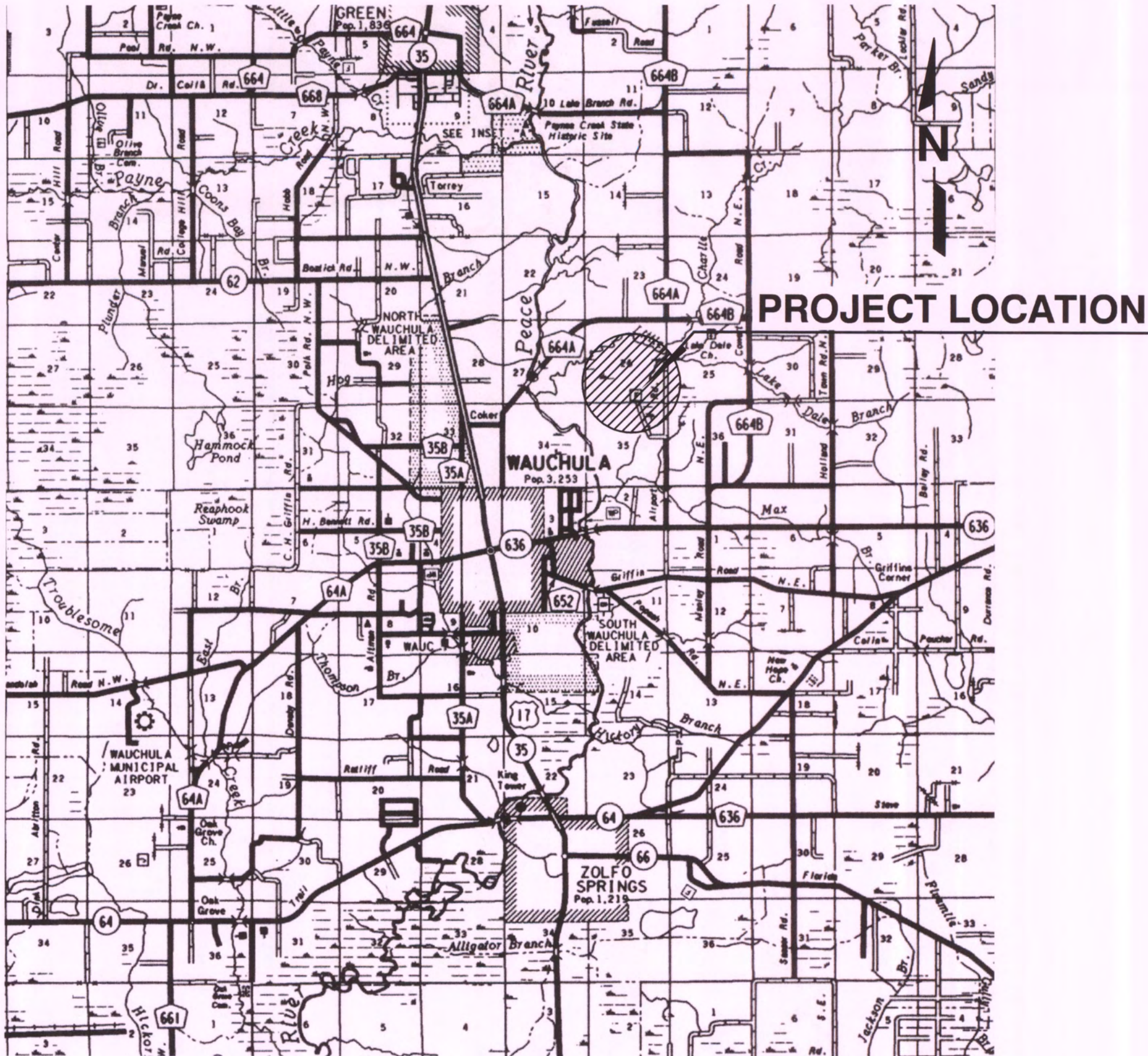


# HARDEE COUNTY LANDFILL PHASE II SECTION II EXPANSION CONSTRUCTION DRAWINGS

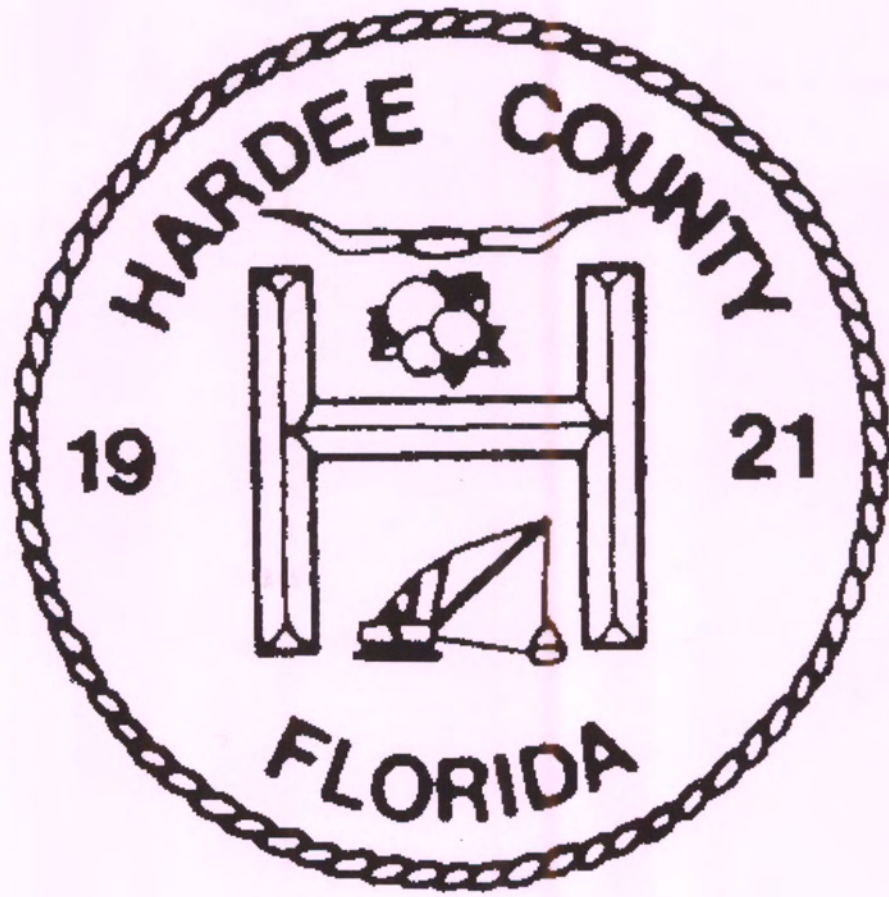
PREPARED FOR  
BOARD OF COUNTY COMMISSIONERS  
HARDEE COUNTY, FLORIDA

AUGUST 2012

Dept. of Environmental  
Protection  
AUG 31 2012  
Southwest District



LOCATION MAP  
NOT TO SCALE



## DRAWING INDEX

DRAWING NO.	DRAWING TITLE
1	COVER
2	ABBREVIATIONS AND GENERAL NOTES
3	OVERALL AERIAL SITE PLAN - (JANUARY 2011)
4	EXISTING CONDITIONS - AERIAL PHOTOGRAPH (04/03/2012)
5	EXISTING CONDITIONS NORTH - TOPOGRAPHIC SURVEY (04/03/2012)
6	EXISTING CONDITIONS SOUTH - TOPOGRAPHIC SURVEY (04/03/2012)
7	PROJECT AREA EXISTING CONDITIONS SITE PLAN
8	TOP OF SUBGRADE - BOTTOM CELL GRADING SITE PLAN
9	LEACHATE COLLECTION SYSTEM - SITE PLAN
10	TOP OF PROTECTIVE COVER - BOTTOM CELL GRADING SITE PLAN
11	SECTIONS - BOTTOM CELL
12	FINAL CLOSURE SITE PLAN
13	SECTIONS - FINAL CLOSURE
14	PIPING DETAILS - BOTTOM CELL
15	TIE-IN DETAILS - BOTTOM CELL
16	PERIMETER ROAD AND TRENCH DETAILS - BOTTOM CELL
17	SUMP AND SIDESLOPE RISER DETAILS
18	DETAILS - 1
19	DETAILS - 2
20	DETAILS - 3
21	DETAILS - 4

SCS ENGINEERS  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS, INC.

4041 PARK OAKS BLVD., SUITE 100  
TAMPA, FLORIDA 33610  
PH (813) 621-0080 FAX NO. (813) 623-6757  
WWW.SCSENGINEERS.COM  
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892  
SCS PROJECT NO. 09199033.23

FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
AUG 31 2012  
SOUTHWEST DISTRICT  
TAMPA

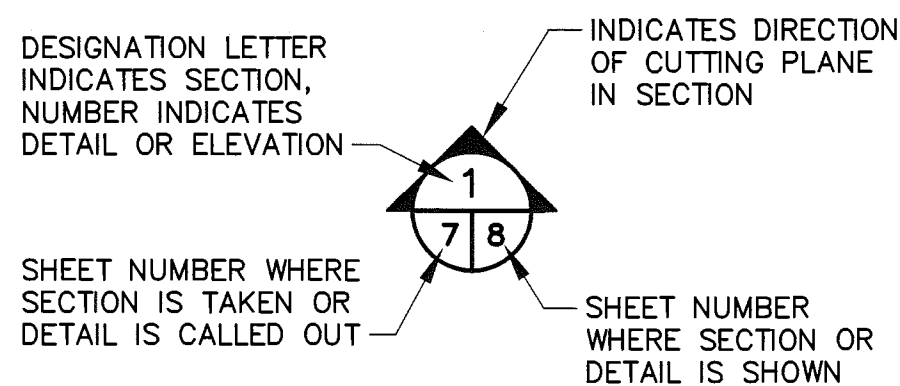
SHANE R. FISCHER, P.E.  
LICENSE NO. 58026  
SOUTHWEST DISTRICT



	AT
ANGLE	ANGLE
C	CENTERLINE
Ø	DIAMETER
AB	ANCHOR BOLT
ADD'L	ADDITIONAL
ANCH	ANCHOR
APPROX	APPROXIMATE
BM	BEAM
BOT	BOTTOM
BP	BASE PLATE
C/C	CENTER TO CENTER
CIP	CAST IRON PIPE
CL	CENTER LINE
CLJ	CONTROL JOINT
CLR	CORRUGATED METAL PIPE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
C.O.	CLEAN OUT PORT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CPP	CORRUGATED PLASTIC PIPE
CTR	CENTER
CU FT	CUBIC FOOT/FEET
DET	DETAIL
DIA	DIAMETER
DIP	DUCTILE IRON
DIP	DUCTILE IRON PIPE
D.O.	DITTO
DWG	DRAWING
DWL	DOWEL
E	EAST
EA	EACH
EF	EACH FACE
EL,ELEV	ELEVATION
ENCL	ENCLOSURE
EQL	EQUAL
EW	EACH WAY
FBV	FLORIDA BEARING VALVE
FBN	FOUNDATION
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
FE	FIRE EXTINGUISHER
FES	FLARED END SECTION
FIN	FINISHED
FL	FLYING LINE, OR FLORIDIAN
FM	FORCE MAIN
FO	FIBER OPTIC
FT	FOOT
FTG	FOOTING
FTGS	FOOTINGS
FWM	FIRE MAIN WATER
GA	GAGE
GAL	GALLONS
GALV	GALVANIZED
HDPE	HIGH DENSITY POLYETHYLENE
H,HORIZ	HORIZONTAL
I.E.	INVERT ELEVATION
IN	INCH
INV	INVERT
IRR	IRRIGATION
JT	JOINT
KCJ	KEYED CONSTRUCTION JOINT
KWY	KEYWAY
L	ANGLE

BLR	LIMEROCK BEARING RATIO
LF	LINEAR FEET
MAX	MAXIMUM
MES	MITERED END SECTION
MFR	MANUFACTURER
MIN	MINIMUM
MH	MANHOLE
MW	MONITORING WELL
N	NORTH
NE	NORTHEAST
NIC	NOT IN CONTRACT
N	NUMBER
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OPNG	OPENING
PC	POINT OF CURVATURE
PE	POLYETHYLENE
PI	POINT OF INTERSECTION
POB	POINT OF BEGINNING
POE	POINT OF ENDING
PT	POINT OF TANGENT
PP	POWER POLE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYLCHLORIDE
PZ	PIEZOMETER
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RCW	RECLAIMED WATER
REINF	REINFORCING
REQ'D	REQUIRED
ROW	RIGHT OF WAY
S	SOUTH
SCHED, SCH	SCHEDULE
SE	SOUTHEAST
SECT	SECTION
SG	STAFF GAUGE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STIR	STIRRUP
STL	STEEL
SW	SOUTHWEST, OR SURFACE WATER
T	TOP
T & B	TOP AND BOTTOM
TH	TEST HOLE
THK	THICKNESS
T.O.B.	TOP OF BOLT
T.O.C.	TOP OF CONCRETE
T.O.F.	TOP OF FOOTING
T.O.P.	TOP OF PAVEMENT, OR TOP OF PIPE
T.O.S.	TOP OF SLAB
T.O.W.	TOP OF WALL
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V,VERT	VERTICAL
W	WEST
W/O	WITHOUT
W/	WITH (COMBINATION FORM)
WM	WATER MAIN
WEIF	WEDGED WIRE FABRIC
WWM	WOVEN WIRE MESH

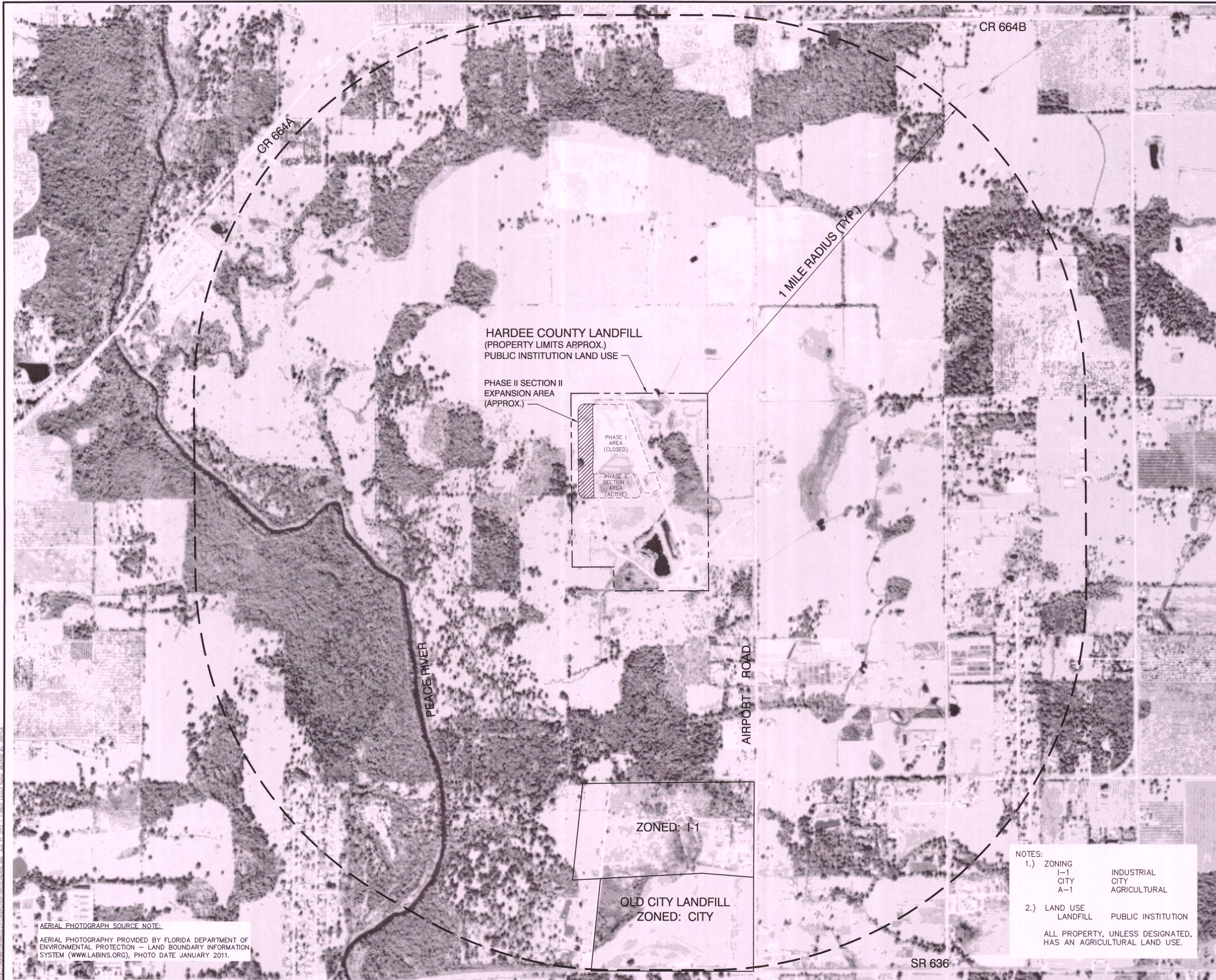
1. TOPOGRAPHIC SURVEY PERFORMED BY PICKETT & ASSOCIATES, INC., 475 SOUTH FIRST AVENUE, BARTOW, FLORIDA 33830, TEL. (863) 533-9095.
2. TOPOGRAPHIC SURVEY WAS PREPARED BY PHOTOGRAMMETRIC METHODS. SEE THE SURVEYOR'S REPORT FOR MAP ACCURACY AND SURVEYOR'S SIGNATURE AND SEAL. THIS SURVEY IS LIMITED TO THOSE FEATURES VISIBLE ON AERIAL PHOTOGRAPHY. AERIAL PHOTOGRAPHY PERFORMED APRIL 3, 2012.
3. HORIZONTAL DATUM COORDINATES ARE REFERENCED TO THE WEST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 1983, 1999 ADJUSTMENT. VERTICAL ELEVATIONS ARE REFERENCED TO NATIONAL GEODETIC VERTICAL DATUM OF 1929.
4. TRAFFIC MUST BE MAINTAINED AT ALL TIMES AS PER FOOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
5. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES, STRUCTURES, OR PRESERVATION AREAS AND OTHER FEATURES AFFECTING HIS WORK.
6. CONTRACTOR SHALL VERIFY ALL UTILITIES AND NOTIFY THE INDIVIDUAL UTILITY COMPANIES 72 HOURS PRIOR TO CONSTRUCTION.
7. THE CONTRACTOR SHALL REPLACE ALL PAVING, STABILIZED EARTH, CURBS, DRIVEWAYS, SIDEWALKS, DRAINAGE CULVERTS, FENCES, ETC. WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION.
8. THE INFORMATION PROVIDED IN THESE PLANS AND REFERENCED IN THE AVAILABLE SOILS REPORT IS SOLELY TO ASSIST THE CONTRACTOR IN ACCESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATION THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
9. THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY ON CONFLICTS DURING CONSTRUCTION ON ANY IMPROVEMENTS SHOWN ON THE DRAWINGS.
10. PIPE LENGTHS SHOWN ARE APPROXIMATE AND MAY BE ADJUSTED AS REQUIRED IN THE FIELD, UPON APPROVAL BY ENGINEER.
11. EROSION CONTROL AND SEDIMENTATION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO BEGINNING ANY CLEARING AND GRUBBING. THEY SHALL BE INSTALLED TO THE LIMITS SHOWN ON THE DRAWING, REQUIRED IN THE SPECIFICATIONS AND IN ACCORDANCE WITH ALL REGULATORY AGENCY REQUIREMENTS.
12. THE LIMITS OF CONSTRUCTION SHOWN ON THE PLANS SHALL BE STRICTLY OBSERVED BY THE CONTRACTOR. ALL INGRESS, EGRESS AND TRAFFIC PATTERNS ON THE SITE SHALL BE WITHIN THE LIMITS OF CONSTRUCTION.
13. FINISHED GRADE FOR GROUND ELEVATIONS ON DRAWINGS REFER TO GRADE AFTER SODDING, OR OTHER SURFACE TREATMENT.
14. INSTALLATION OF ALL STORM SEWERS, INLETS, PIPE END TREATMENT AND APPURTENANCES SHALL BE IN ACCORDANCE WITH ALL REQUIREMENTS OF THE APPLICABLE SECTIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, OR AS INDICATED ON THE DRAWINGS.
15. CONTRACTOR SHALL PLACE PROTECTIVE BARRIERS AROUND EXISTING MONITORING WELLS TO PREVENT DAMAGE DUE TO CONSTRUCTION ACTIVITIES IF REQUESTED BY THE COUNTY.
16. THE CONTRACTOR SHALL INSTALL SILT FENCING AROUND PERIMETER OF LAYDOWN-STAGING AREA. AT THE CONCLUSION OF PROJECT THE ENTIRE LAYDOWN AREA WILL BE CLEARED OF ALL DEBRIS AND THE AREA SEEDED TO ESTABLISH A GRASS COVER AND STABILIZE THE SOIL.
17. SURFACE AND GROUND WATER ELEVATIONS AND STORMWATER RUNOFF VARY WITH THE TIME OF YEAR AND RAINFALL AMOUNTS ACROSS THE SITE. NEITHER THE CONSULTANT NOR THE COUNTY CAN ACCURATELY ESTIMATE THE SURFACE AND GROUND WATER ELEVATIONS THAT MAY BE ENCOUNTERED DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHOULD BE PREPARED TO PERFORM THE WORK AND BASE THE BID ON THE POTENTIAL SURFACE AND GROUND WATER ON SITE.
18. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN SILT FENCE PER SECTION 0156B - TEMPORARY EROSION AND SEDIMENTATION CONTROL OF THE CONTRACT DOCUMENTS. FOOT DESIGN STANDARDS INDEX NO. 102 TYPE III SILT FENCE SHALL BE INSTALLED BY THE CONTRACTOR ALONG THE ENTIRE EXTERIOR LIMITS OF WORK TO PREVENT DAMAGE TO PROPERTIES OUTSIDE THE LIMITS OF WORK FROM SILTATION DUE TO CONSTRUCTION OF THE PROJECT.



FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
AUG 31 2012  
SOUTHWEST DISTRICT  
TAMPA

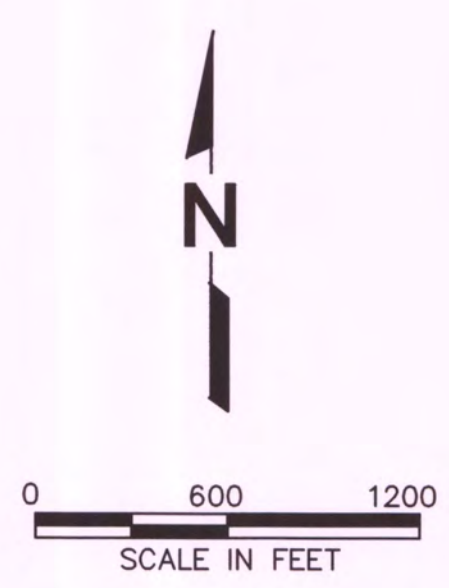
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AERIAL PHOTOGRAPH SOURCE NOTE:  
AERIAL PHOTOGRAPHY PROVIDED BY FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION - LAND BOUNDARY INFORMATION SYSTEM (WWW.LABINS.ORG), PHOTO DATE JANUARY 2011.

NOTES:  
1.) ZONING  
I-1 INDUSTRIAL  
CITY CITY  
A-1 AGRICULTURAL  
2.) LAND USE  
LANDFILL PUBLIC INSTITUTION  
ALL PROPERTY, UNLESS DESIGNATED, HAS AN AGRICULTURAL LAND USE.



DRAWING TITLE <b>OVERALL AERIAL SITE PLAN (JANUARY 2011)</b>		BY	
PROJECT TITLE <b>HARDEE COUNTY LANDFILL PHASE II SECTION II EXPANSION CONSTRUCTION DRAWINGS</b>		DESCRIPTION	
CLIENT <b>HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS</b>		DATE	
SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610 813 821-0880 FAX 813 823-6757 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004882		REV	
CADD FILE: 993323AERIAL		DATE	
DATE: AUGUST 2012		DATE	
SCALE: AS SHOWN		DATE	
DRAWING NO. <b>3</b> of		DATE	



EXISTING

EXISTING MONITORING WELL TABLE		
WELL NUMBER	NORTHING	EASTING
MW-1	1177604.2260	726482.488
MW-2	1176800.972	727061.767
MW-4	1177588.34	727469.216
*MW-5	1177136.888	726199.5
MW-6	1176801.769	726552.386
MW-7	1175903.729	726370.416
*MW-8	1176543.71	726234.815
*MW-3	1176439.418	726193.823
MW-10R	1176262.89	726947.09
MW-11	1176198.382	726695.813
MW-12R	1176201.53	726403.89

EXISTING GAS PROBE TABLE		
PROBE NUMBER	NORTHING	EASTING
GP-1	1177602.658	726820.612
GP-2	1177601.357	726490.331
*GP-3	1177593.371	726188.964
*GP-4	1177304.268	726203.456
*GP-5	1176913.338	726205.276
*GP-6	1176692.365	726207.8
GP-9	1176697.437	727108.716
GP-10	1177021.197	726982.352
GP-11	1177341.968	726852.393
GP-12	1175710.195	726496.639
GP-13	1175700.036	726690.812

EXISTING PIEZOMETER TABLE		
WELL NUMBER	NORTHING	EASTING
P-7	1175812.82	726774.259
P-8	1175724.264	726530.637
P-11	1177153.801	726939.428
P-13	1176047.296	726494.261
P-14	1175889.67	726516.147
P-17	1177698.331	726212.616
P-18	1177585.22	725955.47
P-19	1177685.19	726890.76
P-20	1177564.956	726849.789
P-21	1177000.302	727105.589
P-22	1176021.166	726023.336
P-23	1175717.48	726021.42

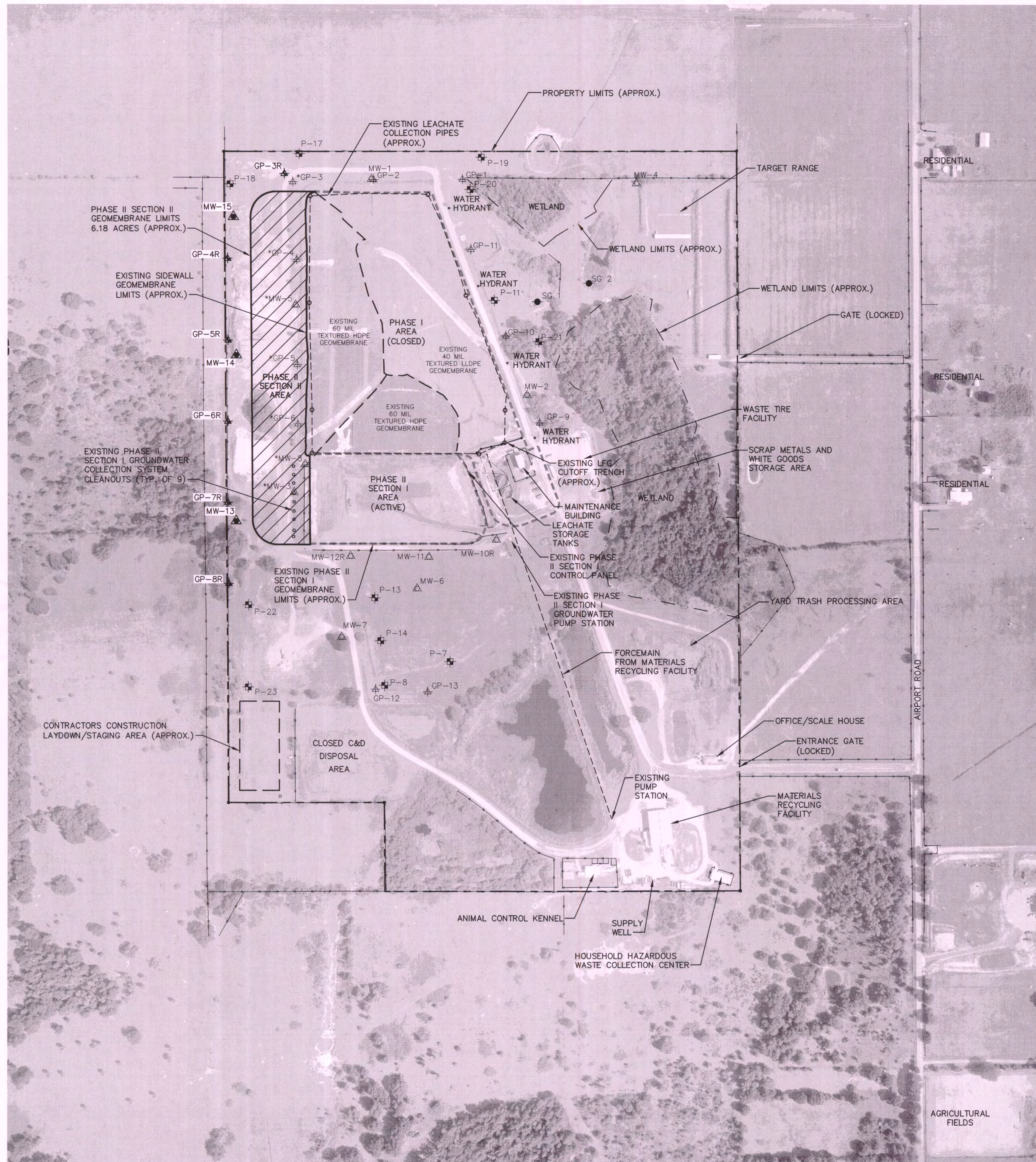
EXISTING STAFF GAUGE TABLE		
POINT NUMBER	NORTHING	EASTING
SG 1	1177149.111	727100.065
SG 2	1177217.671	727292.17

\* DENOTES GAS PROBE OR MONITORING WELL TO BE ABANDONED (TYP.)








NEW

NEW MONITORING WELL TABLE		
WELL NUMBER	NORTHING	EASTING
MW-13	1176331.81	725977.70
MW-14	1176949.27	725978.30
MW-15	1177463.17	725967.78

NEW GAS PROBE TABLE		
PROBE NUMBER	NORTHING	EASTING
GP-3R	1177624.46	726157.43
GP-4R	1177308.20	725945.51
GP-5R	1177004.63	725946.99
GP-6R	1176702.21	725946.53
GP-7R	1176402.21	725946.53
GP-8R	1176099.87	725949.54



LEGEND

- |       |   |  |
|-------|---|--|
| MW-13 |    | NEW<br>GROUNDWATER MONITORING WELL                                       |
| MW-7  |    | EXISTING<br>GROUNDWATER MONITORING WELL                                  |
| GP-7R |    | NEW<br>GAS MONITORING PROBE  |
| GP-6  |    | EXISTING<br>GAS MONITORING PROBE   |
| P-15  |    | EXISTING<br>PIEZOMETER   |
|       | ○   | EXISTING MANHOLE   |
| SG-2  |  | EXISTING STAFF GAUGE   |
|       | ○   | EXISTING GROUNDWATER COLLECTION SYSTEM<br>CLEANOUTS (APPROX. TYP. 9)     |
|       | — ○ —   | EXISTING LFG CUTOFF TRENCH   |
|       | -----   | EXISTING LANDFILL PHASE LIMITS (APPROX.)                                 |
|       | - - - - -   | PROPERTY LINE  |
|       | - . . - -   | WETLAND LIMITS   |
|       | _____   | CONTRACTORS CONSTRUCTION LAYDOWN/STAGING<br>AREA (APPROX.) - SEE NOTE 1. |
|       | - - - ○ - - -   | EXISTING LEACHATE COLLECTION PIPE AND MANHOLE                            |
|       |  | APPROXIMATE LIMITS OF<br>PHASE II SECTION II GEOMEMBRANE                 |

NOTE:

1. THE GENERAL LOCATION OF THE CONTRACTOR'S CONSTRUCTION LAYDOWN/STAGING AREA IS SHOWN ON THE DRAWING. THE COUNTY AND CITY CONTRACTOR WILL COORDINATE WITH THE FINAL BOUNDARIES. THE CONSTRUCTION LAYDOWN/STAGING AREA AND CONTRACTOR'S ACCESS FROM THE AREA TO THE MAIN ROAD AT THE PRE-CONSTRUCTION MEETING. THE CONSTRUCTION LAYDOWN/STAGING AREA SHALL BE GRADED TO EXISTING GRADES, SEEDED AND MULCHED AS REQUIRED UPON COMPLETION OF THE PROJECT PER THE SPECIFICATIONS.

AERIAL PHOTOGRAPH SOURCE NOTE:

AERIAL PHOTOGRAPHY PERFORMED BY  
PICKETT & ASSOCIATES, INC.  
502 MAIN STREET  
WACHULA, FLORIDA 33873  
PHONE: (863) 773-3990  
PHOTO DATE: APRIL 3, 2012.

DRAWING TITLE  
**EXISTING CONDITIONS  
AERIAL PHOTOGRAPH (04/03/2012)**

PROJECT TITLE  
**HARDEE COUNTY LANDFILL  
PHASE II SECTION II EXPANSION  
CONSTRUCTION DRAWINGS**

**HARDEE COUNTY  
BOARD OF  
COUNTY COMMISSIONERS**

**SCS ENGINEERS**  
**STEARNS, CONRAD AND SCHMIDT**  
**CONSULTING ENGINEERS**  
 4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610  
 813-921-0080 FAX 813-623-6757  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892-0

PROJECT NO.	DRAW. BY:	C/A REVIEW
09199033.23	SDA	
CHK. BY:	CHK. BY:	APP. BY:
CPD	CPD	

CADD FILE:  
993323AERIAL

DATE: AUGUST 2012

SCALE: AS SHOWN

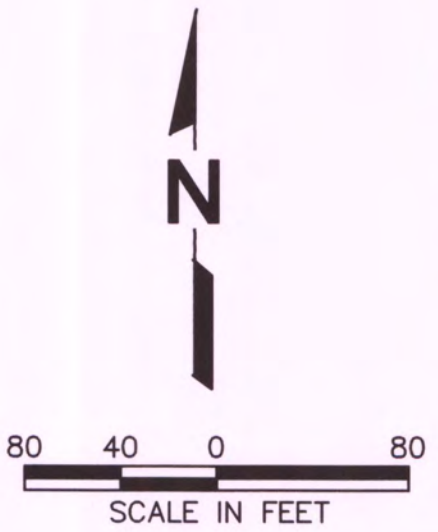
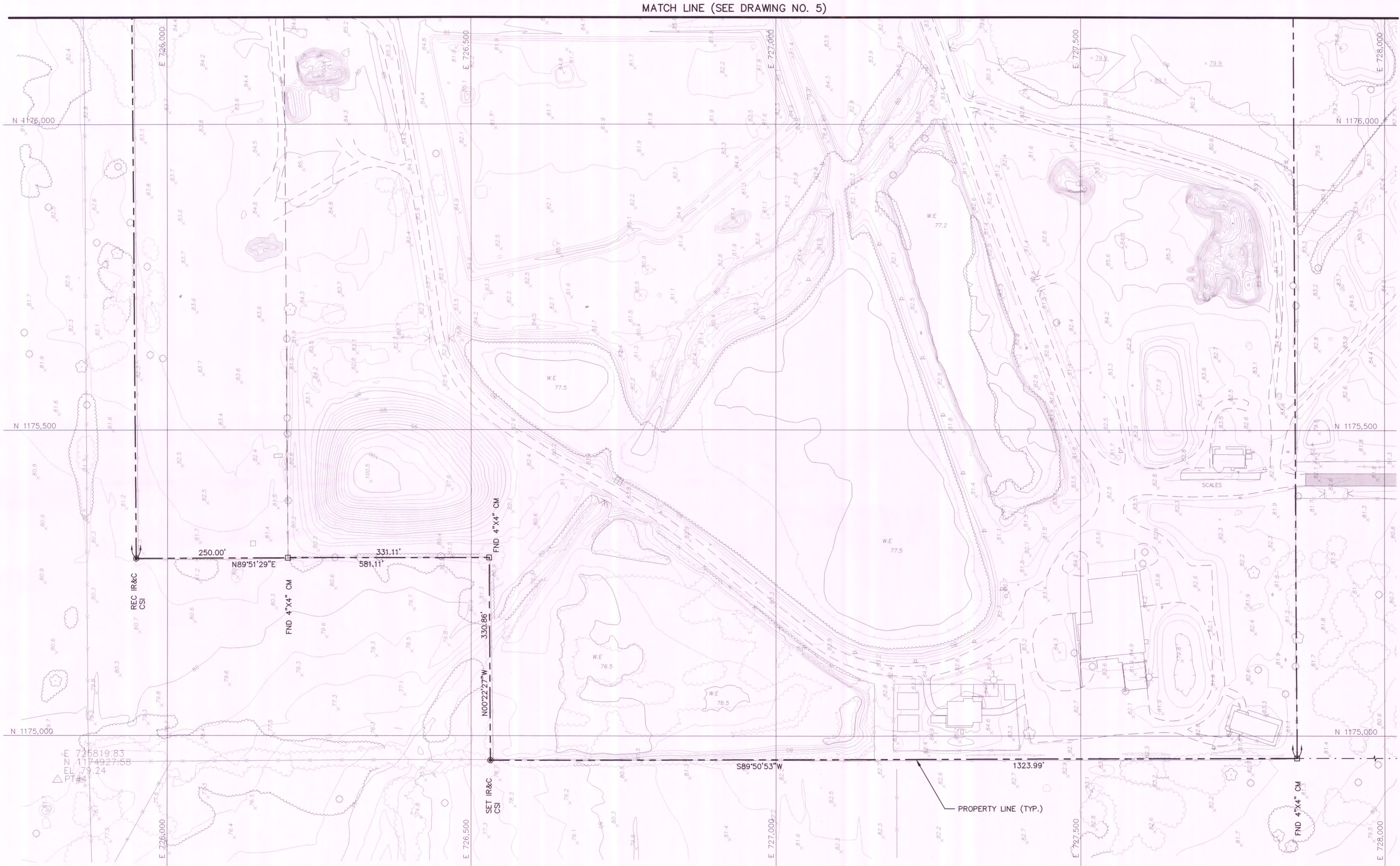
DRAWING NO.







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#### SURVEY SOURCE NOTE:

TOPOGRAPHIC SURVEY PERFORMED BY:  
PICKETT & ASSOCIATES, INC.  
475 SOUTH FIRST AVENUE  
BARTON, FLORIDA 33830  
PHONE: (863) 533-9095  
PHOTO DATE: APRIL 3, 2012.

#### SURVEY NOTES:

1. NORTH, THE GRID, AND THE COORDINATES SHOWN HEREON ARE REFERENCED TO THE WEST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, 1999 ADJUSTMENT.
2. ELEVATIONS ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
3. THIS TOPOGRAPHIC SURVEY WAS PREPARED BY PHOTOGRAMMETRIC METHODS. SEE THE SURVEYOR'S REPORT FOR MAP ACCURACY, SURVEYOR'S SIGNATURE, SEAL, AND REFERENCE BENCHMARK INFORMATION. THIS MAP IS LIMITED TO THOSE FEATURES VISIBLE ON AERIAL PHOTOGRAPHY.

#### LEGEND:

(THESE FEATURES ARE REPRESENTED BY SYMBOLS NOT TO SCALE)

- △ CONTROL
- PT# TARGET NUMBER
- N NORTHING
- E EASTING
- EL ELEVATION
- UTILITY POLE
- ★ LIGHT POLE
- ◇ SIGN
- ◇ TRAFFIC LIGHT
- POST
- VALVE
- △ FLAG
- MAIL BOX
- GUYWIRE
- MANHOLE
- HYDRANT
- CULVERT
- CATCH BASIN
- AIR CONDITIONER
- ELECTRICAL
- MISCELLANEOUS SYMBOL
- TREE
- PALM
- SHRUB
- SWAMP/MARSH
- TOWER

(THESE FEATURES ARE TO SCALE)

- CURB
- PAVED SURFACE
- CONCRETE SURFACE
- UNPAVED ROAD
- FENCE
- GUARDRAIL
- WALL
- RAILROAD
- STRUCTURE
- TREE LINE
- SHRUB LINE
- MISCELLANEOUS

(THESE INFORMATIVE LABELS ARE NOT SCALE DEPENDENT)

- PIPELINE
- RECREATION
- EDGE OF GROVE
- EDGE OF WATER
- SWAMPLINE
- OBSCURED CONTOUR
- DEPRESSION CONTOUR
- W.E. WATER ELEVATION
- × 120.1 SPOT ELEVATION
- × 120.1 OBSCURED SPOT

— 5' ELEVATION CONTOUR (5-FOOT INTERVAL)

— 1' ELEVATION CONTOUR (1-FOOT INTERVAL)

**SCS ENGINEERS**  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS  
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610  
813 821-0080 FAX 813 823-6757  
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00044892

CADD FILE:

993323EXT00

DATE:

AUGUST 2012

SCALE:

AS SHOWN

DRAWING NO.

**6** of

**HARDEE COUNTY**  
**BOARD OF**  
**COUNTY COMMISSIONERS**

**EXISTING CONDITIONS SOUTH**  
**TOPOGRAPHIC SURVEY (04/03/2012)**

**HARDEE COUNTY LANDFILL**  
**PHASE II SECTION II EXPANSION**  
**CONSTRUCTION DRAWINGS**

REV	DATE	DESCRIPTION	BY
△			
△			
△			
△			

SHANE R. FISHER, P.E.  
LICENSE NO. 58026



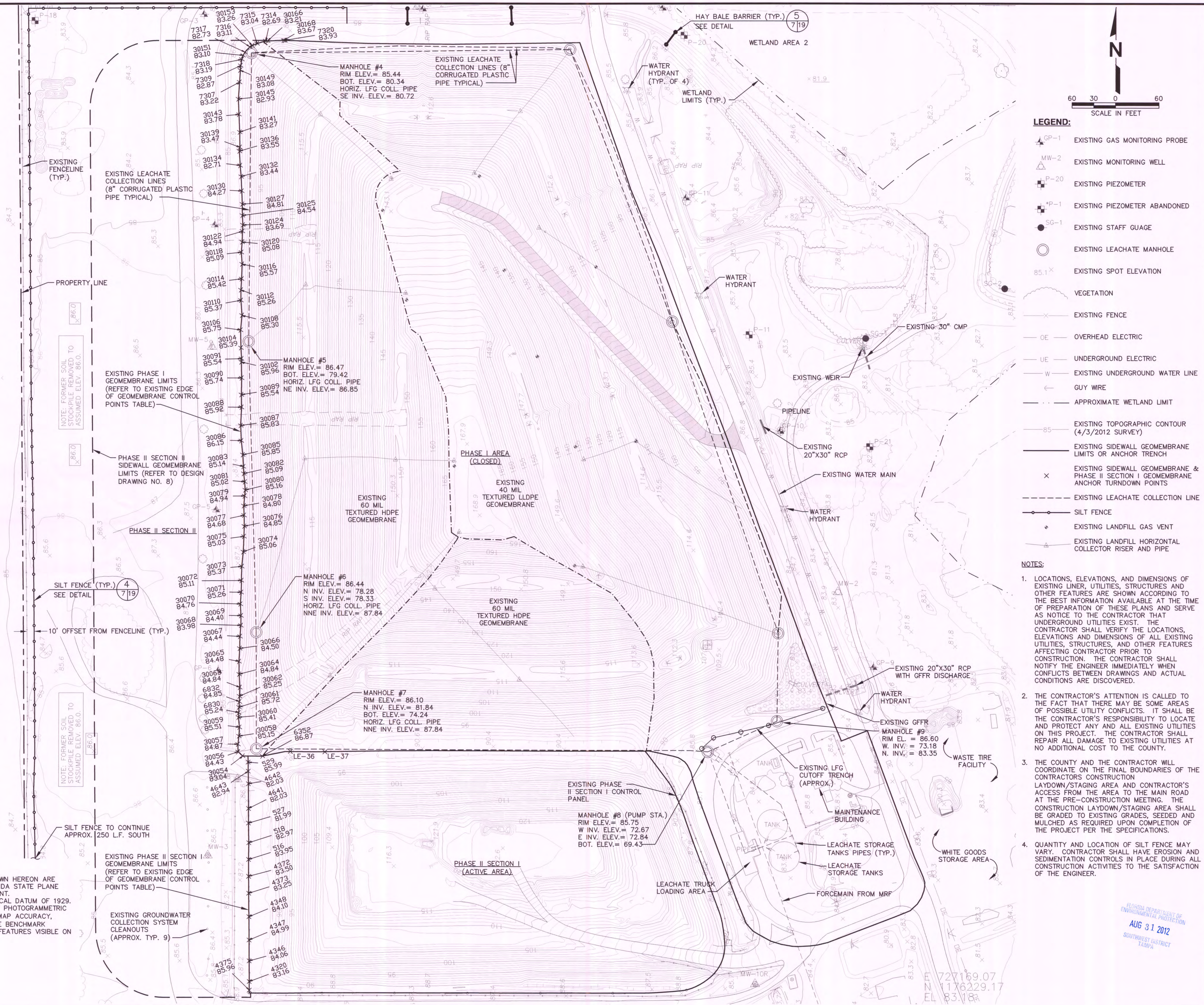
EXISTING EDGE OF GEOMEMBRANE CONTROL POINTS TABLE			
PHASE I			
POINT NO.	NORTHING	EASTING	ELEV.
6352	1766575.36	726268.86	86.87
6830	1766634.79	726236.20	85.24
6832	1766649.88	726237.10	84.85
7307	177500.33	726237.77	83.22
7309	177522.85	726239.30	82.87
7314	177556.67	726273.80	82.69
7315	177553.10	726261.87	83.04
7316	177548.53	726251.95	83.11
7317	177541.37	726425.22	82.73
7318	177531.41	726240.95	83.19
7320	177557.59	726300.26	83.93
30054	1766575.38	726241.81	83.04
30056	1766581.27	726325.48	84.04
30057	1766591.49	726235.30	84.87
30058	1766602.76	726236.60	85.15
30059	1766614.77	726237.30	85.51
30060	1766628.47	726235.87	85.41
30061	1766642.39	726236.69	85.72
30062	1766657.38	726237.30	85.25
30063	1766669.44	726237.66	84.84
30064	1766687.39	726236.72	84.84
30065	176704.83	726236.45	84.48
30066	176722.75	726237.49	84.50
30067	176739.20	726237.86	84.44
30068	176754.36	726239.05	83.98
30069	176767.82	726239.10	84.40
30070	176783.88	726238.34	84.76
30071	176799.90	726239.33	85.26
30072	176816.01	726239.79	85.11
30073	176835.50	726240.34	85.37
30074	176855.30	726242.13	85.06
30075	176876.44	726243.40	85.03
30076	176890.39	726243.84	84.85
30077	176905.67	726243.59	84.68
30078	176918.75	726243.15	84.80
30079	176932.01	726244.23	84.94
30080	176940.16	726245.08	85.16
30081	176951.31	726244.44	85.02
30082	176962.71	726243.15	85.09
30083	176972.29	726242.73	85.14
30085	176988.54	726241.84	85.85
30086	177007.69	726239.81	86.15
30087	177028.58	726238.95	85.83
30088	177053.37	726240.06	85.92
30089	177070.62	726239.89	85.54
30090	177093.55	726240.19	85.74
30091	177120.23	726240.02	85.54
30102	177115.63	726239.77	85.96
30104	177135.28	726239.29	85.39
30106	177159.77	726238.74	85.75
30108	177179.95	726238.76	85.30
30110	177200.53	726239.17	85.37
30112	177214.78	726239.17	85.26
30114	177229.97	726240.17	85.42
30116	177250.11	726240.89	85.57
30118	177266.27	726239.92	85.09
30120	177280.46	726240.91	85.08
30122	177295.20	726241.46	84.94
30124	177303.91	726241.99	83.69
30125	177317.09	726241.37	84.54
30127	177332.62	726241.20	84.81
30130	177350.72	726240.59	84.27
30132	177370.54	726239.80	83.44
30134	177385.65	726238.52	82.71
30136	177405.43	726237.45	83.55
30139	177410.66	726238.10	83.47
30141	177431.42	726237.91	83.27
30143	177455.81	726236.91	83.78
30145	177477.13	726236.14	82.93
30149	177516.56	726238.60	83.08
30151	177536.88	726242.70	83.10
30153	177550.26	726255.13	83.26
30166	177556.78	726276.50	83.21
30168	177557.52	726298.49	83.67
LE-36	176581.89	726237.03	83.89
LE-37	176581.43	726354.95	84.36
PHASE II SECTION I			
POINT NO.	NORTHING	EASTING	ELEV.
516	176433.66	726249.99	83.95
518	176456.87	726250.29	82.97
527	176483.79	726249.81	81.99
529	176567.06	726249.29	85.99
4320	176265.62	726250.98	83.16
4346	176293.94	726250.80	84.06
4347	176322.48	726250.71	84.99
4348	176354.55	726250.49	84.10
4372	176410.37	726250.10	83.50
4373	176386.89	726250.16	83.25
4375	176523.53	726251.00	85.96
4641	176503.68	726249.87	82.03
4642	176537.47	726249.68	82.03
4643	176554.72	726249.44	82.94


SURVEY NOTES

1. NORTH, THE GRID, AND THE COORDINATES SHOWN HEREON ARE REFERENCED TO THE WEST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, 1999 ADJUSTMENT.
2. ELEVATIONS ARE TO NATIONAL GEODETIC VERTICAL DATUM OF 1929.
3. THIS TOPOGRAPHIC SURVEY WAS PREPARED BY PHOTOGRAMMETRIC METHODS. SEE THE SURVEYOR'S REPORT FOR MAP ACCURACY, SURVEYOR'S SIGNATURE, SEAL, AND REFERENCE BENCHMARK INFORMATION. THIS MAP IS LIMITED TO THOSE FEATURES VISIBLE ON AERIAL PHOTOGRAPHY.

SURVEY SOURCE NOTE:

TOPOGRAPHIC SURVEY PERFORMED BY:  
PICKETT & ASSOCIATES, INC.  
475 SOUTH FIRST AVENUE  
BARTOW, FLORIDA 33830  
PHONE: (863) 533-9095  
PHOTO DATE: APRIL 3, 2012.

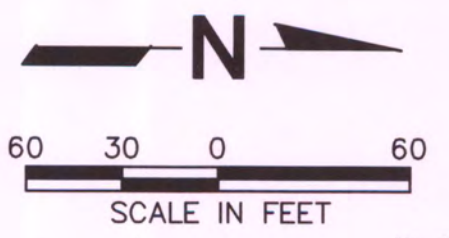
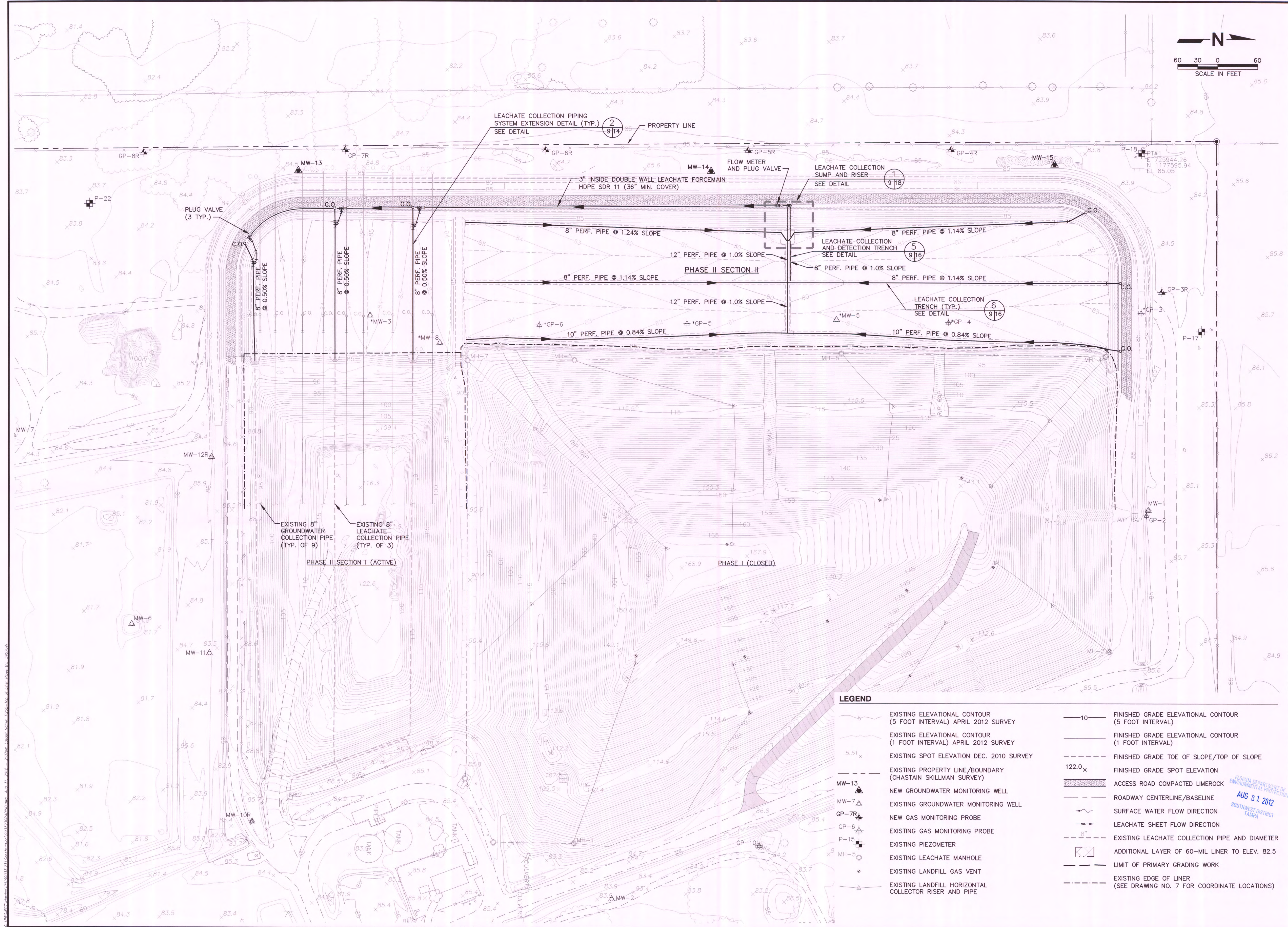


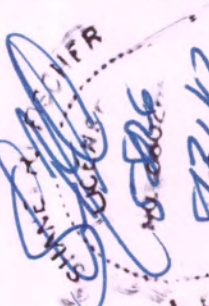
<div>SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610 813 621-0080 FAX 813 623-6757 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892</div> <div><div>PROJ. NO. 99033.23</div><div><div>DWG. BY: SDA</div><div>CHK. BY: SRF</div></div><div><div>C/A REV. BY: CEH</div><div>APP. BY: SRF</div></div></div>	CLIENT		DRAWING TITLE		<div>PROJECT AREA EXISTING CONDITIONS SITE PLAN</div> <div>PROJECT TITLE HARDEE COUNTY LANDFILL PHASE II SECTION II EXPANSION CONSTRUCTION DRAWINGS</div>	<div>REV Δ Δ Δ Δ Δ</div>	<div>DATE     </div>	<div>DESCRIPTION     </div>	<div>BY     </div>	<div></div>
	HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS									
CADD FILE: 993323EXSITE										
DATE: AUGUST 2012										
SCALE: AS SHOWN										
DRAWING NO.										
7 of										



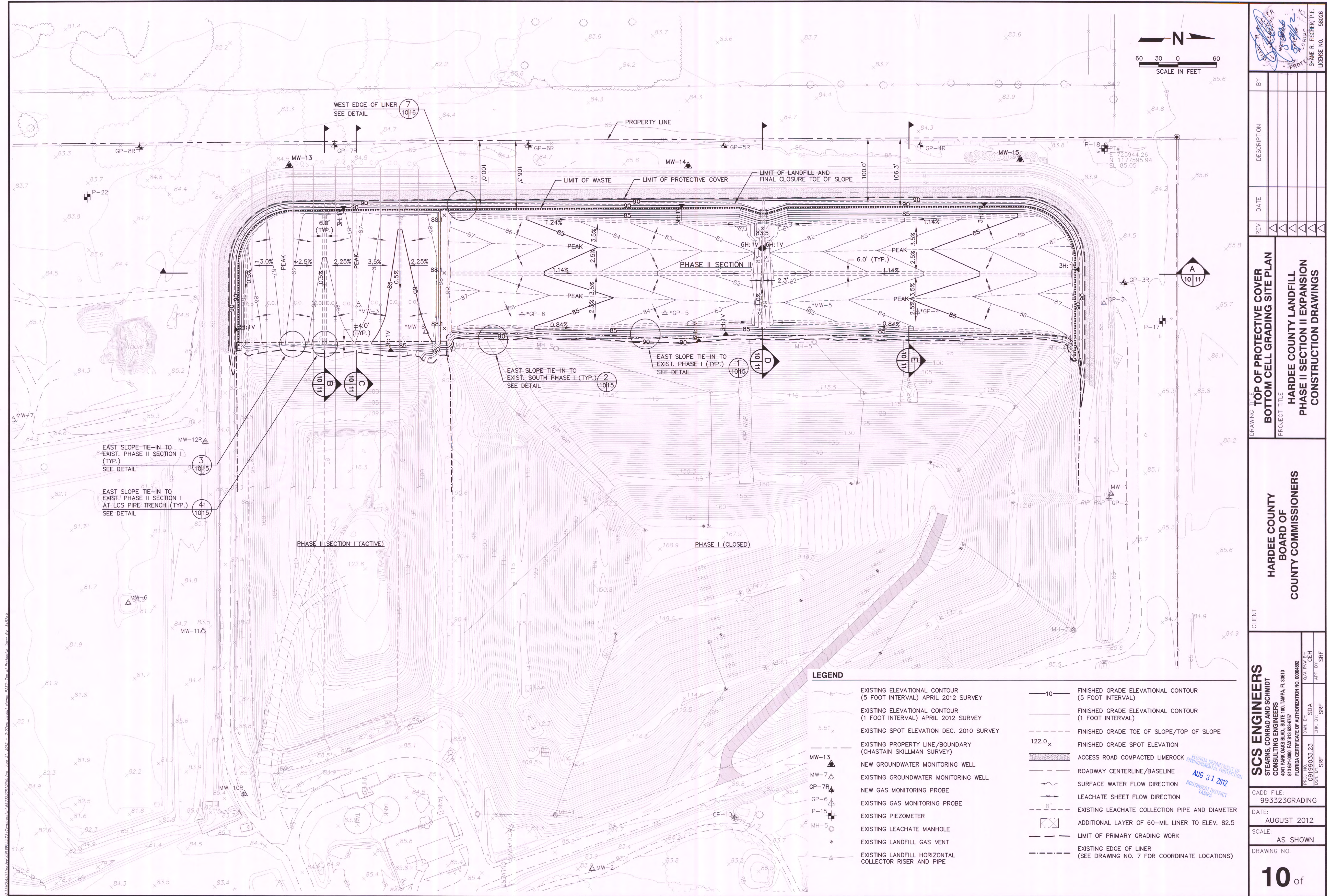






 SHANE R. FISCHER, P.E. LICENSE NO. 58026		BY	DESCRIPTION	DATE	REV
LEACHATE COLLECTION SYSTEM SITE PLAN					
HARDEE COUNTY LANDFILL PHASE II SECTION II EXPANSION CONSTRUCTION DRAWINGS					
HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS					
SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610 813 821-0089 FAX 813 823-6757 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892		CADD FILE: 993323GRADING	DATE: AUGUST 2012	SCALE: AS SHOWN	DRAWING NO. 9 of
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AUG 31 2012 SOUTHWEST DISTRICT TAMPA		PROJ. NO. 09199033.23	OWN. BY SDA	CHK. BY SRF	APP. BY SRF





BY		DESCRIPTION		DATE		REV	
PROJECT TITLE		DRAWING TITLE		CLIENT		CADD FILE:	
HARDEE COUNTY LANDFILL		TOP OF PROTECTIVE COVER		SCS ENGINEERS		DATE:	
PHASE II SECTION II EXPANSION		BOTTOM CELL GRADING SITE PLAN		STEARNS, CONRAD AND SCHMIDT		SCALE:	
CONSTRUCTION DRAWINGS		HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS		CONSULTING ENGINEERS		AS SHOWN	
SHANE R. FISHER, P.E.		COUNTY COMMISSIONERS		4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610		DRAWING NO.	
LICENSE NO. 58026				813 821-0880 FAX 813 823-6757		10 of	
				FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892			
				PROJ. NO. 09199033.23			
				DWN. BY: SDA			
				CHK. BY: SRF			
				APP. BY: SRF			

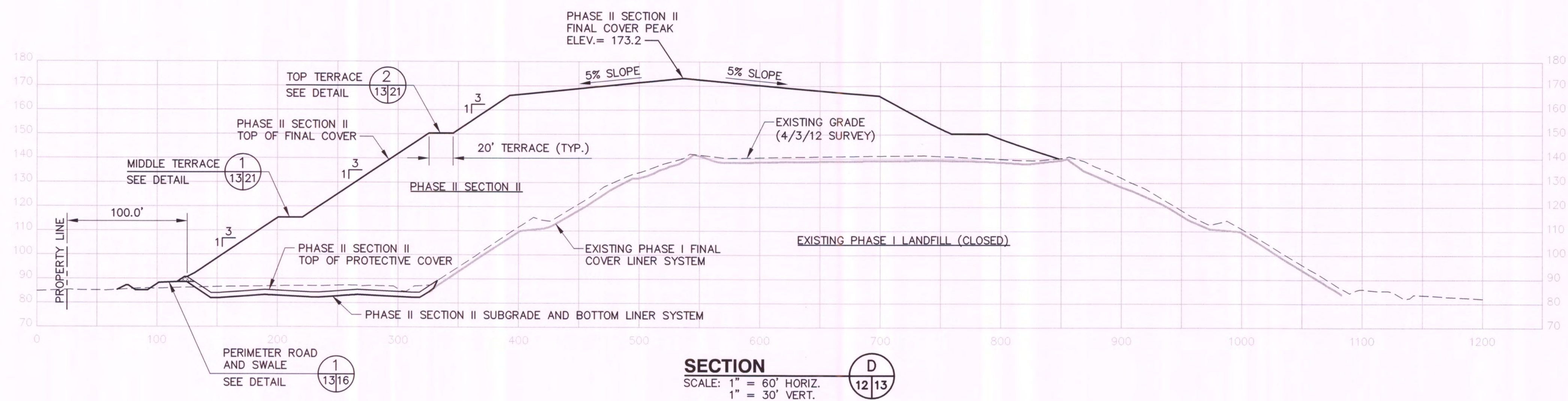
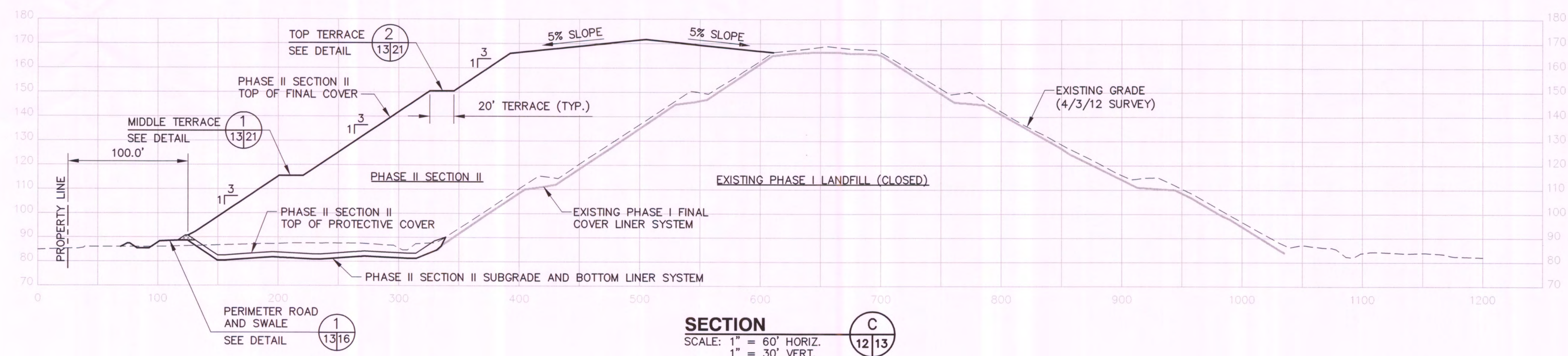
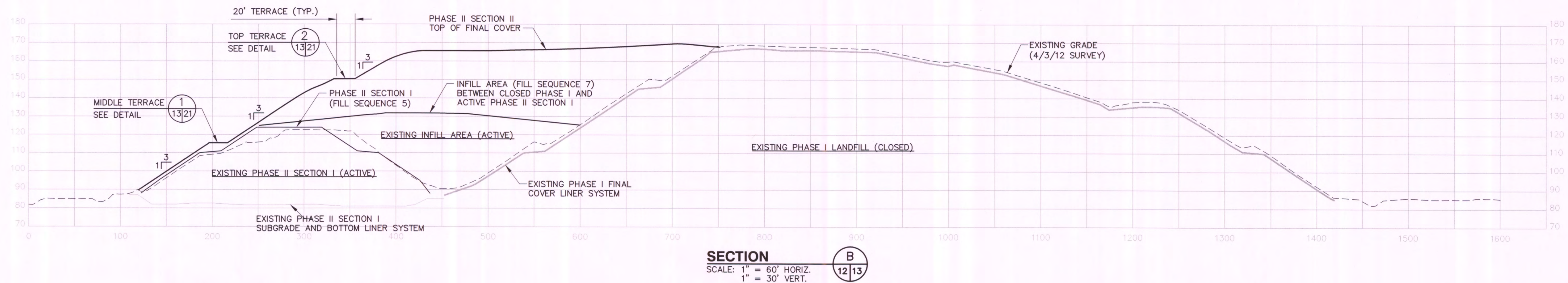
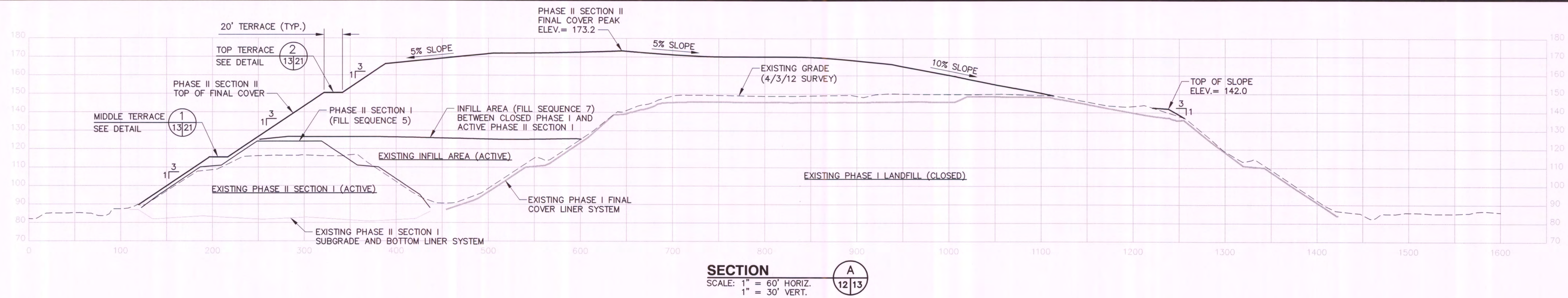










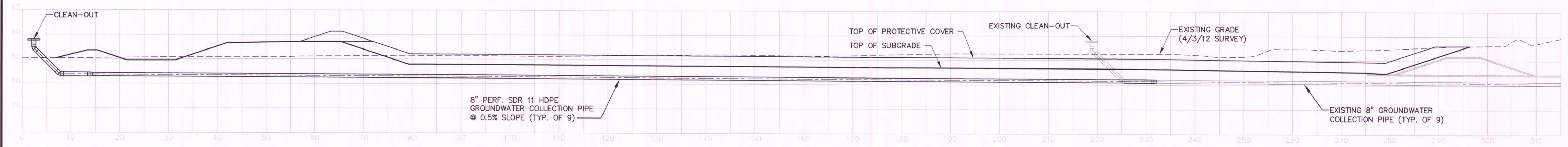


- NOTES:
1. SLOPES SHALL NOT EXCEED 3H:1V AT ANY TIME, AFTER APPLICATION OF COVER SOILS. ALL FINAL SLOPES SHALL CONFORM TO THE DESIGN DIMENSIONS, SLOPES, AND ELEVATIONS.
  2. NOTE.

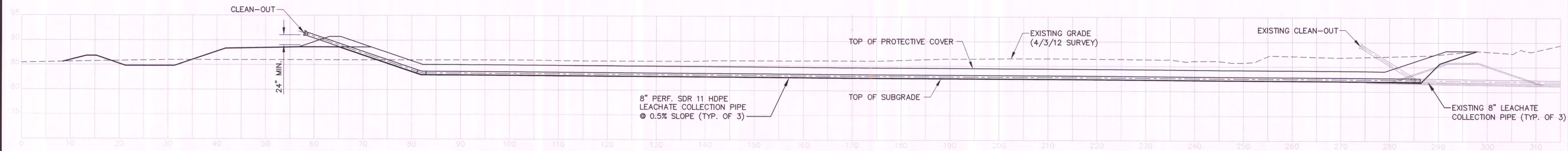
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AUG 31 2012  
SOUTHWEST DISTRICT TAMPA

BY	
DESCRIPTION	
DATE	
REV	
<b>SECTIONS - FINAL CLOSURE</b> <b>HARDEE COUNTY LANDFILL</b> <b>PHASE II SECTION II EXPANSION</b> <b>CONSTRUCTION DRAWINGS</b>	
<b>HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS</b>	
<b>CLIENT</b>	
<b>SCS ENGINEERS</b> STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610 813 821-0080 FAX 813 823-6787 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892 PROJ. NO. 0919033.2.3 DWN. BY: SDA CHK. BY: SRF APP. BY: SRF	
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<b>13 of</b>	

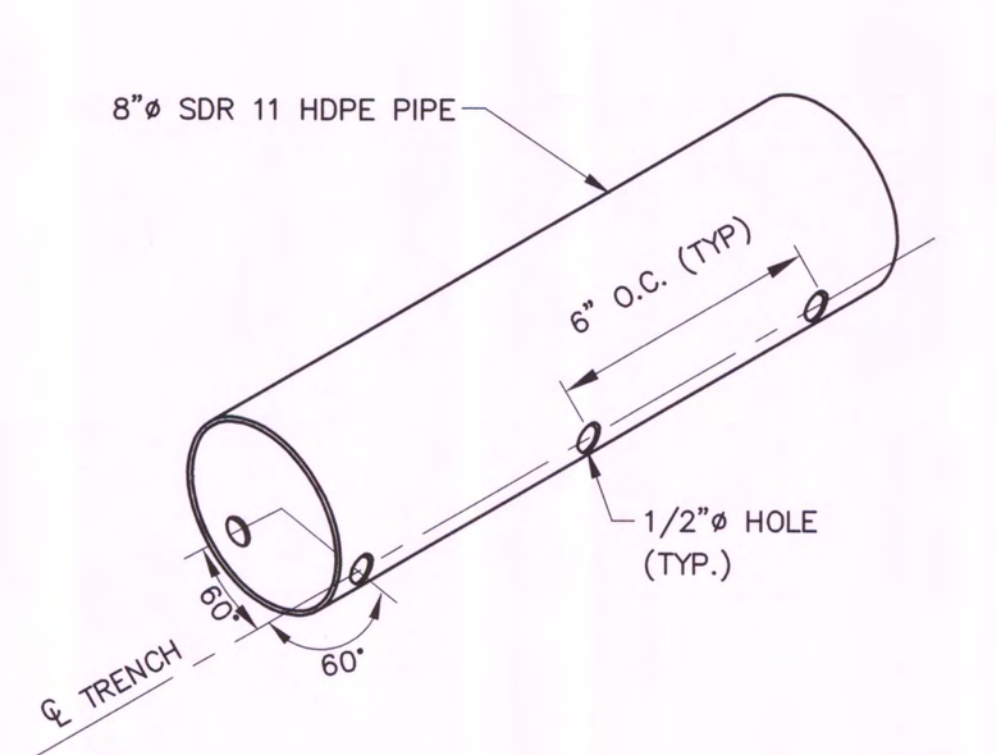




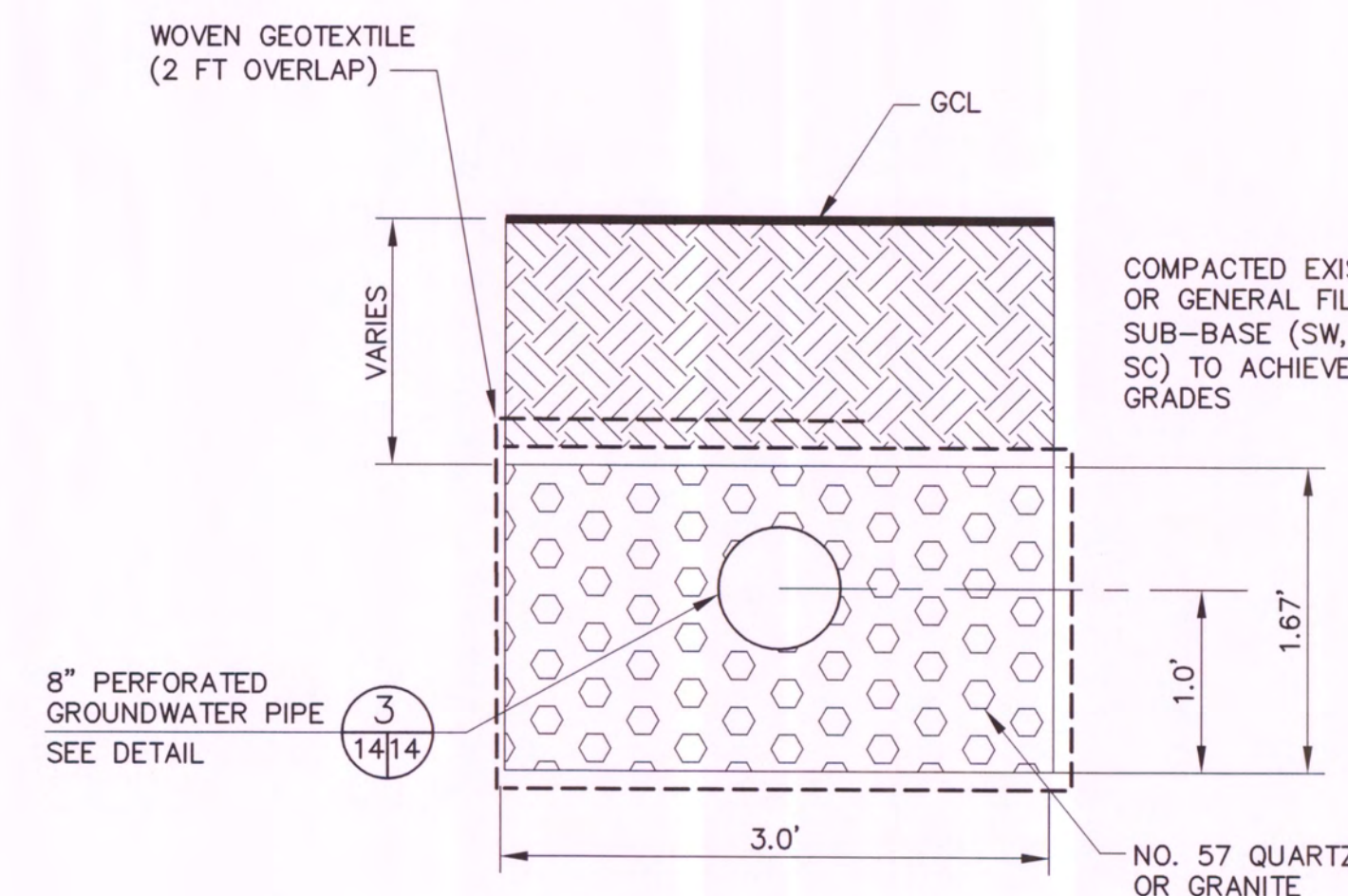
**GROUNDWATER CONTROL  
PIPING SYSTEM DETAIL (TYP.)** 1  
SCALE: 1" = 10' 8/14



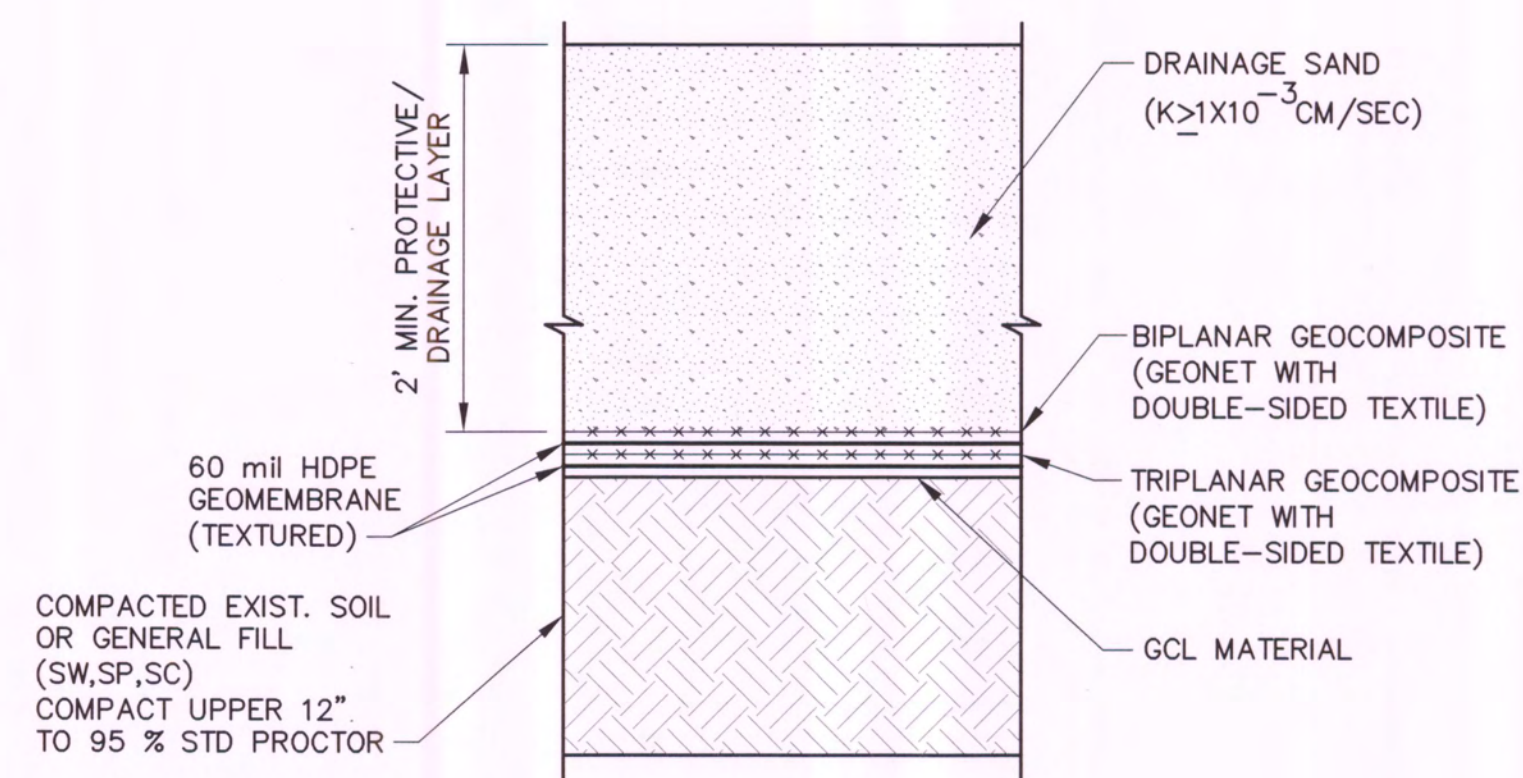
**LEACHATE COLLECTION PIPING  
SYSTEM EXTENSION DETAIL (TYP.)** 2  
SCALE: 1" = 10' 9/14



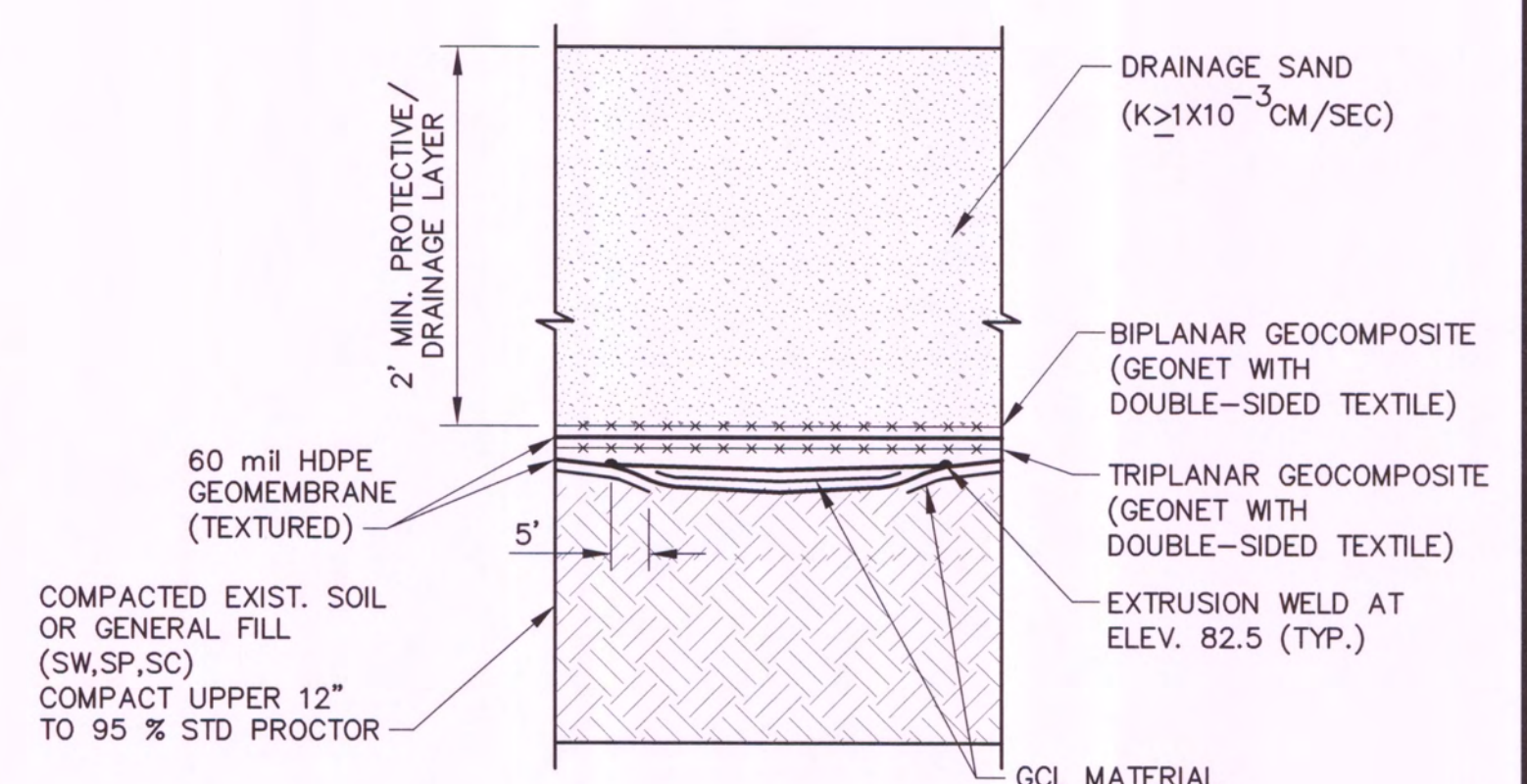
**8\"/>**



**GROUNDWATER PIPE TRENCH DETAIL** 4  
SCALE: 1" = 4' 8/14



**BOTTOM LINER SYSTEM DETAIL** 5  
NOT TO SCALE 8/14



**BOTTOM LINER SYSTEM WITH  
ADDL. LAYER OF 60-MIL LINER DETAIL** 6  
NOT TO SCALE 8/14

SHANE R. FISCHER, P.E.  
LICENSE NO. 58026

REV	DATE	DESCRIPTION	BY
1			
2			
3			
4			
5			

**PIPING DETAILS - BOTTOM CELL**  
PROJECT TITLE  
**HARDEE COUNTY LANDFILL  
PHASE II SECTION II EXPANSION  
CONSTRUCTION DRAWINGS**

**HARDEE COUNTY  
BOARD OF  
COUNTY COMMISSIONERS**

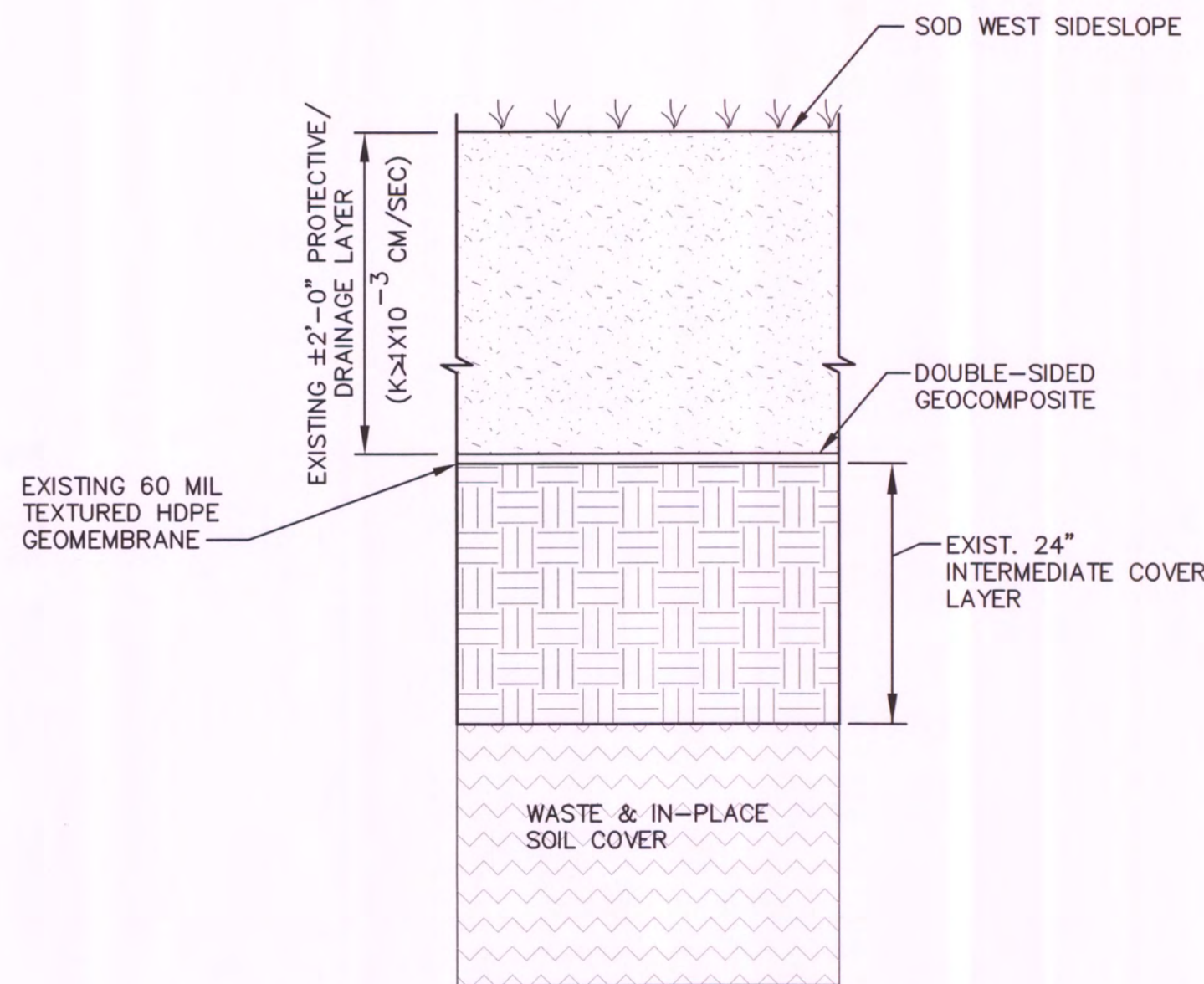
**SCS ENGINEERS**  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS  
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610  
813 821-0080 FAX 813 823-6757  
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892  
PROJ. NO. 09199033.23  
DWN. BY: SDA  
CHK. BY: SRF  
APP. BY: CEH  
SRF

CADD FILE:  
993323SECTIONS1  
DATE:  
AUGUST 2012  
SCALE:  
AS SHOWN  
DRAWING NO.

**14** of

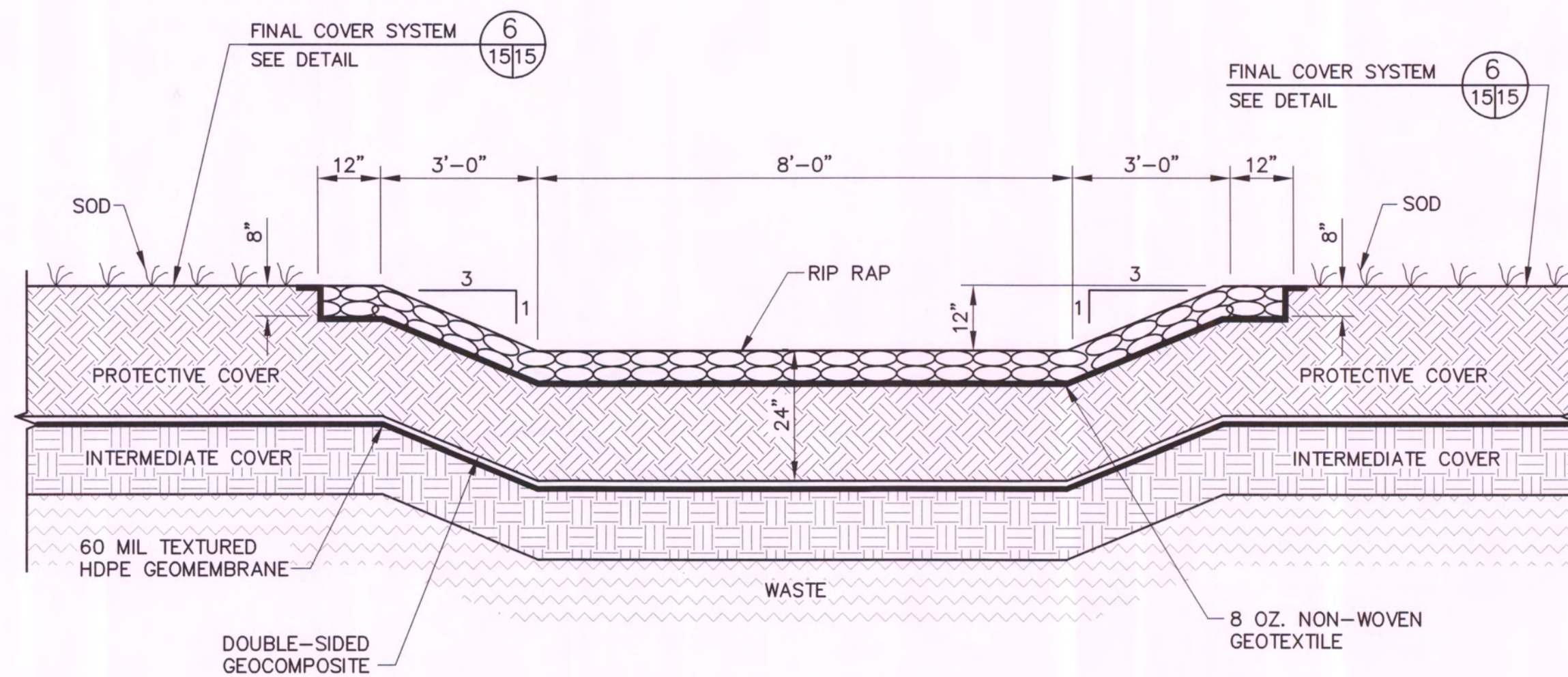
FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
AUG 31 2012  
SOUTHWEST DISTRICT  
TAMPA





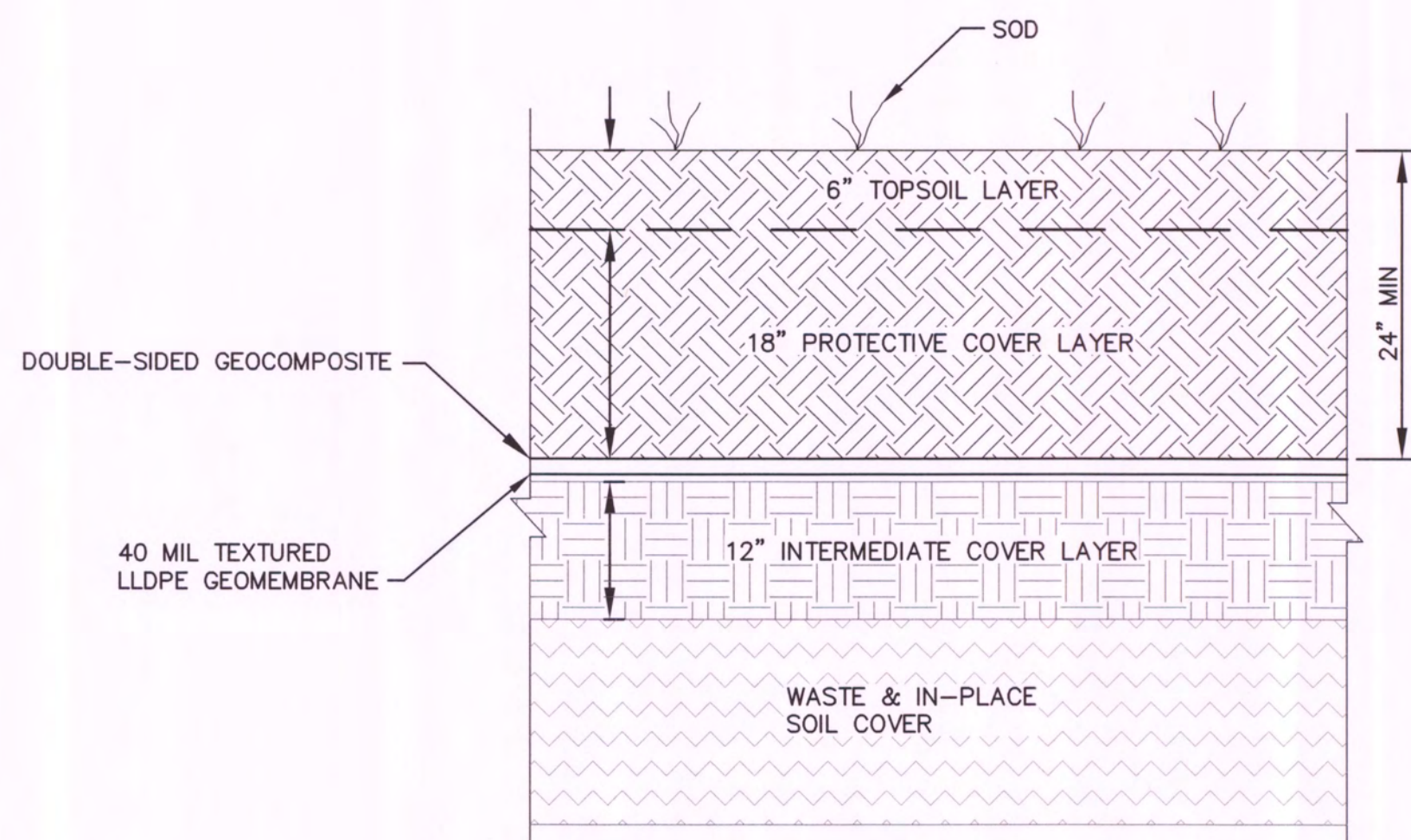
**EXISTING PHASE I WEST SIDESLOPE COVER AND LINER SYSTEM DETAIL**  
NOT TO SCALE

5  
8/15



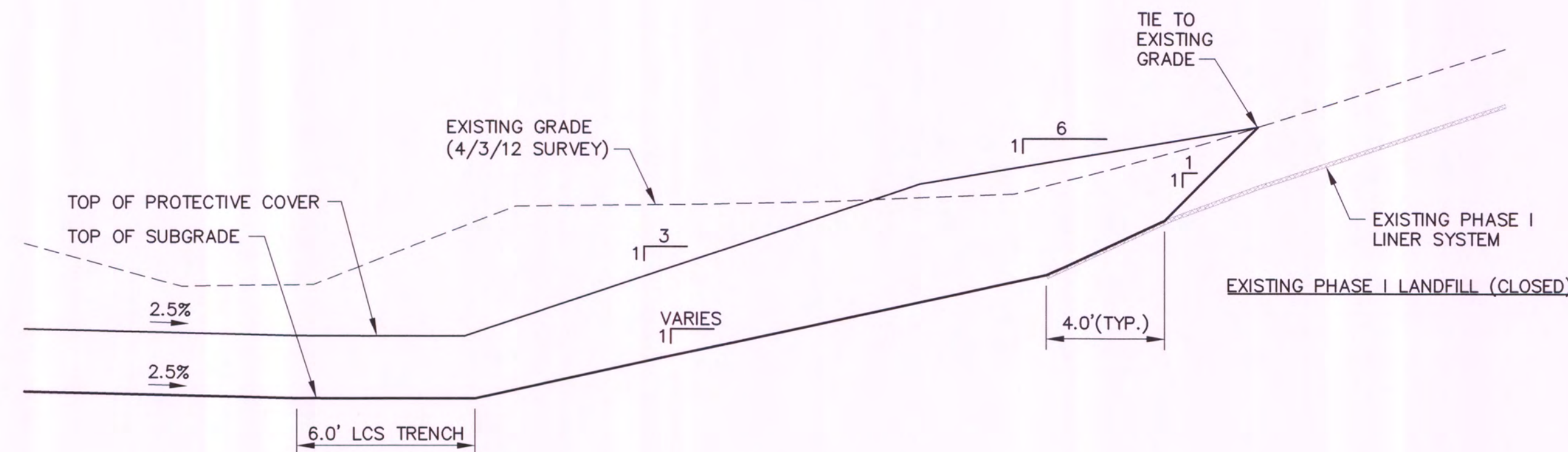
**EXISTING PHASE I TEMPORARY STORMWATER FLUME DETAIL**  
SCALE: 1" = 2'-0"

6  
8/15



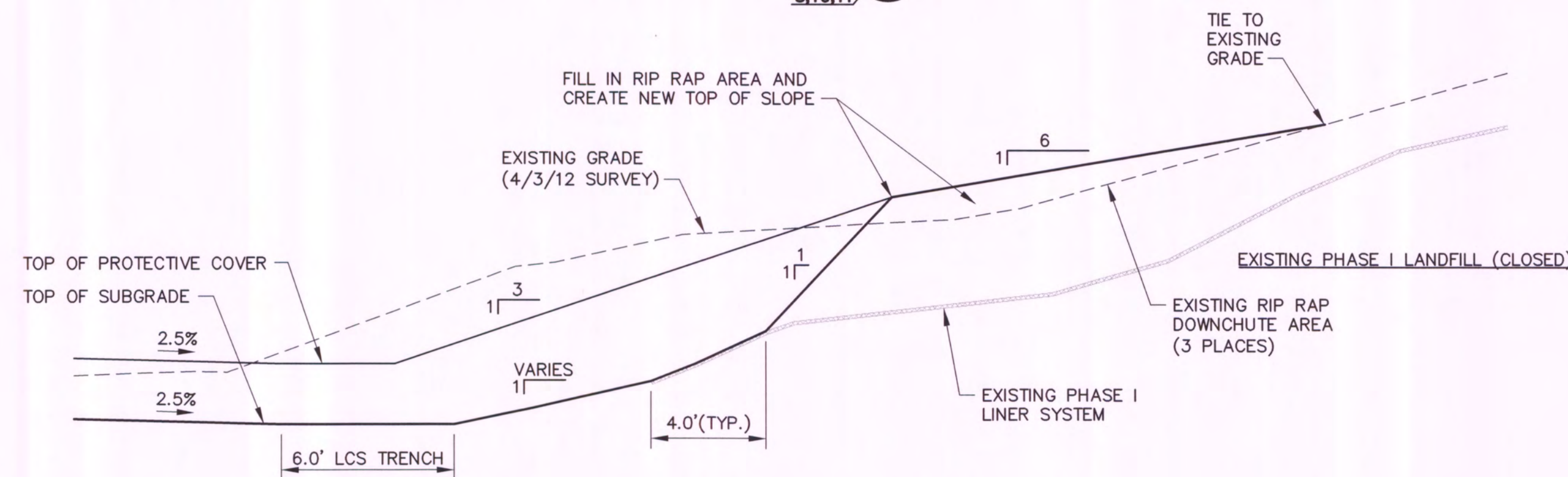
**PHASE II SECTION II FINAL COVER SYSTEM DETAIL**  
NOT TO SCALE

7  
12/15



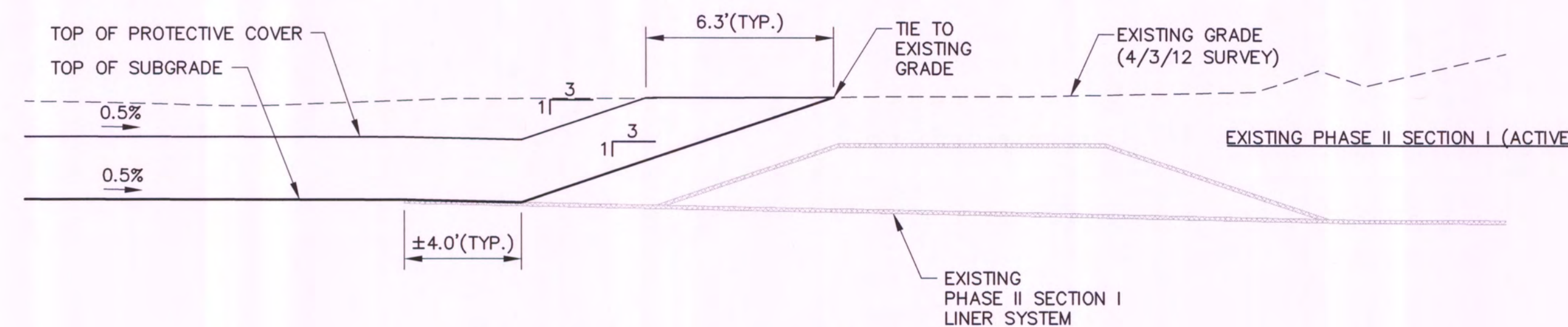
**EAST SLOPE TIE-IN TO EXIST. PHASE I (TYP.)**  
SCALE: 1" = 4'

1  
8.10.11 15



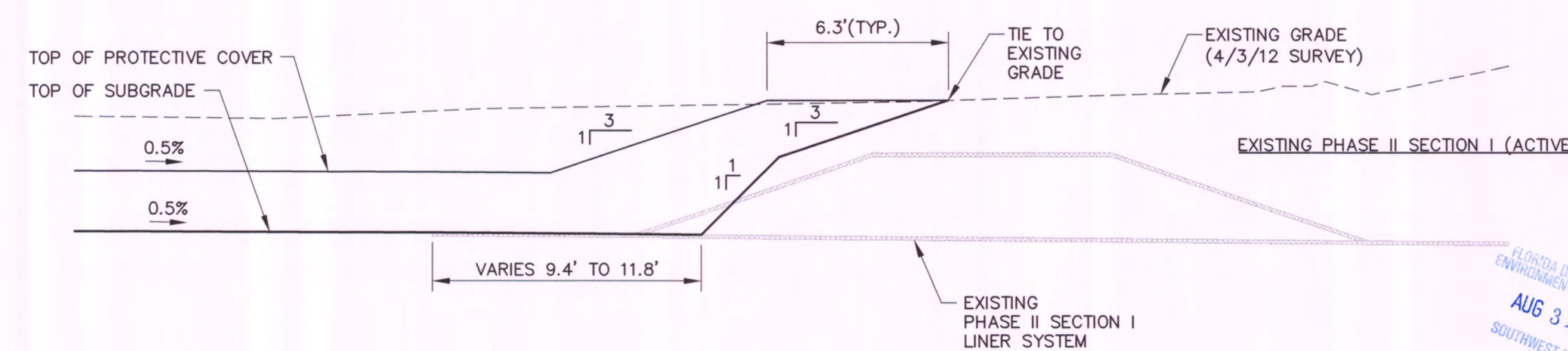
**EAST SLOPE TIE-IN TO EXIST. SOUTH PHASE I**  
SCALE: 1" = 4'

2  
8.10.11 15



**EAST SLOPE TIE-IN TO EXIST. PHASE II SECTION I (TYP.)**  
SCALE: 1" = 4'

3  
8.10.11 15



**EAST SLOPE TIE-IN TO EXIST. PHASE II SECTION I AT LCS PIPE TRENCH (TYP.)**  
SCALE: 1" = 4'

4  
8.10.11 15

BY  
DESCRIPTION  
DATE  
REV

DRAWING TITLE  
**TIE-IN DETAILS - BOTTOM CELL**

PROJECT TITLE  
**HARDEE COUNTY LANDFILL  
PHASE II SECTION II EXPANSION  
CONSTRUCTION DRAWINGS**

CLIENT  
**HARDEE COUNTY  
BOARD OF  
COUNTY COMMISSIONERS**

**SCS ENGINEERS**  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS  
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610  
813 821-0080 FAX 813 823-6757  
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892  
PROJ. NO. 09199033.2.3  
DWN. BY: SDA  
CHK. BY: SRF  
APP. BY: SRF

CADD FILE:  
993323SECTIONS1

DATE:  
AUGUST 2012

SCALE:  
AS SHOWN

DRAWING NO.

**15** of

FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
AUG 31 2012  
SOUTHWEST DISTRICT  
TAMPA

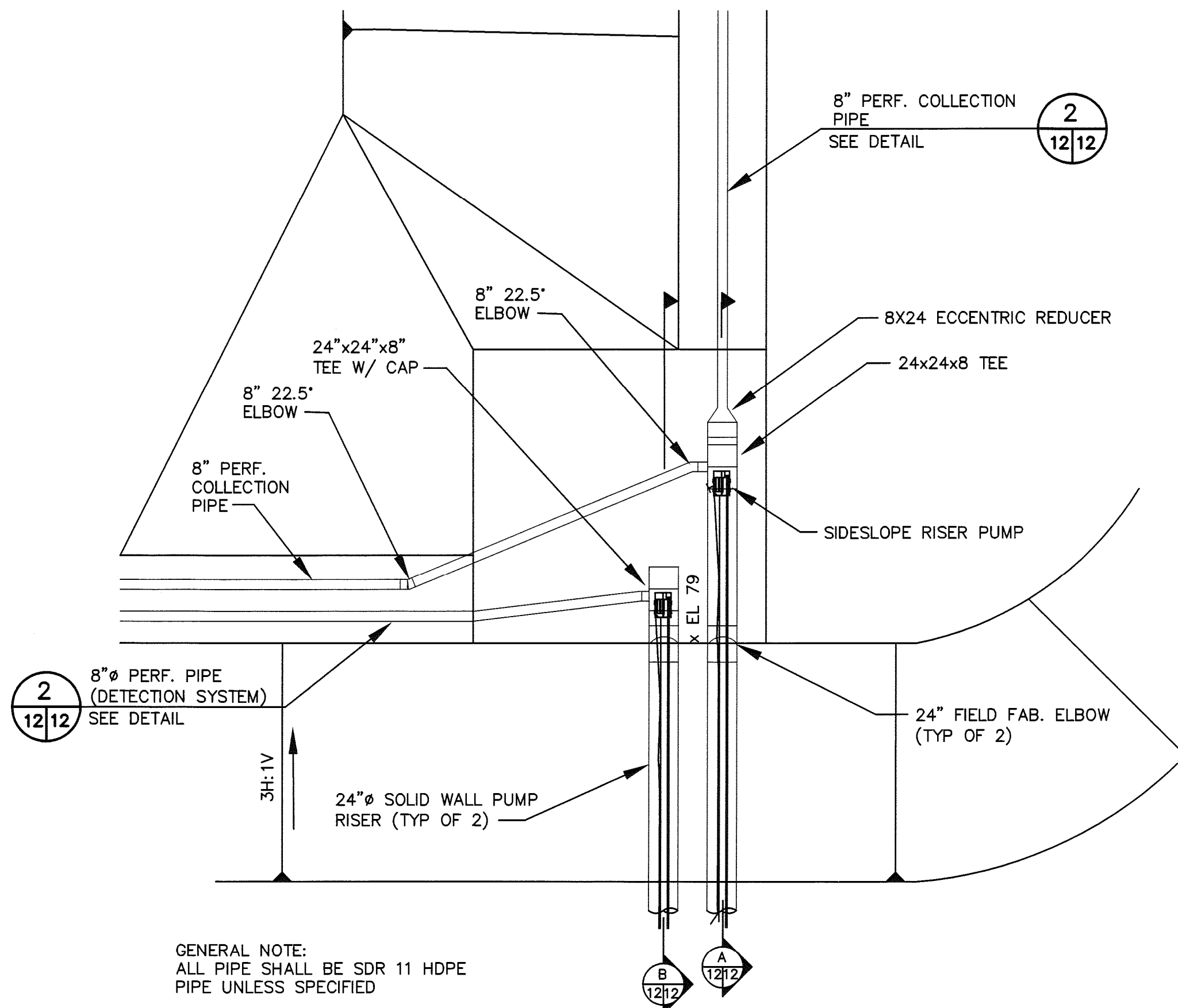




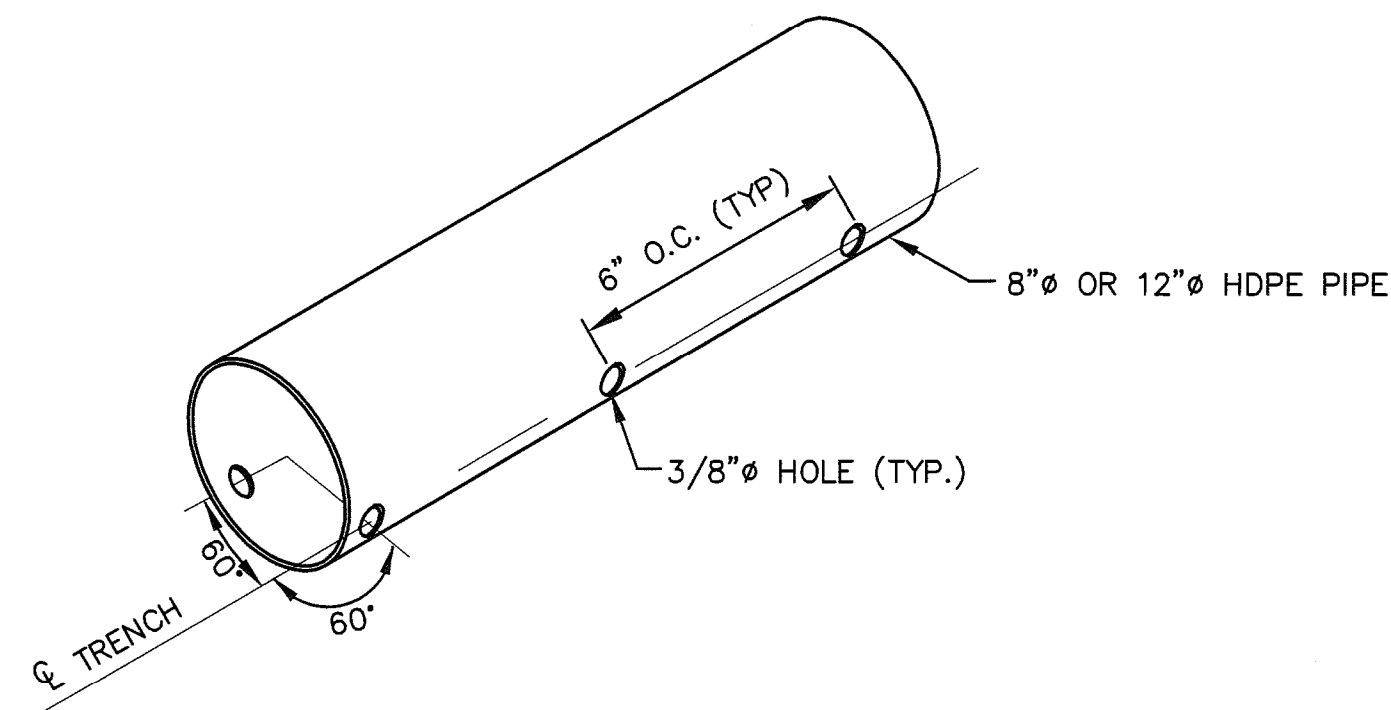






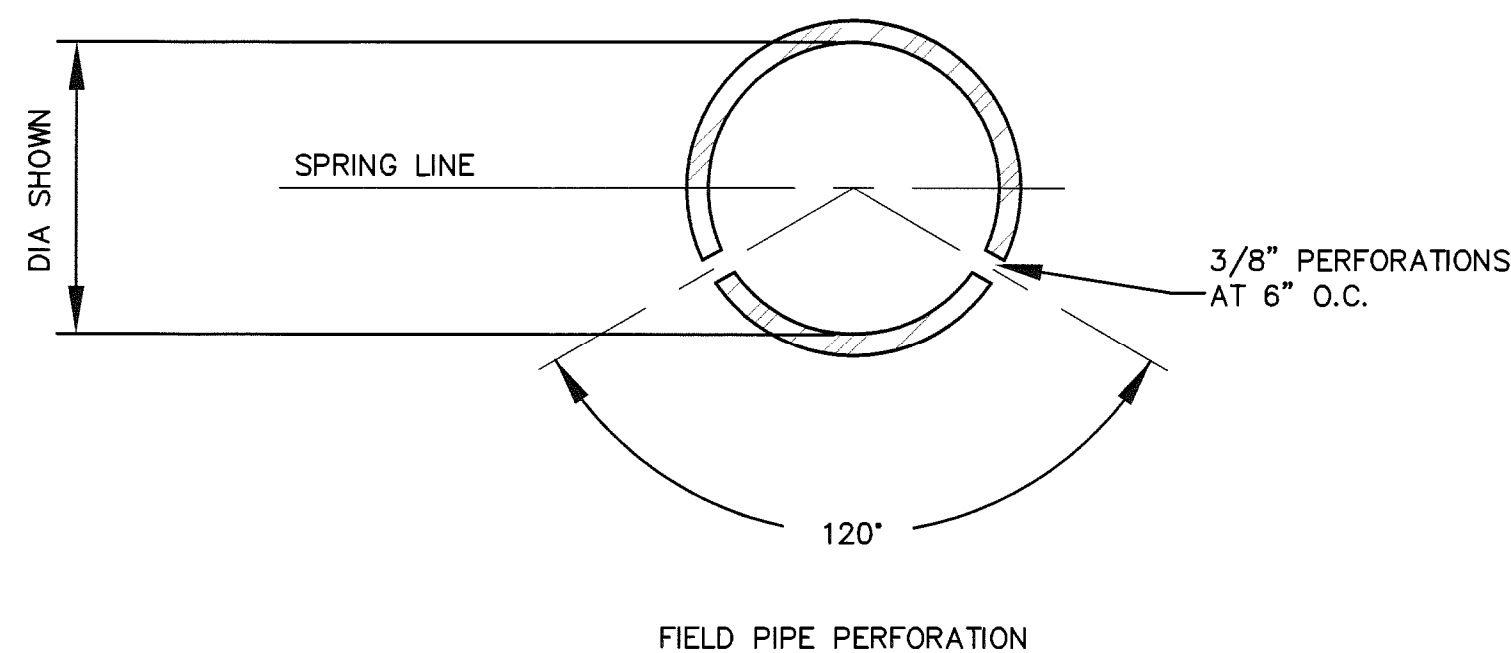


**LEACHATE SUMP AND RISER DETAIL**  
NOT TO SCALE

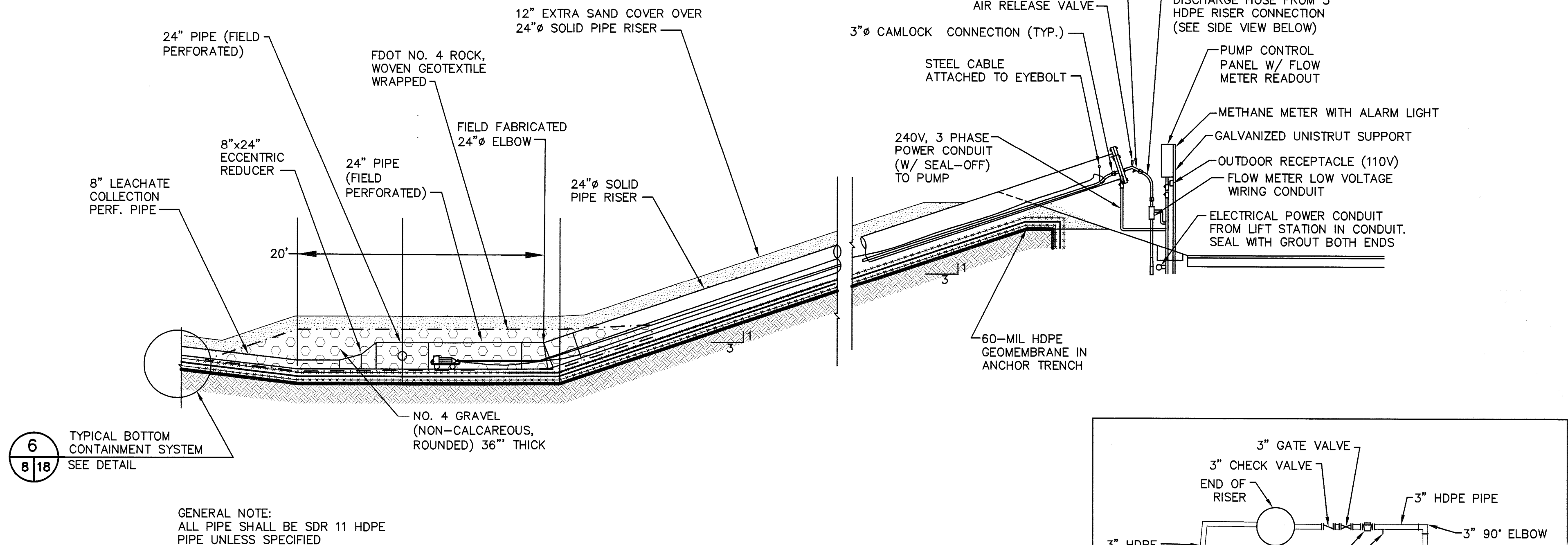


- NOTES:**
1. CONTRACTOR SHALL PLACE PERFORATED PIPE AS SHOWN (HOLES TOWARDS BOTTOM OF TRENCH).
  2. PIPE SHALL HAVE SIX PERFORATIONS FOR EVERY ONE FOOT OF PIPE.

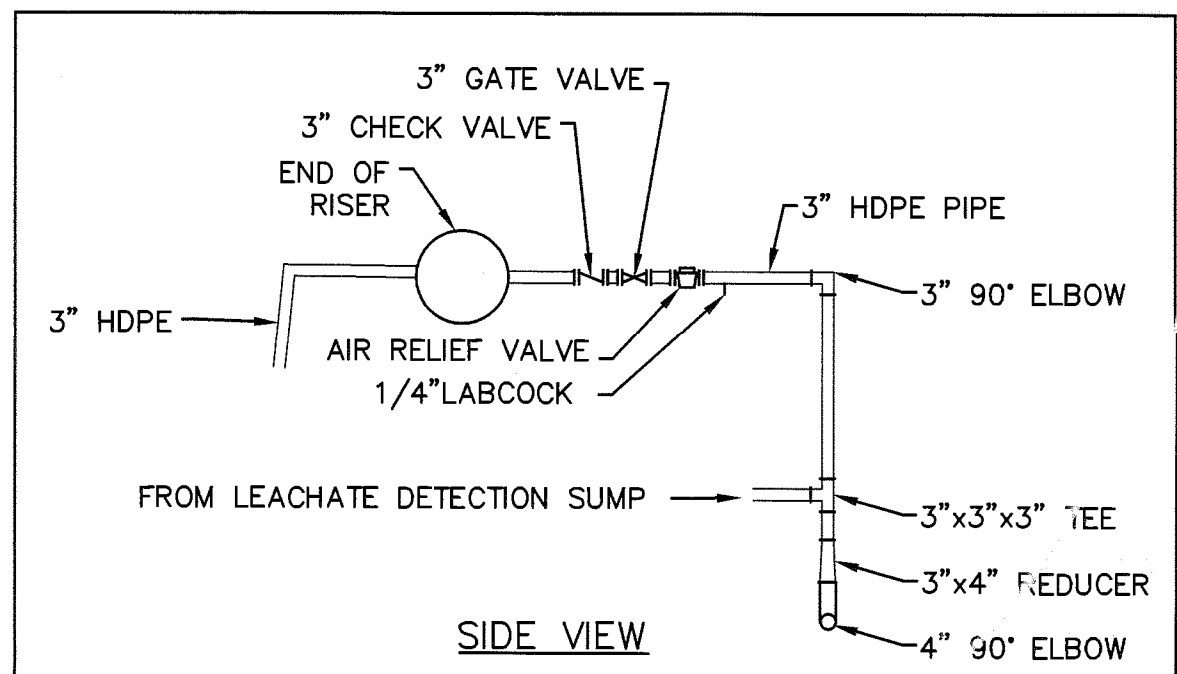
**COLLECTION/DETECTION PIPE PERFORATION DETAIL**  
NOT TO SCALE



**FIELD PERF. PIPE DETAIL**  
NOT TO SCALE



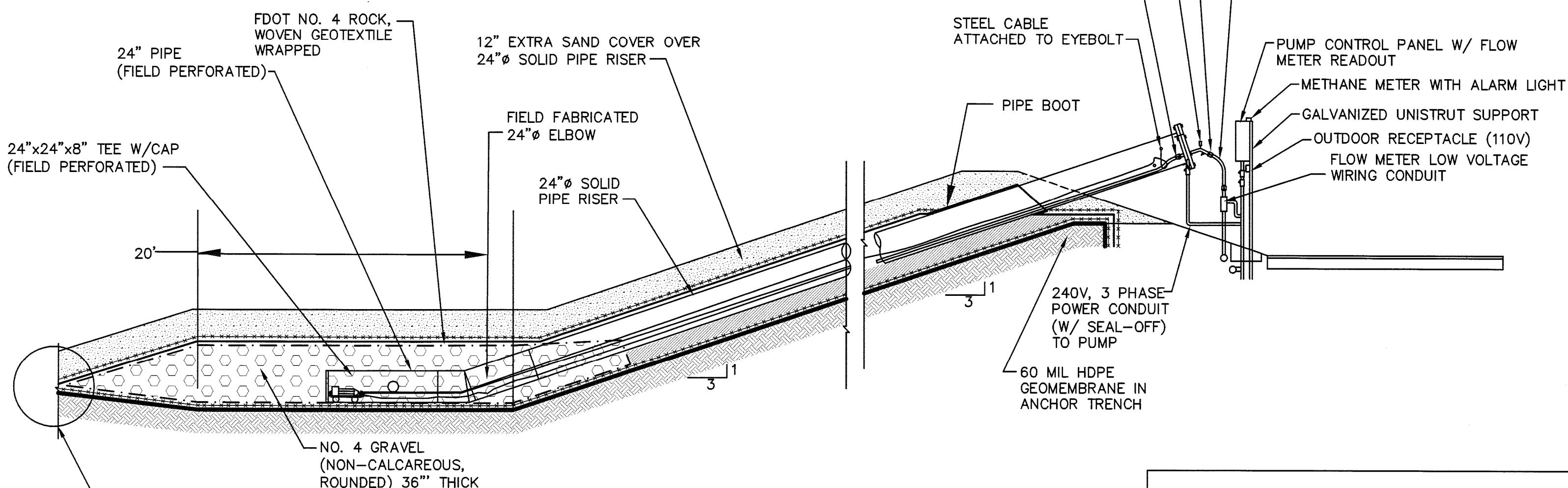
**LEACHATE COLLECTION PUMPING SECTION**  
NOT TO SCALE



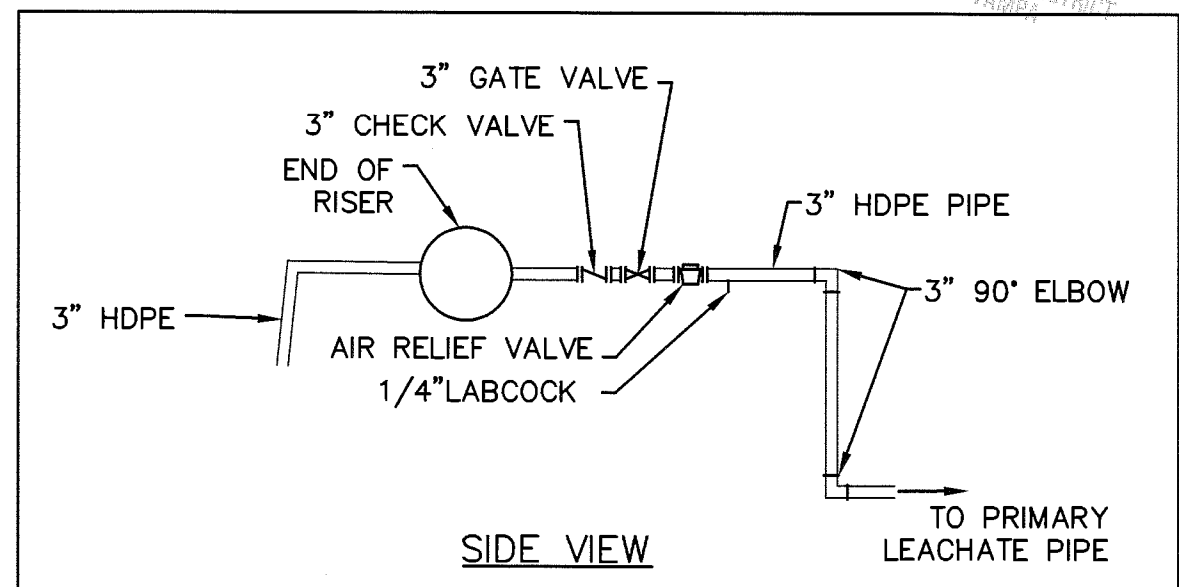
**6**  
**8/18**

**6**  
**8/18**

GENERAL NOTE:  
ALL PIPE SHALL BE SDR 11 HDPE  
PIPE UNLESS SPECIFIED



**LEACHATE DETECTION PUMPING SECTION**  
NOT TO SCALE



**DETAILS - 1**  
**HARDEE COUNTY LANDFILL**  
**PHASE II SECTION II EXPANSION**  
**CONSTRUCTION DRAWINGS**

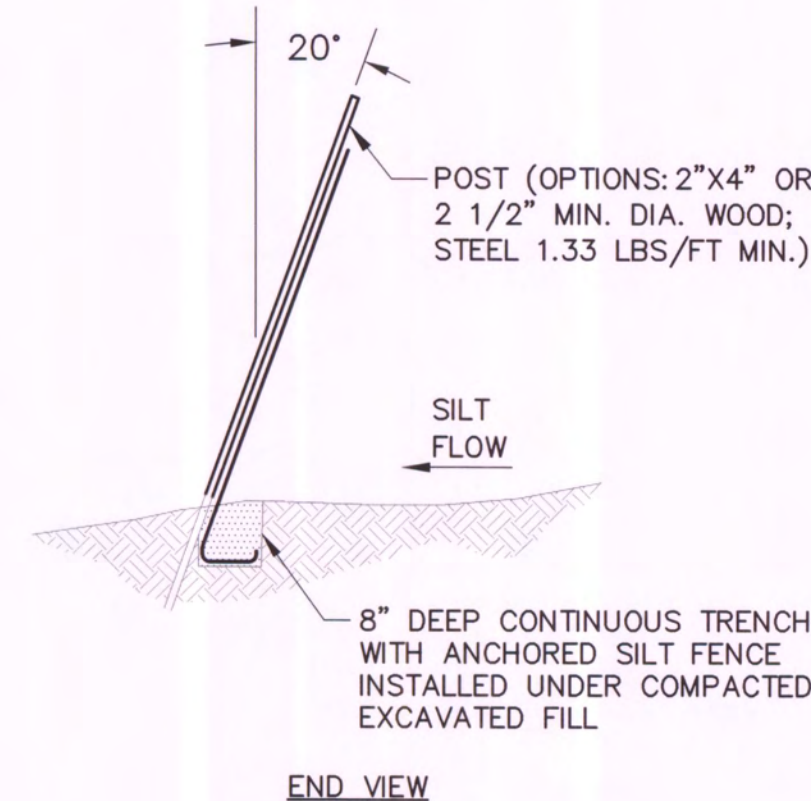
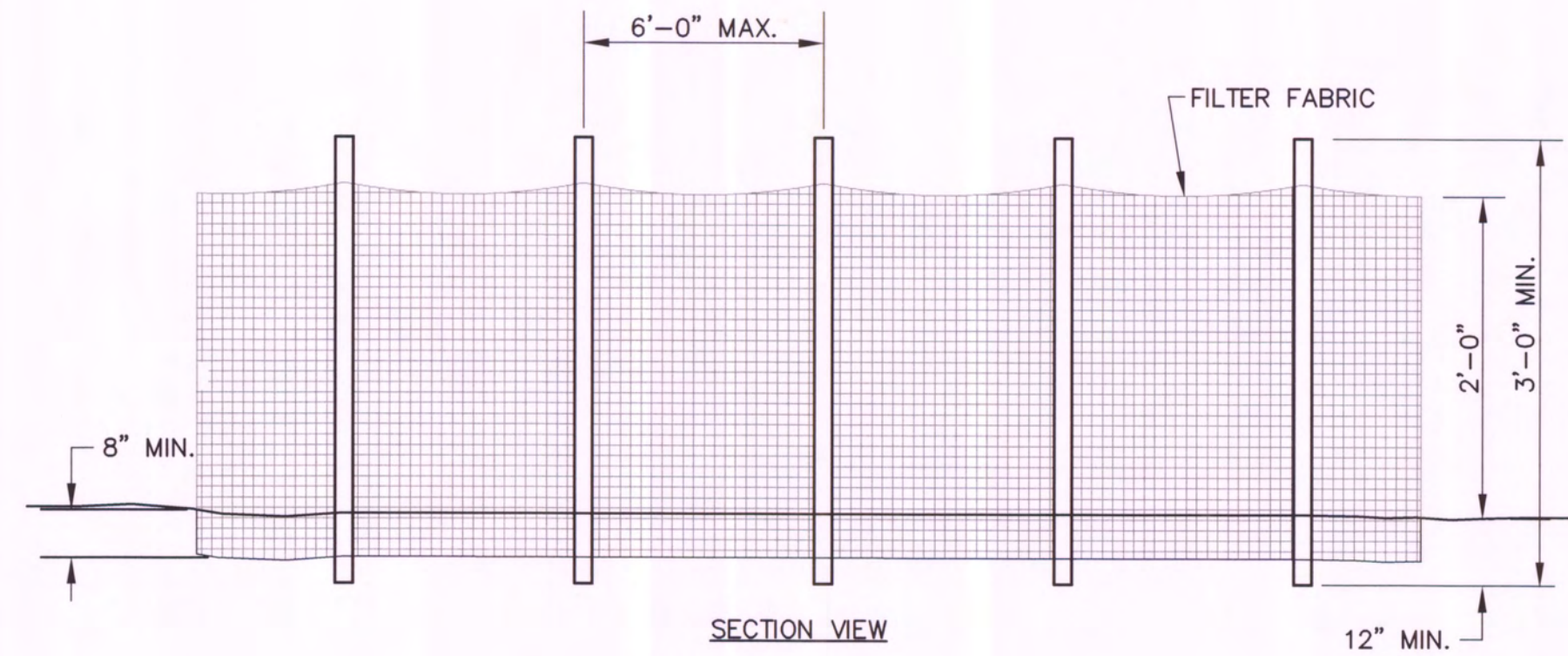
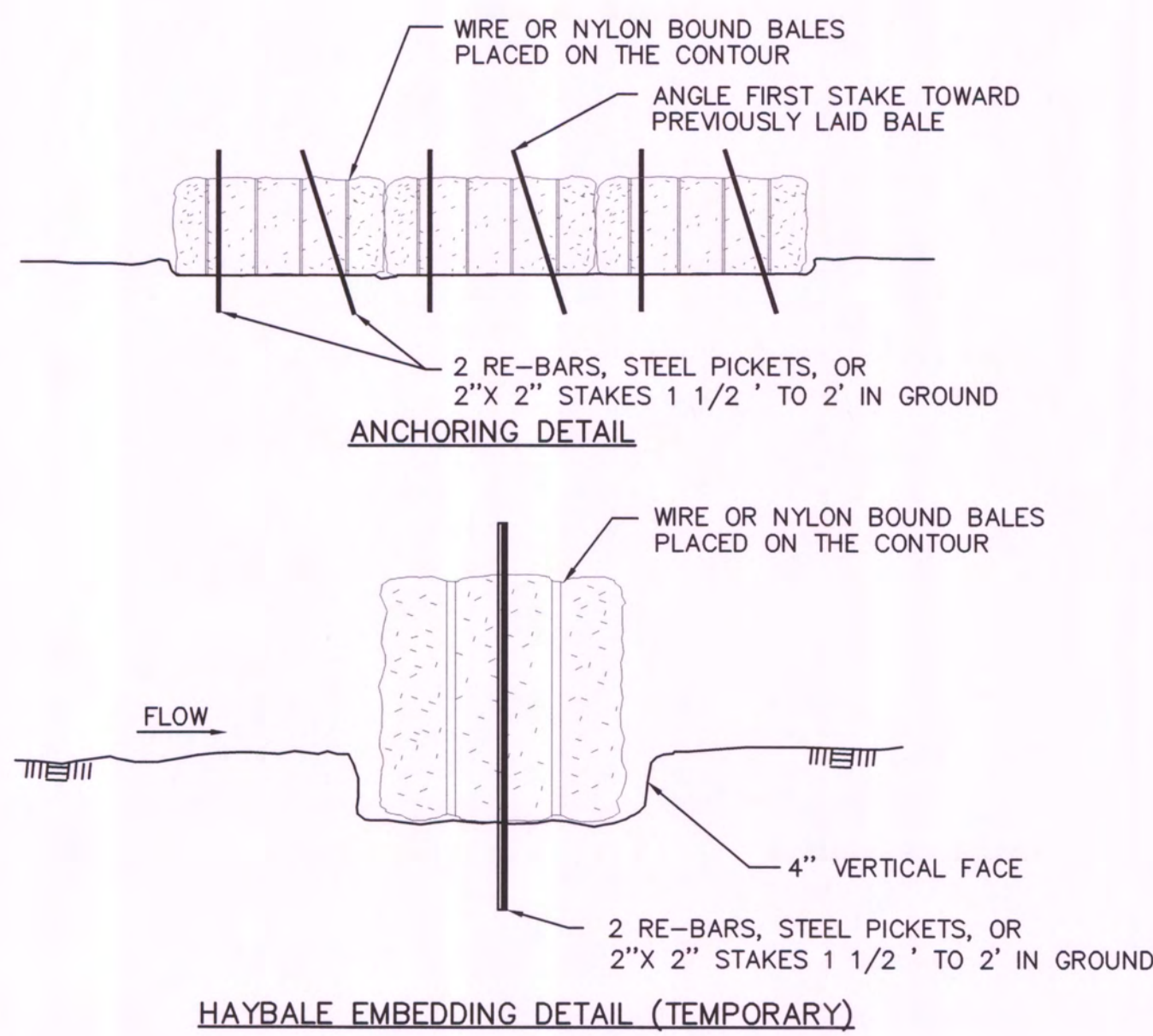
**HARDEE COUNTY**  
**BOARD OF**  
**COUNTY COMMISSIONERS**

**SCS ENGINEERS**  
STEARN, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS  
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610  
813 821 0080 FAX 813 823 8757  
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892  
PROJ. NO. 09190333-23  
OWN. BY SDA  
CHK. BY SRF  
APP. BY SRF

CADD FILE:  
993323DETAILS7  
DATE:  
AUGUST 2012  
SCALE:  
AS SHOWN  
DRAWING NO.

**18** of





**TYPE III FDOT SILT FENCE BARRIER DETAIL**

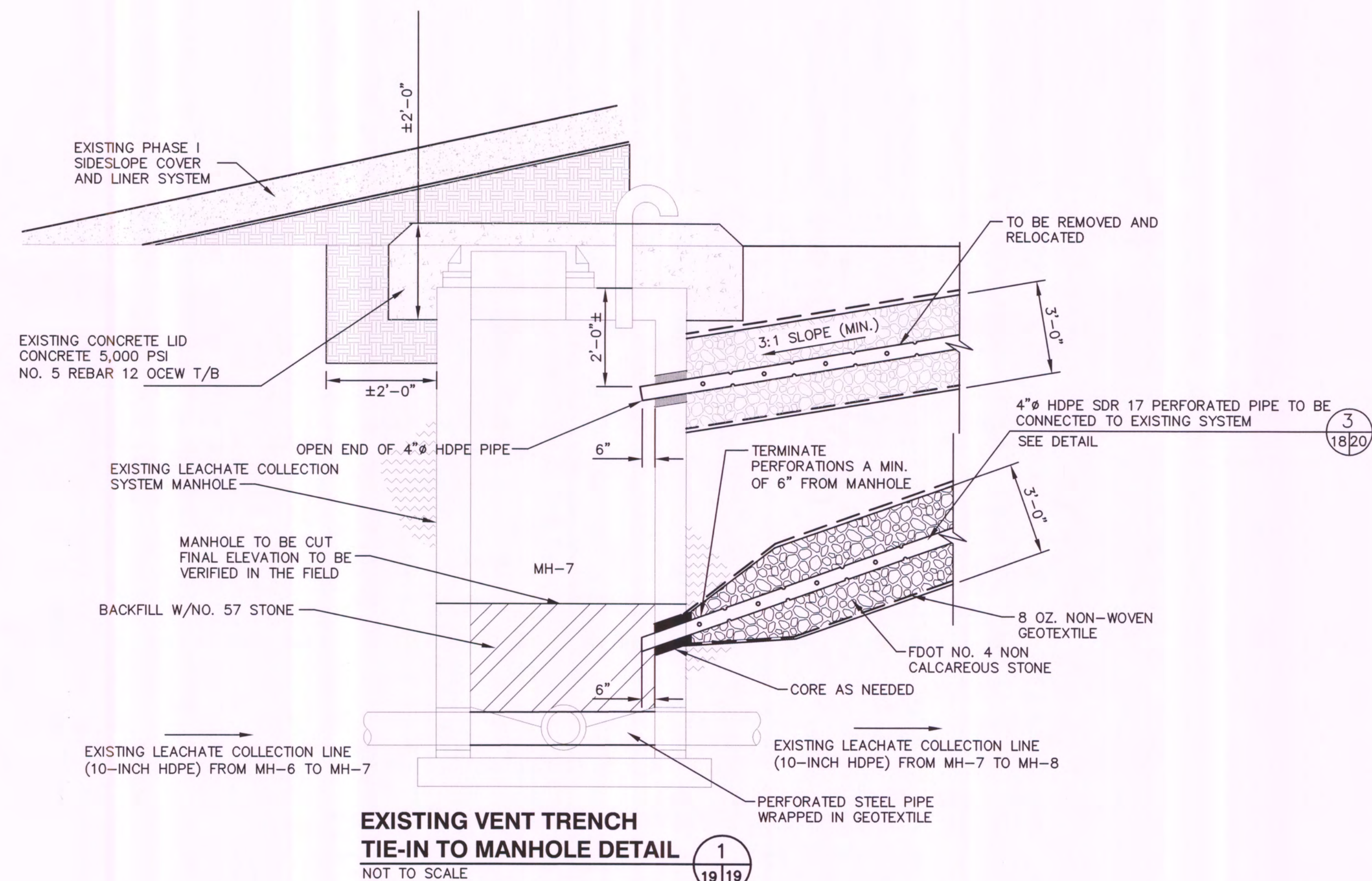
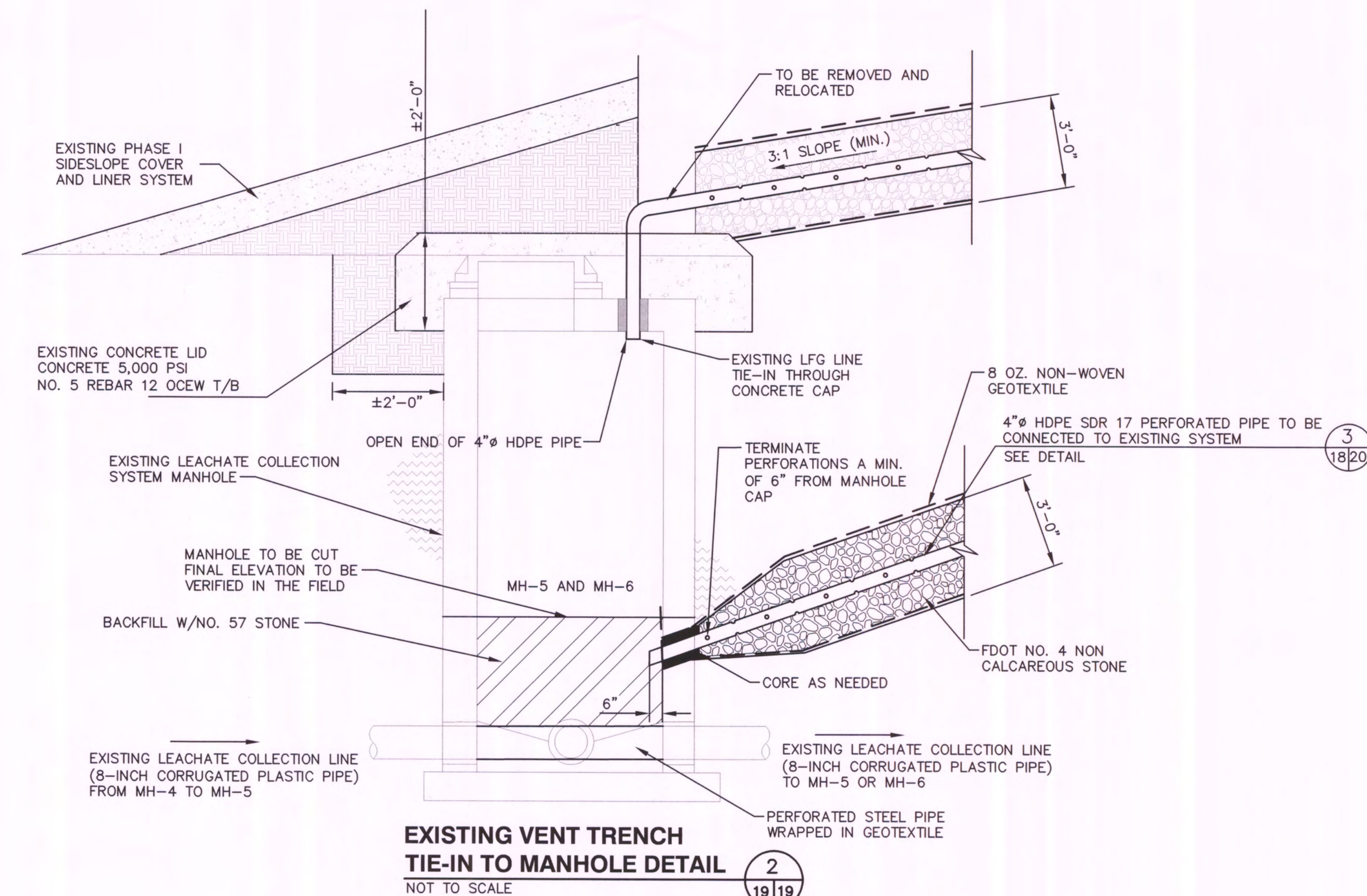
NOT TO SCALE

4  
7/19

**HAY BALE BARRIER DETAIL**

NOT TO SCALE

5  
7/19



BY: [Signature]  
DESCRIPTION: [Blank]  
DATE: [Blank]  
REV: [Blank]

SHANE R. FISHER, P.E.  
LICENSE NO. 58026

**DETAILS - 2**

**HARDEE COUNTY LANDFILL  
PHASE II SECTION II EXPANSION  
CONSTRUCTION DRAWINGS**

**HARDEE COUNTY  
BOARD OF  
COUNTY COMMISSIONERS**

**SCS ENGINEERS**  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS  
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610  
813 821-0080 FAX 813 823-6797  
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892

PROJ. NO. 0919033.23  
DWN. BY: SDA  
CHK. BY: SRF

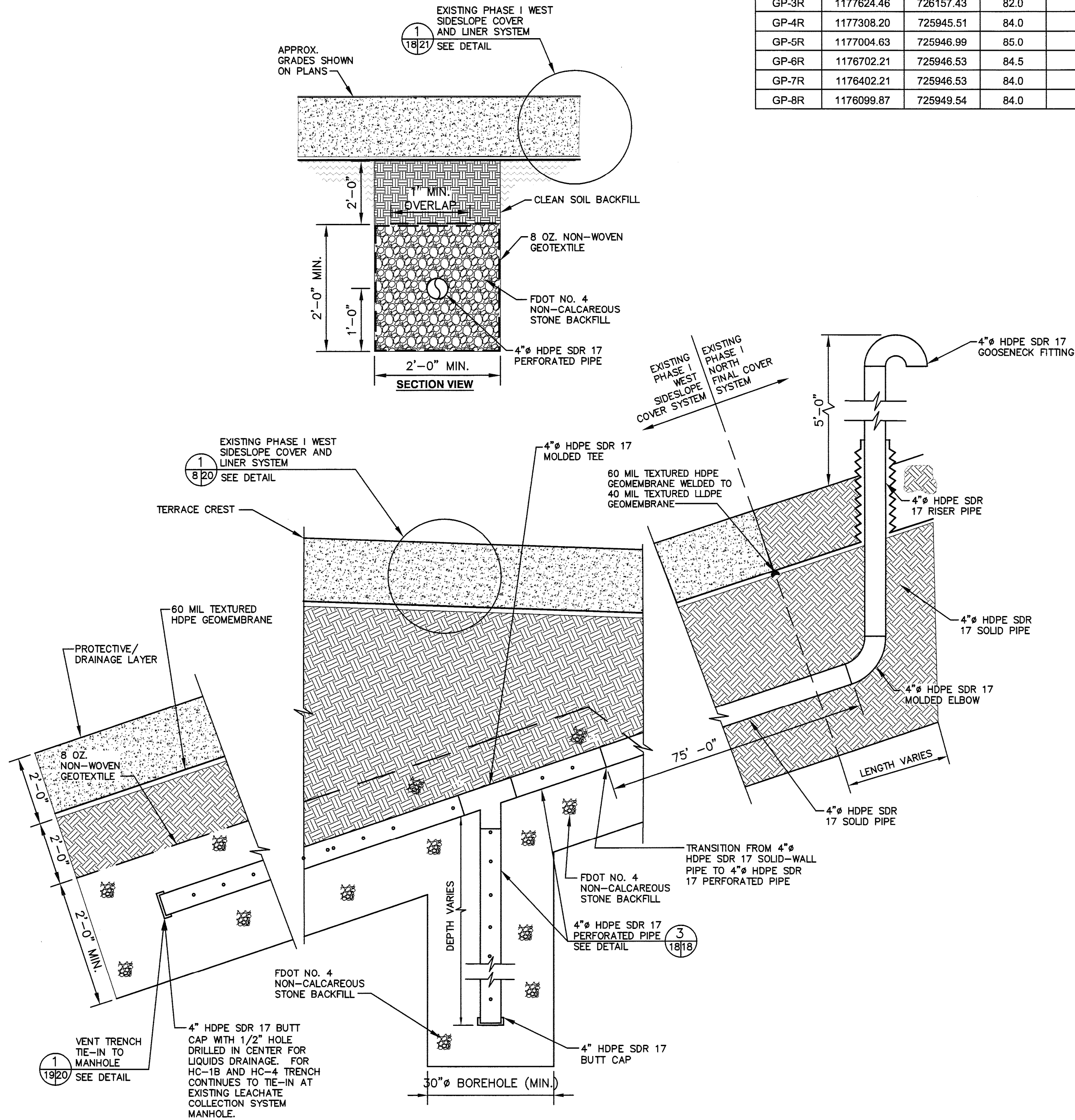
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DATE: AUGUST 2012  
SCALE: AS SHOWN  
DRAWING NO.

FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
AUG 31 2012  
SOUTHWEST DISTRICT  
TAMPA

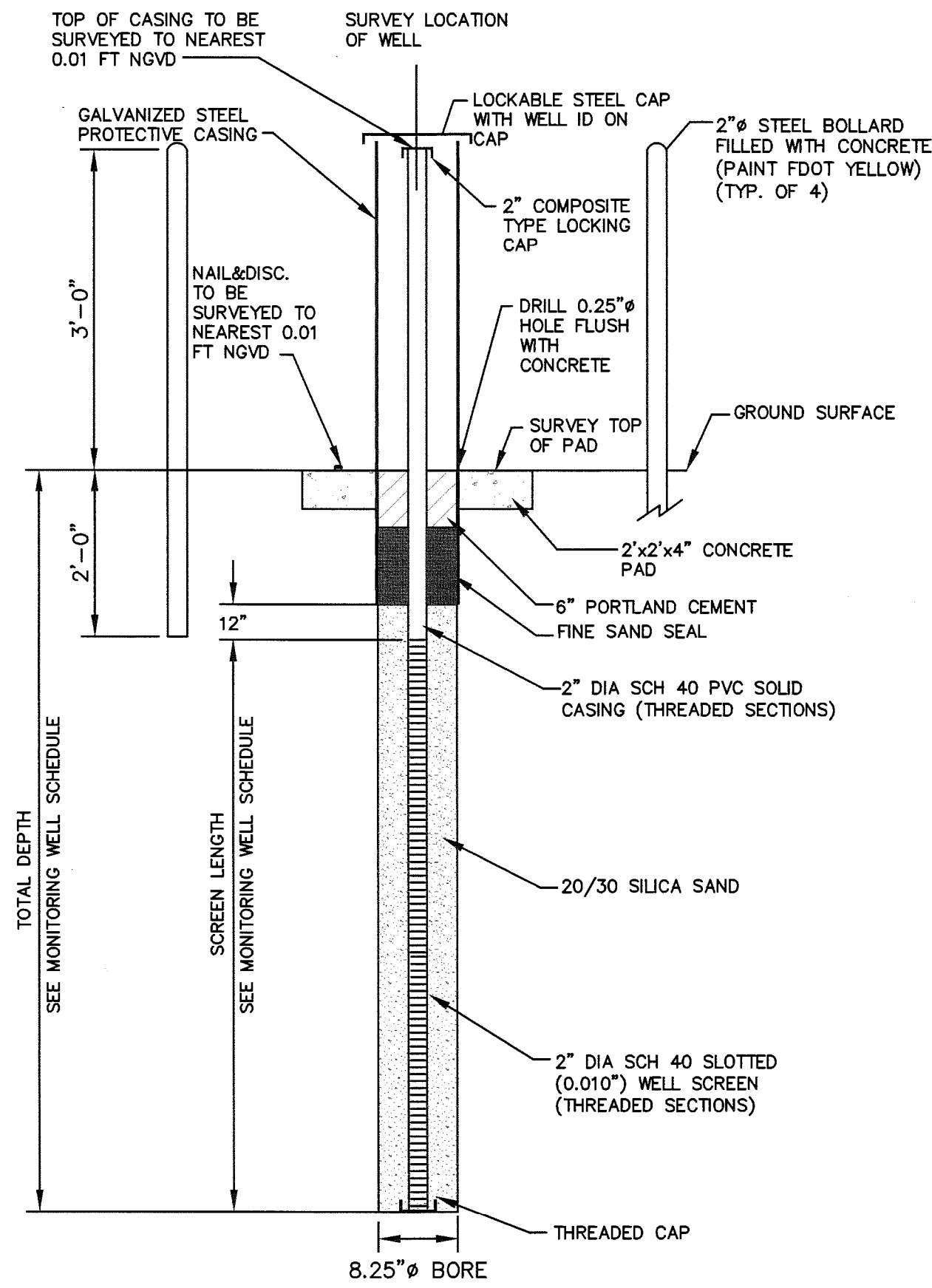


LANDFILL GAS MONITORING PROBE SCHEDULE

Probe ID	Northing	Easting	Approx. Ground Surface	Well Depth	Slotted Pipe Length	Solid Pipe Length Below Grade	Solid Pipe Length Above Grade
GP-3R	1177624.46	726157.43	82.0	7.56	5.06	2.5	3
GP-4R	1177308.20	725945.51	84.0	8.54	6.04	2.5	3
GP-5R	1177004.63	725946.99	85.0	9.54	7.04	2.5	3
GP-6R	1176702.21	725946.53	84.5	9.92	7.42	2.5	3
GP-7R	1176402.21	725946.53	84.0	9.42	6.92	2.5	3
GP-8R	1176099.87	725949.54	84.0	10.59	8.09	2.5	3

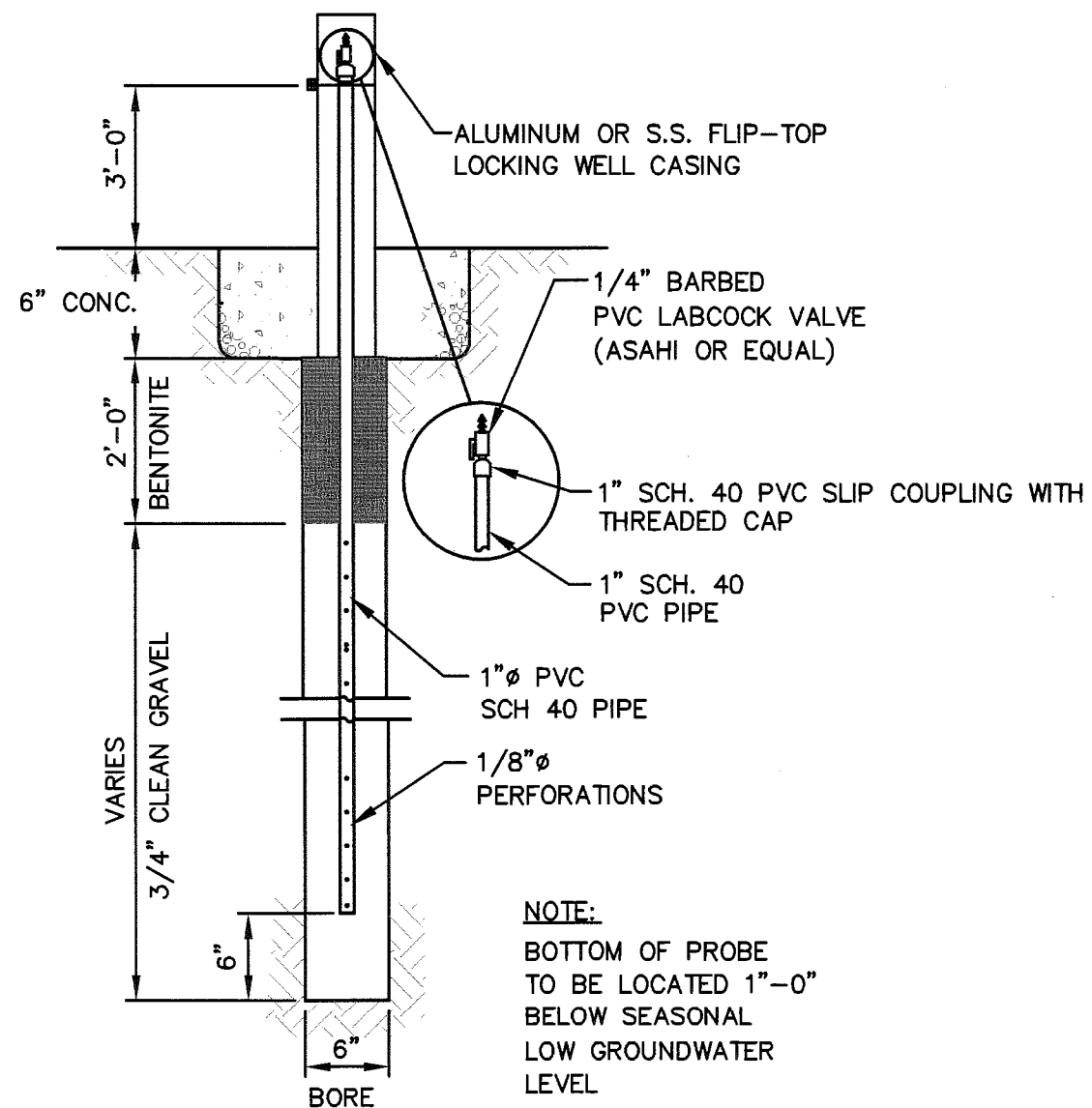


EXISTING HORIZONTAL LANDFILL GAS (LFG) VENT TRENCH DETAIL (TYP.)  
NOT TO SCALE



PHASE II SECTION II	GROUND ELEV. (FT NGVD)	TOTAL DEPTH (FT BLS)	SCREEN LENGTH (FT)
MW-13	84.4	17.0	15.0
N 1176331.81			
E 725977.70			
MW-14	85.5	12.0	10.0
N 1176949.27			
E 725978.30			
MW-15	84.0	12.0	10.0
N 1177463.17			
E 725967.78			

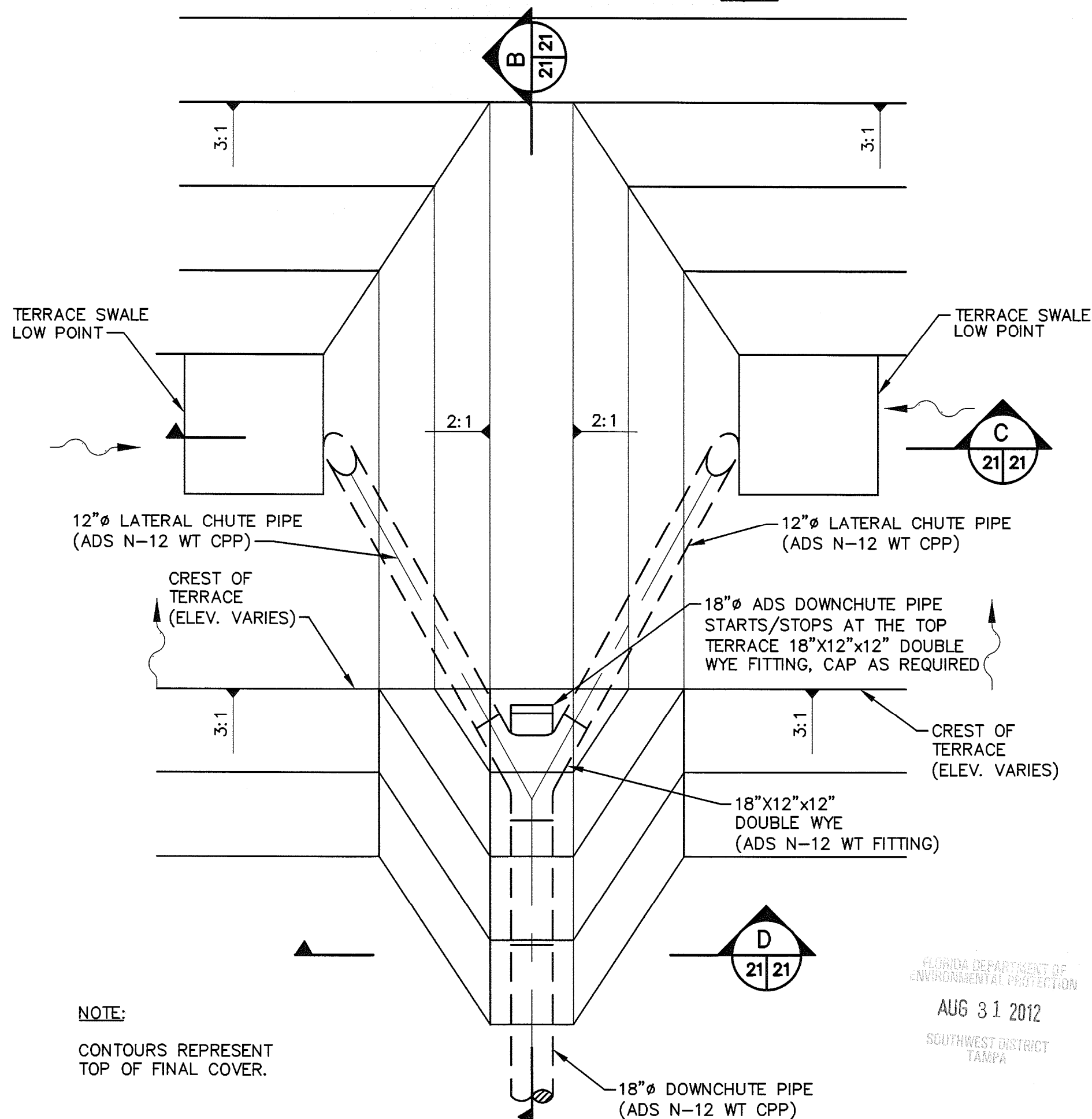
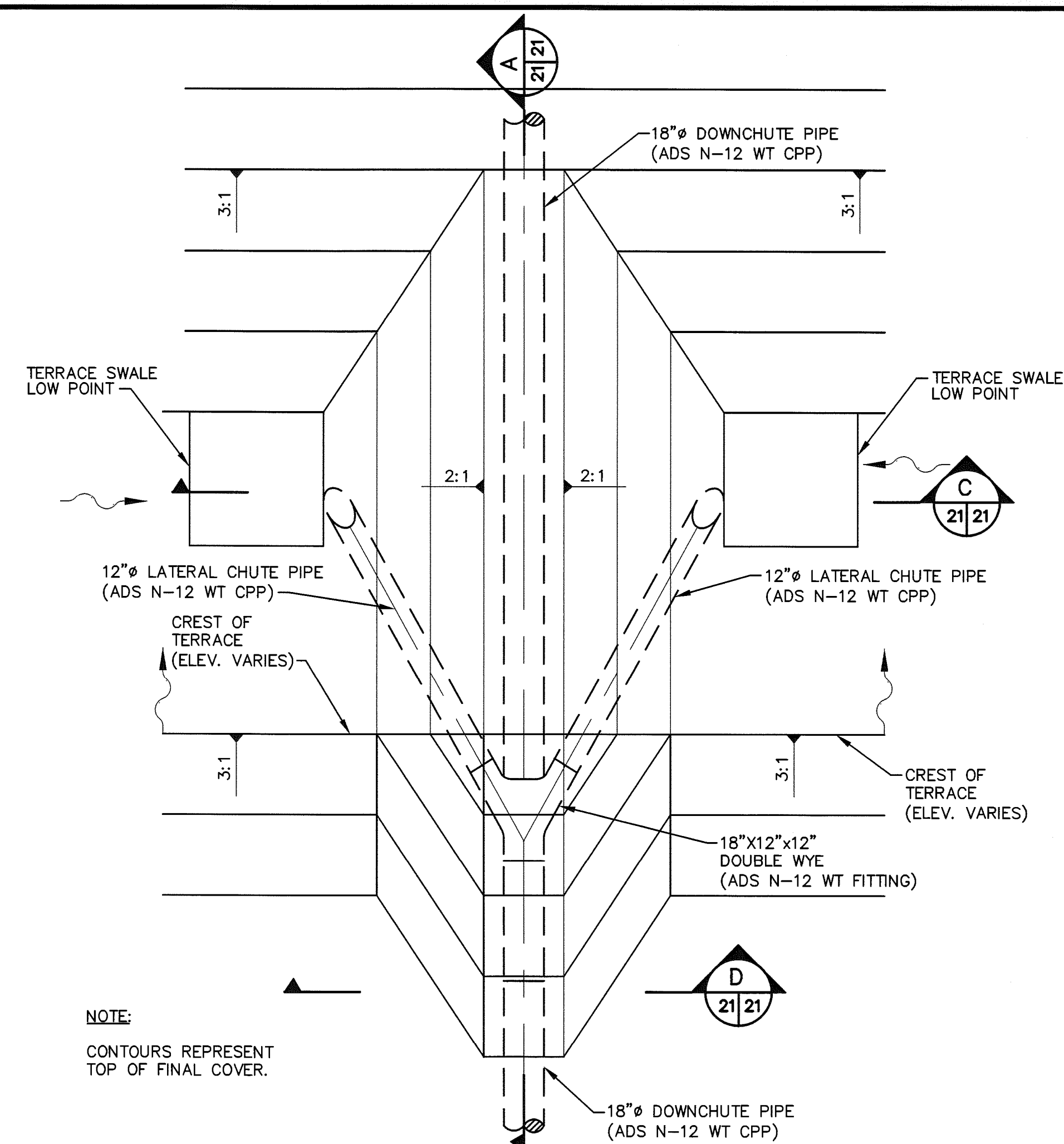
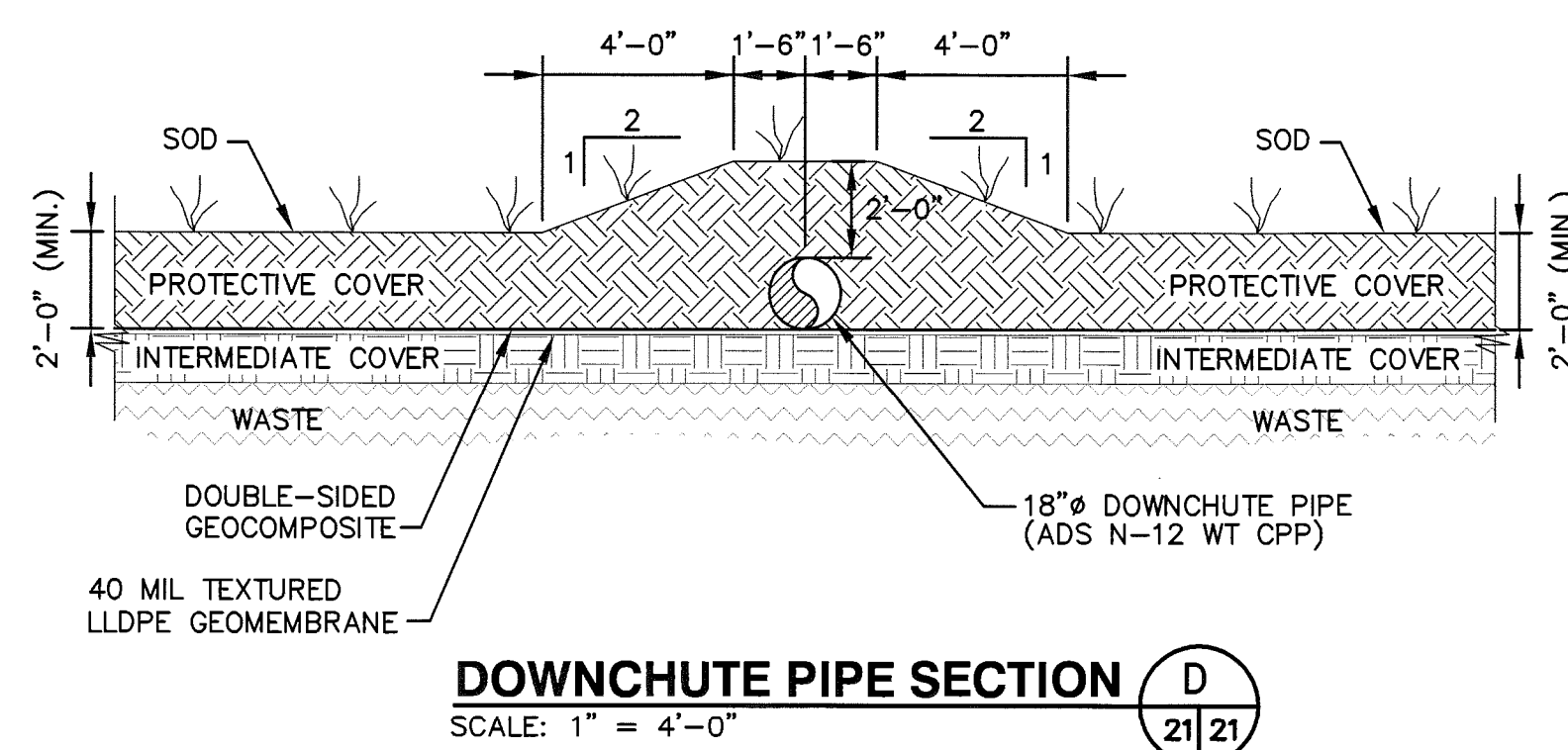
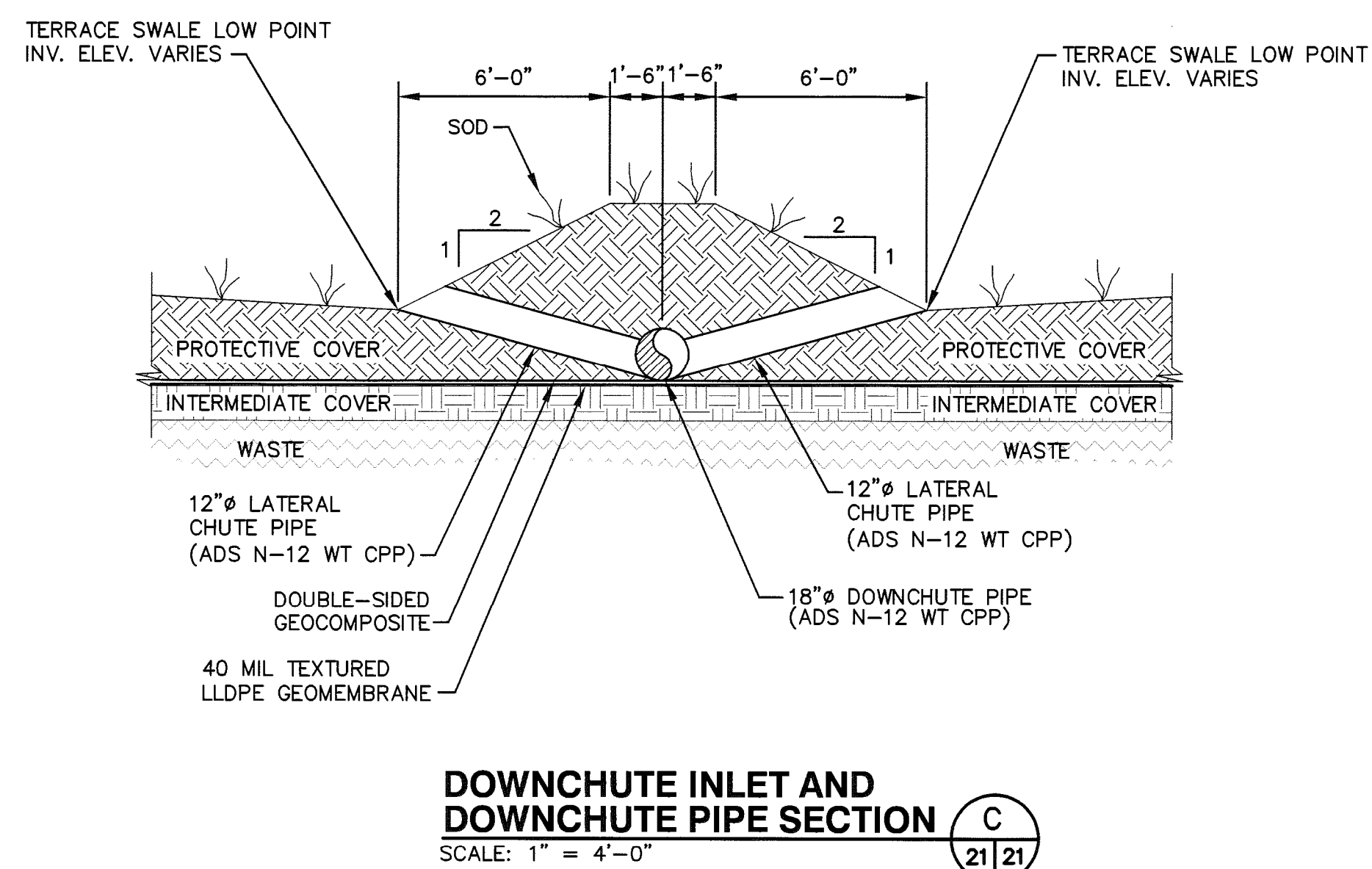
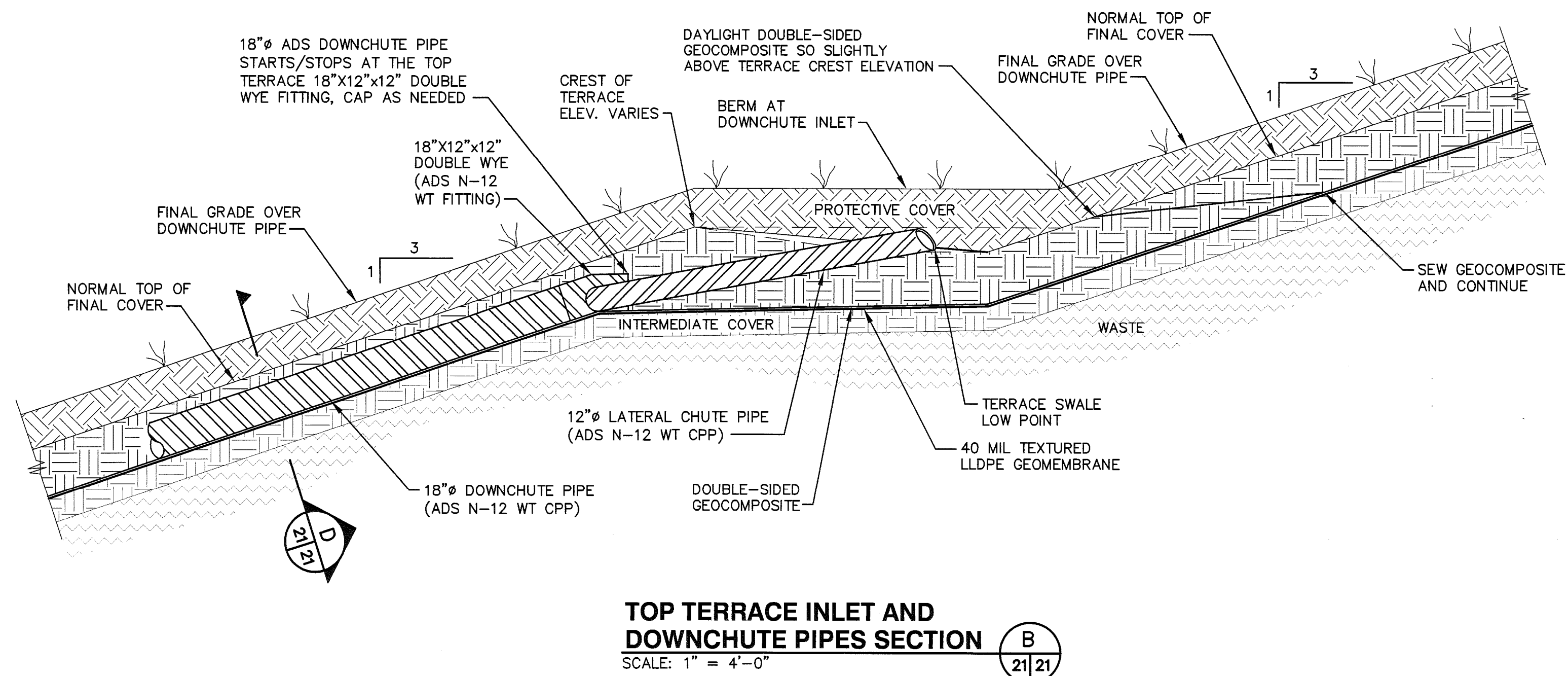
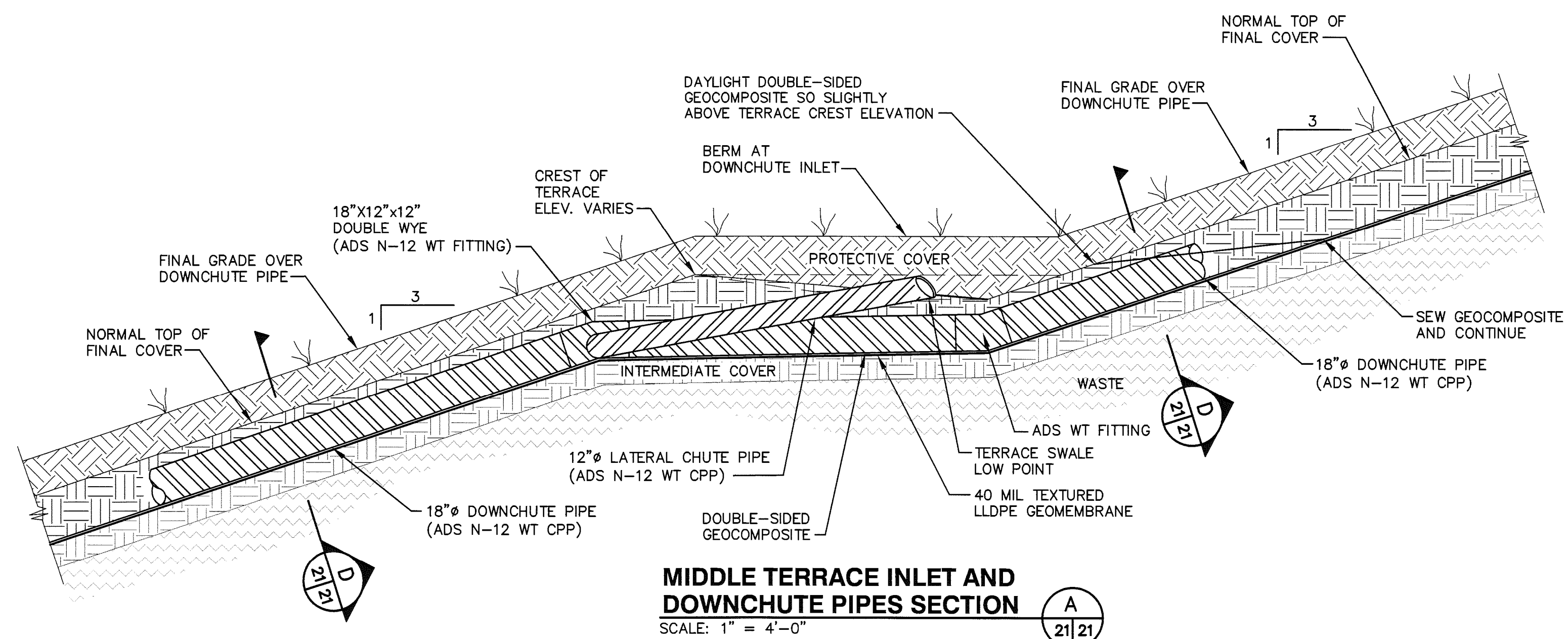
TYPICAL MONITORING WELL DETAIL  
NOT TO SCALE




LANDFILL GAS MONITORING PROBE (GP) DETAIL  
NOT TO SCALE

BY		DESCRIPTION		DATE		REV	
DRAWING TITLE		DETAILS - 3		PROJECT TITLE		HARDEE COUNTY LANDFILL PHASE II SECTION II EXPANSION CONSTRUCTION DRAWINGS	
CLIENT		HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS		SCS ENGINEERS		STEARN, CONRAD AND SCHMIDT CONSULTING ENGINEERS 4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610 813 821-0880 FAX 813 821-6757 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 0004882	
CADD FILE:		993323LFGDET1		DATE:		AUGUST 2012	
SCALE:		AS SHOWN		DRAWING NO.		20 of	





<b>SCS ENGINEERS</b> STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 401 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610 813 821-0080 FAX 813 823-6757 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 0004682	CLIENT <b>HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS</b>	DRAWING TITLE <b>DETAILS - 4</b>	REV	DATE	DESCRIPTION	BY	
CADD FILE: 993532SDetails2							
DATE: AUGUST 2012							
SCALE: AS SHOWN							
DRAWING NO. <b>21</b> of							