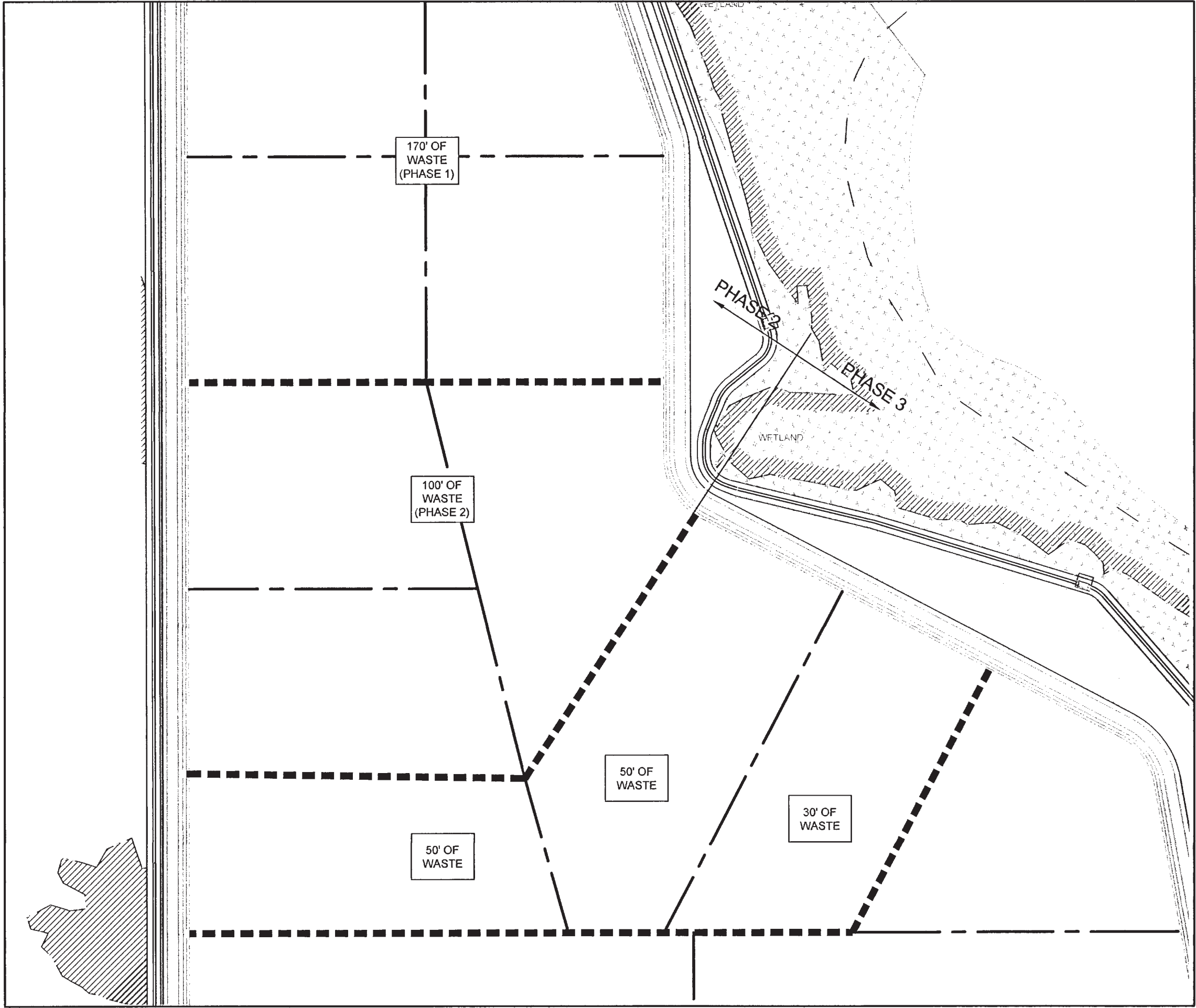
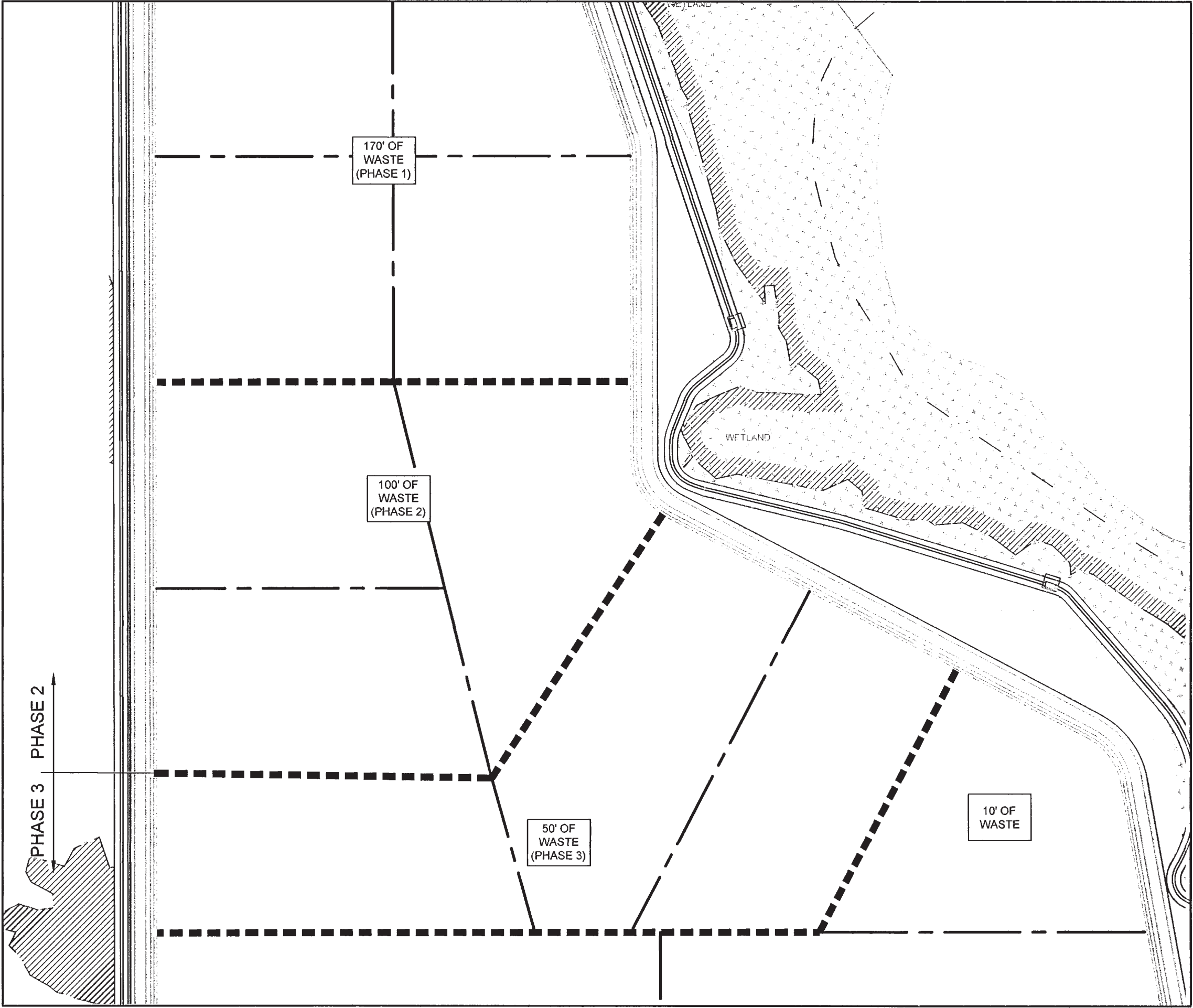
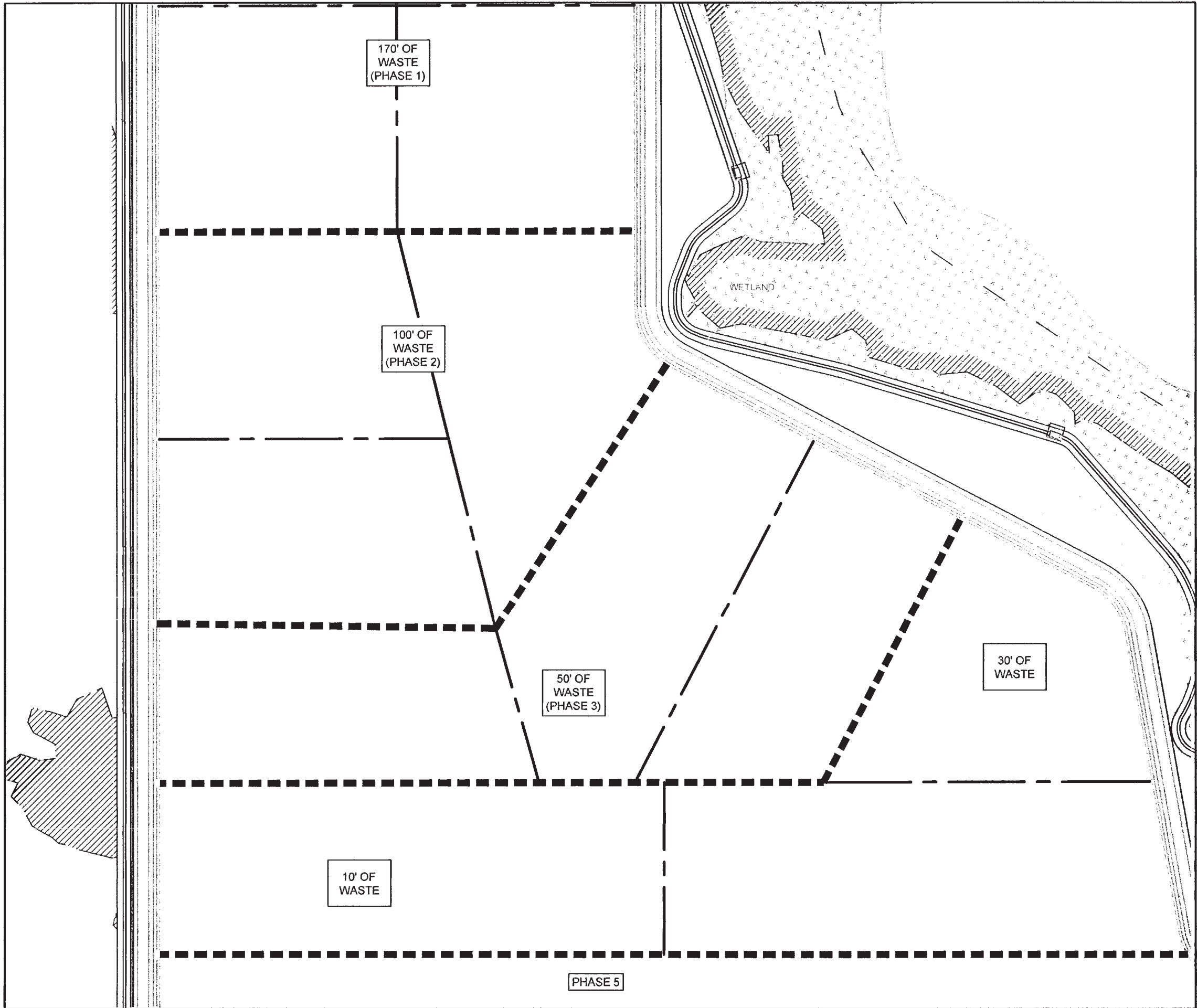




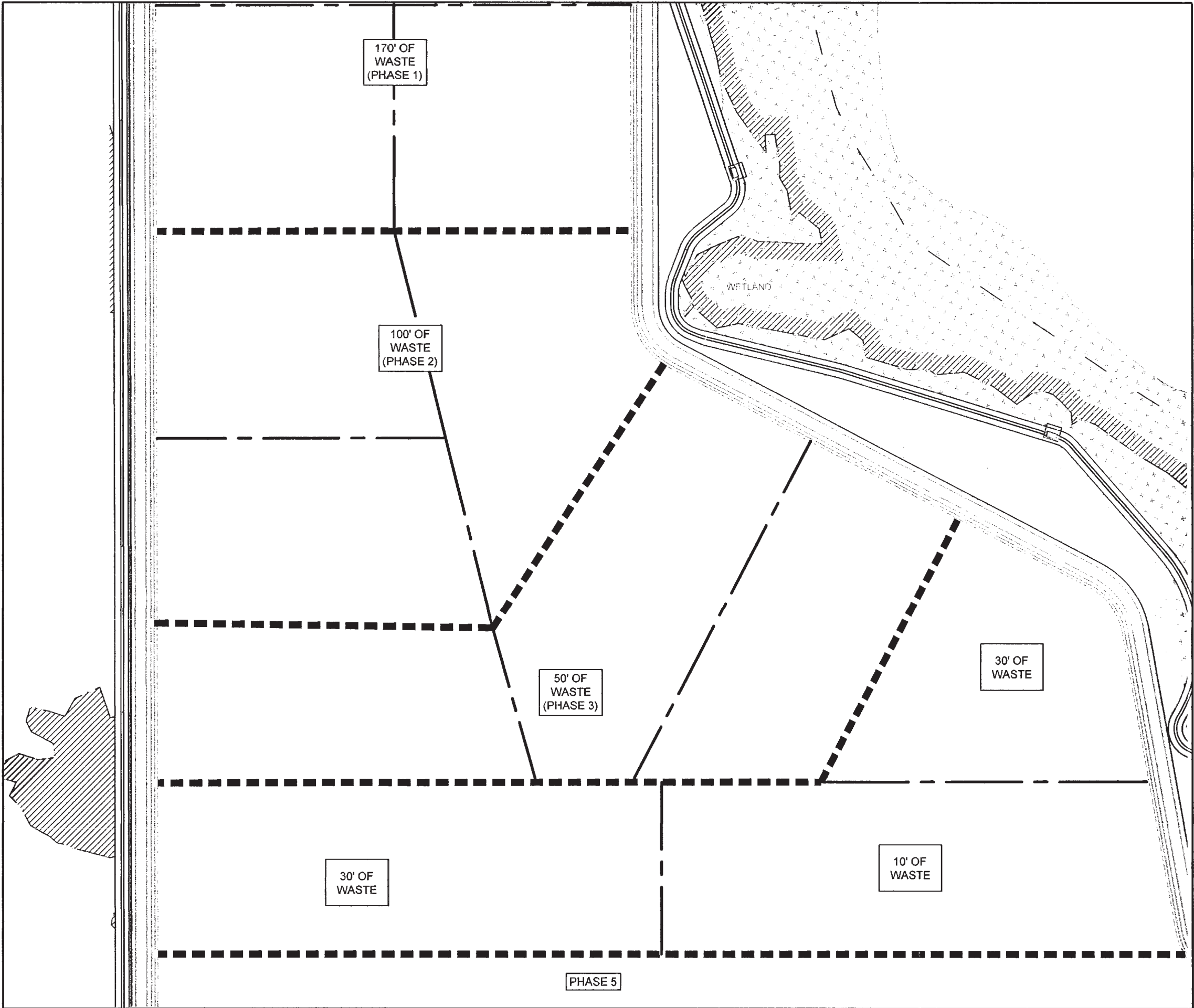
WASTE FILL SEQUENCE VI
SCALE: 1" = 300'



WASTE FILL SEQUENCE VII
SCALE: 1" = 300'



WASTE FILL SEQUENCE VIII
SCALE: 1" = 300'



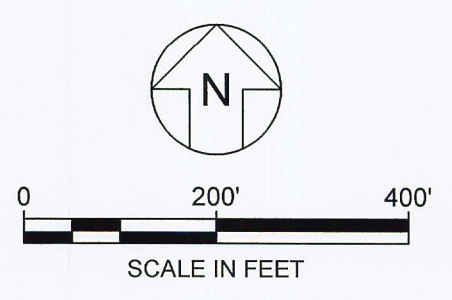
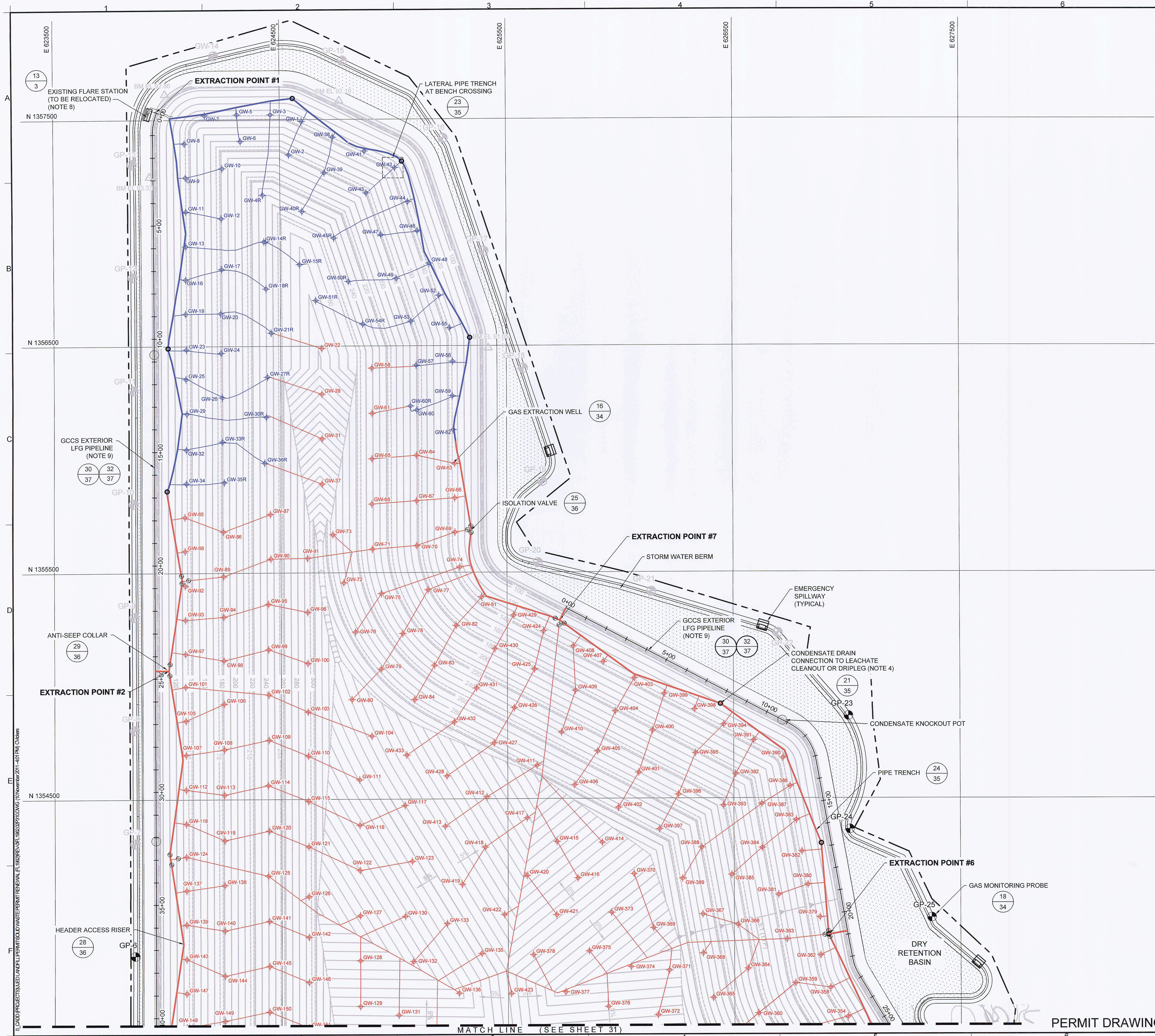
WASTE FILL SEQUENCE IX
SCALE: 1" = 300'

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- NOTES:
1. THE PURPOSE OF THIS SHEET IS TO ILLUSTRATE A CONCEPTUAL WASTE FILLING SEQUENCE FOR PHASE 4.
 2. WASTE HEIGHTS AND SLOPES WILL BE ADJUSTED BY THE LANDFILL SITE MANAGER TO PROVIDE EFFICIENT ACCESS TO THE WORKING FACE AND TO PROMOTE SURFACE WATER RUNOFF FROM AREAS UNDER INTERMEDIATE COVER.
 3. EXPOSED WASTE AT THE WORKING FACE AND OTHER AREAS UNDER INITIAL COVER WILL BE SLOPED AND MAINTAINED TO INFILTRATE PRECIPITATION WITHOUT RUNOFF.
 4. WASTE THICKNESS IS SPECIFIED BASED ON ESTIMATED MAXIMUM CELL / PHASE THICKNESS.

0	NOV 2011	ISSUED FOR FDEP APPROVAL	JWO	VMD
REV	DATE	DESCRIPTION	DRN	APP
Geosyntec consultants 13101 TELECOM DRIVE, SUITE 120 TEMPLE TERRACE, FLORIDA 33637 USA PH: 813.558.0990 • FX: 813.558.9728 AUTHORIZATION NUMBER: 4321				
WSI Waste Services, Inc. 1501 OMNI WAY ST. CLOUD, FLORIDA 34773 TEL: 407-891-3720 FAX: 407-891-3730				
TITLE: WASTE FILL SEQUENCING PLAN II				
PROJECT: SOLID WASTE RENEWAL PERMIT				
SITE: SOLID WASTE MANAGEMENT FACILITY				
DESIGN BY: VMD/JDQ		DATE: NOVEMBER 2011		
DRAWN BY: JWO/CMV		PROJECT NO.: FL1962.02		
CHECKED BY: VMD		FILE: FL1962.02P290		
REVIEWED BY: JDQ		DRAWING NO.: 29 OF 45		
APPROVED BY: VMD		VICTOR DAMASCENO - LICENSE NO. 72968		

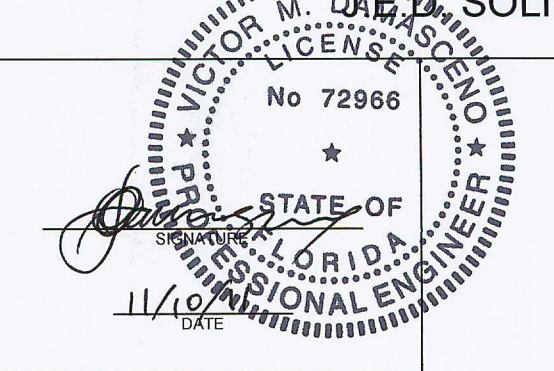
PERMIT DRAWING



LEGEND	
	PROPERTY BOUNDARY
	EXISTING GROUND ELEVATION (FEET)
	EXISTING FENCE
	STORMWATER MANAGEMENT POND
	FINAL COVER ELEVATION (FEET)
	EXISTING GAS MONITORING PROBE
	PROPOSED GAS MONITORING PROBE
	EXISTING VERTICAL GAS EXTRACTION WELL (NOTES 5 AND 6)
	EXISTING HDPE HEADER PIPE (NOTE 5 AND 6)
	EXISTING HDPE LATERAL PIPE (NOTE 5 AND 6)
	PROPOSED VERTICAL GAS EXTRACTION WELL (NOTES 5 AND 6)
	PROPOSED HDPE HEADER PIPE (NOTE 5 AND 6)
	PROPOSED HDPE LATERAL PIPE (NOTE 5 AND 6)
	CONDENSATE DRAIN AT LOW POINT (NOTE 4)
	ISOLATION VALVE
	CONDENSATE KNOCKOUT POT
	EXTERNAL LFG PIPELINE

- NOTES:
1. THE PURPOSE OF THIS SHEET IS TO ILLUSTRATE A PERMIT LEVEL LAYOUT AND SPACING OF GAS EXTRACTION WELLS, CONDENSATE TRAPS, HEADER PIPES, GAS MONITORING PROBES, LFG PIPELINE, AND THE PROPOSED LOCATION OF THE BLOWER/FLARE STATION AND FUTURE LFGTE FACILITY.
 2. AS THE WASTE PROGRESSIVELY REACHES FINAL HEIGHT IN AREAS, THE GAS MANAGEMENT SYSTEM WILL BE INSTALLED TO SERVICE THOSE AREAS UNDER FINAL COVER AND UNDER INTERMEDIATE COVER AS REQUIRED TO CONTROL EMISSIONS.
 3. THE GAS SYSTEM LAYOUT SHOWN ON THIS DRAWING IS PERMIT LEVEL ONLY. DETAILED CONSTRUCTION DRAWINGS WILL BE DEVELOPED AS FILLING OF THE LANDFILL PROGRESSES AND SUBMITTED TO THE FDEP PRIOR TO EACH STAGE OF CONSTRUCTION.
 4. ALL HEADER AND LATERAL PIPES WITHIN THE LIMIT OF WASTE SHALL BE INSTALLED AT A MINIMUM SLOPE OF 5%. ALL LATERAL AND HEADER PIPES SHALL BE MADE OF HIGH-DENSITY POLYETHYLENE (HDPE). CONDENSATE DRAINS SHALL BE INSTALLED AT ALL LOW POINTS IN THE HEADER LOOP, WITH THE EXCEPTION OF LOW POINTS THAT CONNECT TO THE EXTRACTION POINTS FOR THE EXTERIOR LFG PIPELINE.
 5. THE LOCATIONS OF GAS COLLECTION SYSTEM COMPONENTS SHOWN HERE MAY VARY IN THE FIELD IN ACCORDANCE WITH FIELD CONDITIONS AT THE TIME OF CONSTRUCTION. WELL LOCATIONS SHALL BE CHECKED BASED ON AS-BUILT SURVEY INFORMATION TO CONFIRM A MINIMUM OFFSET OF 15 FEET FROM THE LINER SYSTEM.
 6. GAS COLLECTION SYSTEM COMPONENTS SHOWN HERE IN BLUE REPRESENT THE EXISTING COMPONENTS OF THE DESIGN PHASE 1 AND PHASE 2 GAS COLLECTION SYSTEM.
 7. THE DESIGN SHOWS THE GAS COLLECTION AND CONTROL SYSTEM FOR THE FINAL CONDITIONS. DURING INTERIM STAGES OF LANDFILL DEVELOPMENT, OTHER CONTROLS SUCH AS HORIZONTAL COLLECTORS, REMOTE WELLS, AND LEACHATE CLEANOUTS AND RISERS MAY BE USED FOR GAS COLLECTION TO CONTROL ODORS OR TO COMPLY WITH NSPS AIR REGULATIONS. (SEE SHEET 32).
 8. EXISTING FLARE IN PHASE 1 GCCS IS TO BE RELOCATED FOLLOWING THE CONSTRUCTION OF THE EXTERIOR LFG PIPELINE. PROPOSED LOCATION FOR THE BLOWER/FLARE FACILITY AND THE LFGTE FACILITY IS SHOWN ON SHEET 31.
 9. THE LAYOUT OF THE GCCS EXTERIOR LFG PIPELINE MAY VARY FROM THIS DRAWING UNTIL FULL BUILDOUT OF THE LANDFILL. LFG PIPELINE MAY BE TEMPORARILY INSTALLED IN A WEST TO EAST HEADING, ACROSS THE UNCONSTRUCTED CELLS ALONG THE SOUTHERN END OF THE SITE UNTIL CONSTRUCTION OF THESE CELLS BECOMES NECESSARY. THE LAYOUT PRESENTED HERE DEPICTS THE ALIGNMENT FOLLOWING COMPLETION OF THE LANDFILL.

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REV	DATE	DESCRIPTION	DRN	APP
Geosyntec consultants 13101 TELECOM DRIVE, SUITE 120 TEMPLE TERRACE, FLORIDA 33637 USA PH: 813.558.0990 - FX: 813.558.9726 AUTHORIZATION NUMBER: 4321 WSI Waste Services, Inc. 1501 OMNI WAY ST. CLOUD, FLORIDA 34773 TEL: 407-891-3720 FAX: 407-891-3730				
TITLE: GAS MANAGEMENT SYSTEM PLAN I				
PROJECT: SOLID WASTE RENEWAL PERMIT				
SITE: SOLID WASTE MANAGEMENT FACILITY				
DESIGN BY: VMD/JDQ		DATE: NOVEMBER 2011		
DRAWN BY: JWO/CMV		PROJECT NO.: FL1962.02		
CHECKED BY: VMD		FILE: FL1962.02P310		
REVIEWED BY: JDQ		DRAWING NO.: 30 OF 45		
APPROVED BY: VMD				

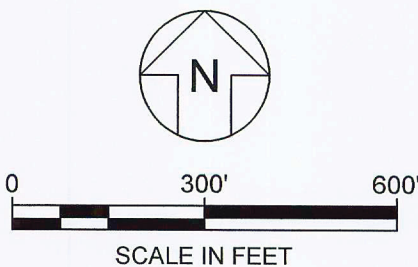
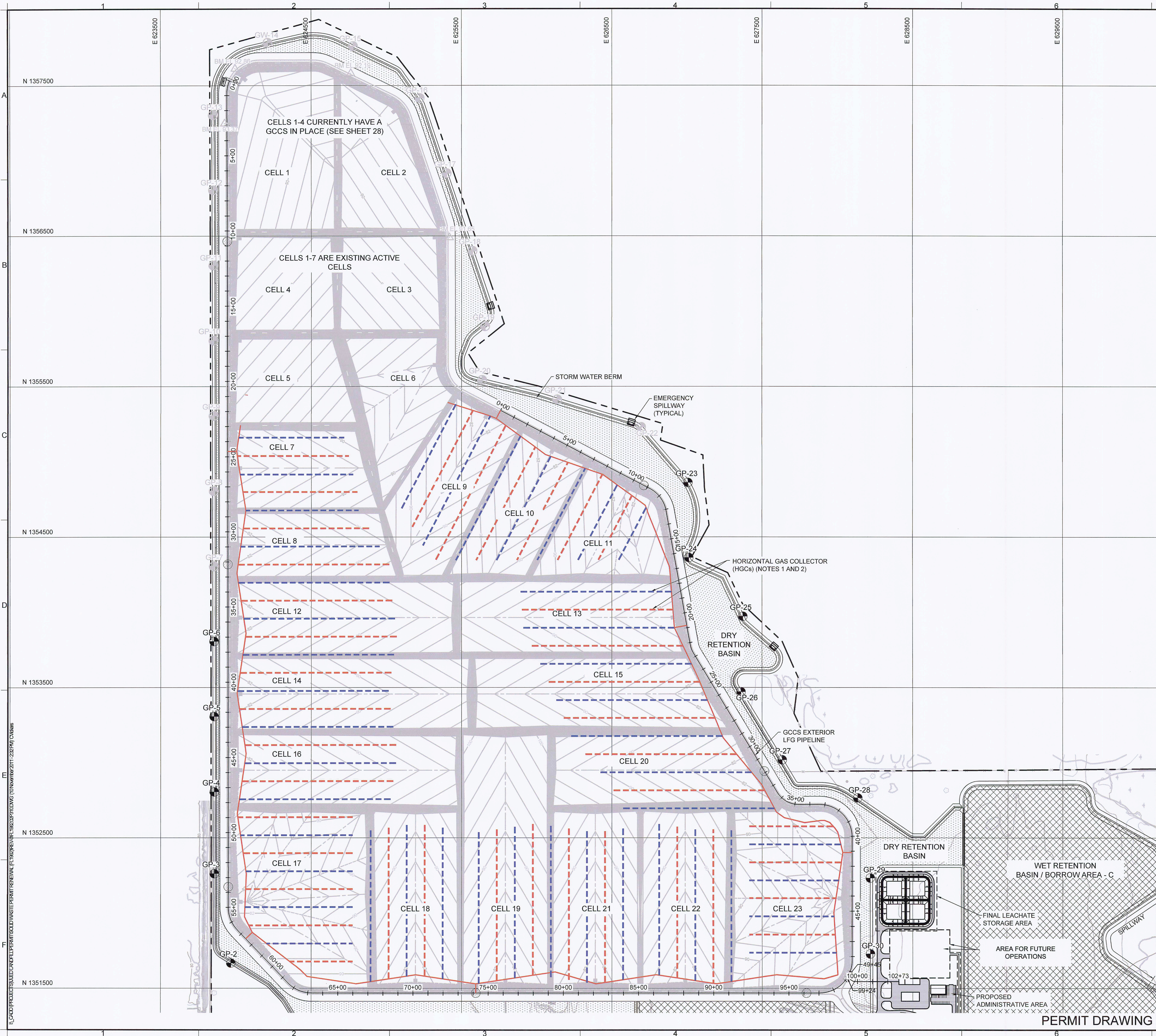


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PERMIT DRAWING





LEGEND	
	PROPERTY BOUNDARY
	EXISTING GROUND ELEVATION (FEET)
	EXISTING FENCE
	STORMWATER MANAGEMENT POND
	WET RETENTION / BORROW AREA BOUNDARY
	SUBGRADE ELEVATION (FEET)
	EXISTING GAS MONITORING PROBE
	PROPOSED GAS MONITORING PROBE
	PROPOSED HDPE HEADER PIPE (NOTE 5 AND 6)
	CONDENSATE KNOCKOUT POT
	EXTERNAL HEADER ALIGNMENT - "LFG PIPELINE"
	UPPER TIER HGC
	LOWER TIER HGC

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- NOTES:
- HORIZONTAL GAS COLLECTORS (HGCs) MAY BE USED AS TEMPORARY INTERIM LFG CONTROL MEASURES DURING WASTE FILLING OPERATIONS. THE LAYOUTS OF THE VERTICAL EXTRACTION WELLS ON SHEETS 33 AND 34 ARE DESIGNED TO PROVIDE ADEQUATE COVERAGE FOR THE DESIGN CAPACITY OF THE LANDFILL. THEREFORE, OPERATION OF THE HGCs WILL NOT INCREASE THE MAXIMUM ANTICIPATED GAS FLOWS FOR THE GAS MANAGEMENT SYSTEM (GMS). AS THE LANDFILL REACHES FINAL GRADES AND VERTICAL LFG WELLS ARE INSTALLED WITHIN A GIVEN CELL, THE LANDFILL OPERATOR MAY OPT TO ABANDON THE HGCs WITHIN THAT CELL, OR OPERATE EACH HGC FOR AS LONG AS IT IS FUNCTIONAL.
 - THE HGC WELL LAYOUT PRESENTED ON THIS SHEET IS PERMIT LEVEL ONLY, AND IS BASED ON THE PERMITTED HGC DESIGN PREPARED BY GOLDER ASSOCIATES (PERMIT NO. S049-199726-015), SUBMITTED TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, CENTRAL DISTRICT, ON 21 JULY 2010. THE HGC DESIGN FOR CELLS 7, 8 AND 9 IS ALREADY PERMITTED. FOR ALL DETAILS CONCERNING THE HGCs, INCLUDING CONNECTION DETAILS, SPACING, LENGTHS AND ELEVATIONS, REVIEWER SHALL REFER TO THE AFFOREMENTIONED PERMIT AND THE ENGINEERING REPORT PREPARED BY GOLDER ASSOCIATES.

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Geosyntec
consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX: 813.558.9726
AUTHORIZATION NUMBER: 4321

1501 OWNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: **CONCEPTUAL LAYOUT OF HORIZONTAL GAS COLLECTORS**

PROJECT: **SOLID WASTE RENEWAL PERMIT**

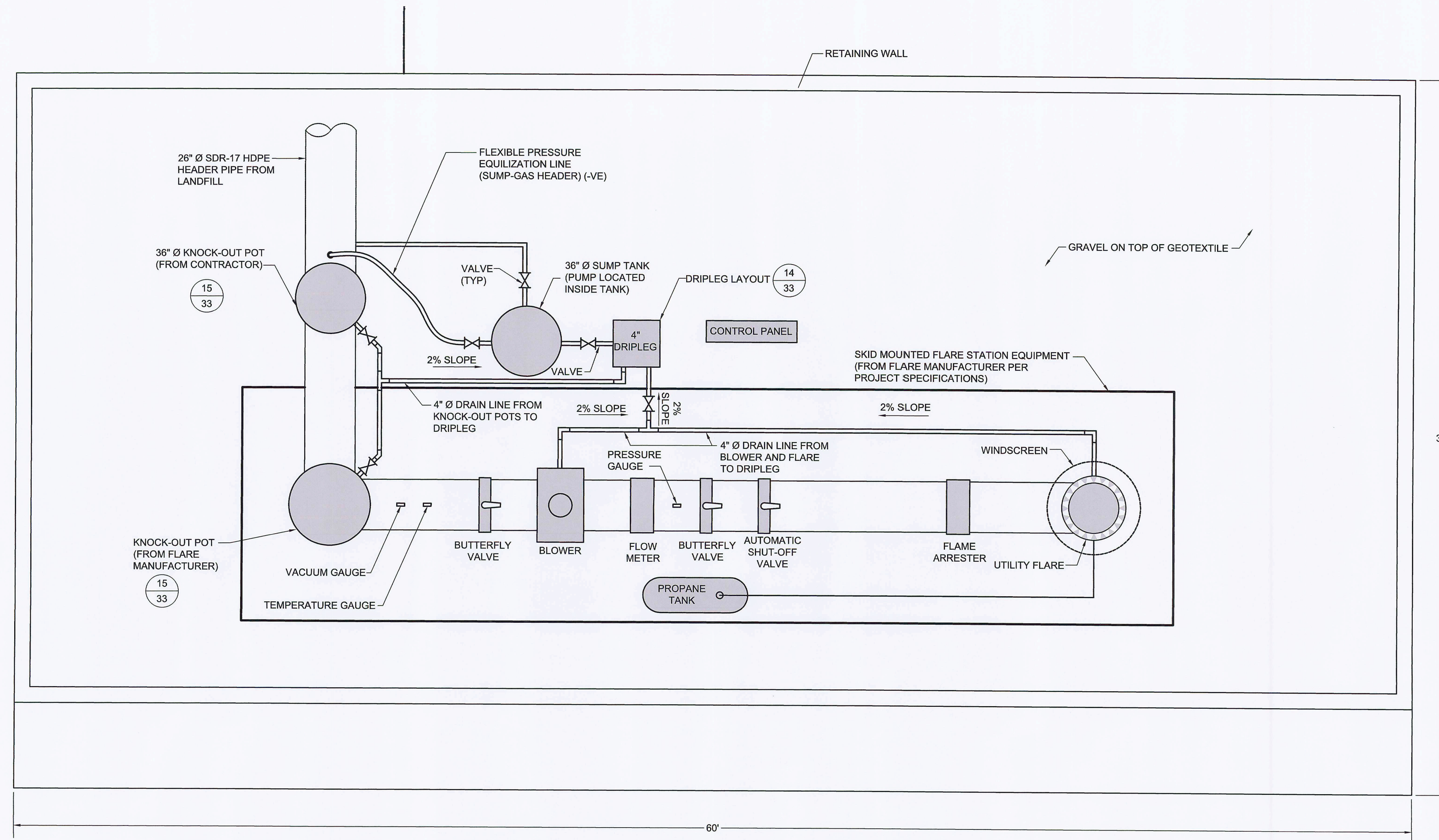
SITE: **SOLID WASTE MANAGEMENT FACILITY**

VICTOR M. DAMASCENO
No 72966
STATE OF FLORIDA
PROFESSIONAL ENGINEER
11/16/2011
DATE

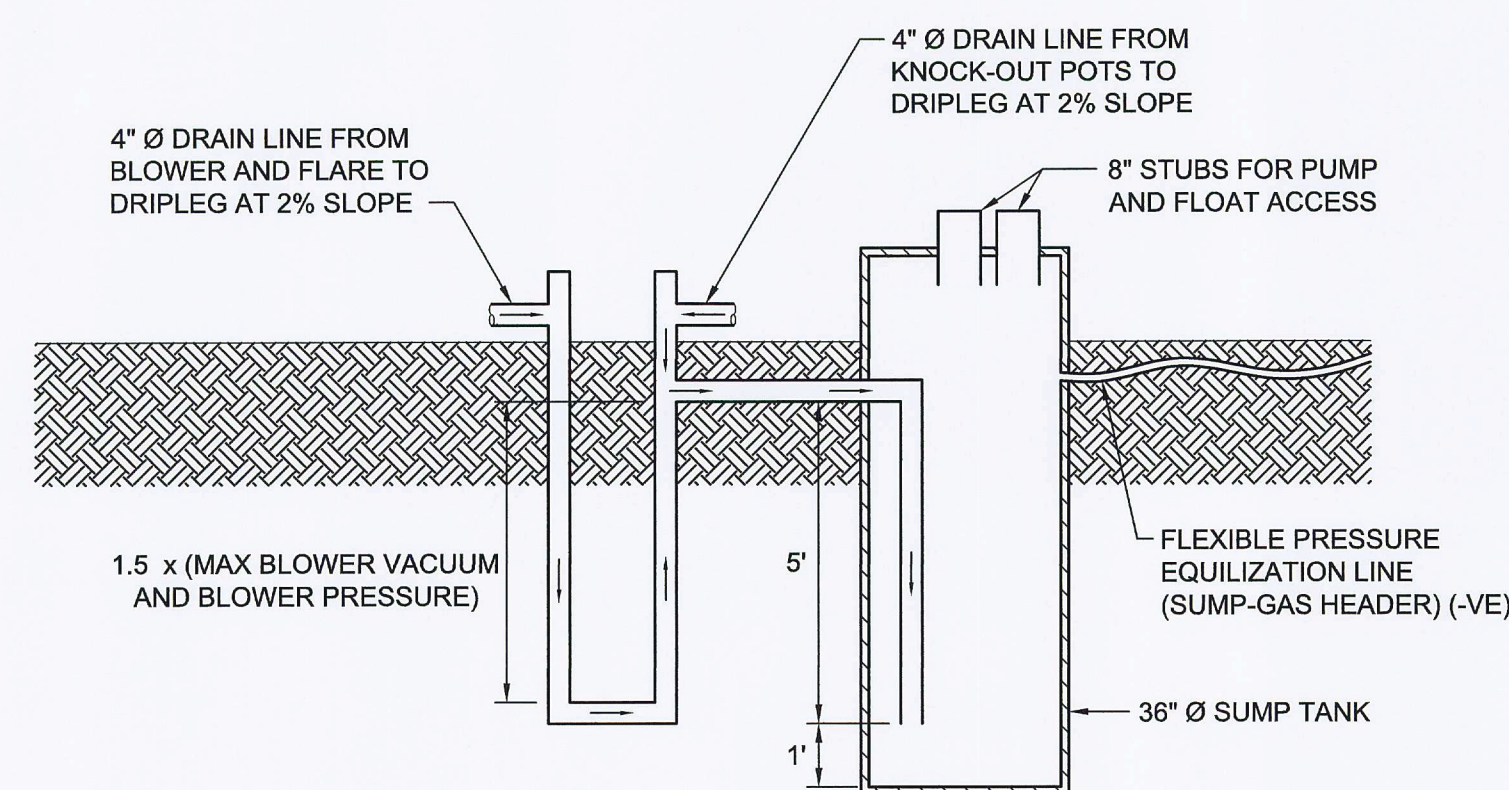
DESIGN BY:	VMD/JDQ	DATE:	NOVEMBER 2011
DRAWN BY:	JWO/CMV	PROJECT NO.:	FL1962.02
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REVIEWED BY:	JDQ	DRAWING NO.:	
APPROVED BY:	VMD		

32 OF 45

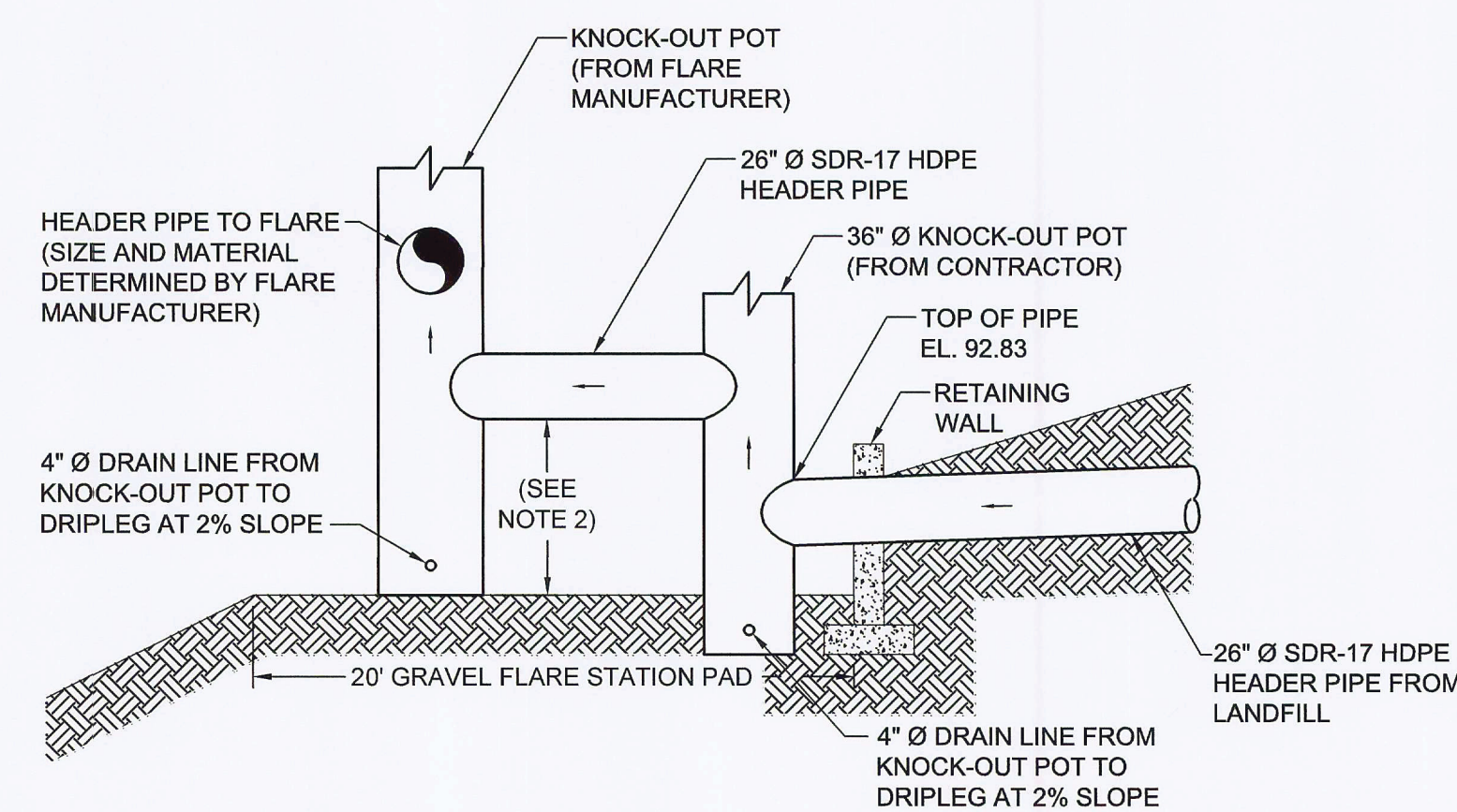
PERMIT DRAWING



13
30 **DETAIL**
EQUIPMENT LAYOUT AT FLARE STATION
SCALE: 1" = 3'



14
33 **DETAIL**
DRIPLEG LAYOUT
SCALE: 1" = 3'
XREF: FL1962.02P330



15
33 **DETAIL**
KNOCK-OUT POT LAYOUT
SCALE: 1" = 6'
XREF: FL1962.02P330

NOTES:

1. FLARE STATION EQUIPMENT SHALL BE PROVIDED BY FLARE MANUFACTURER IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. EQUIPMENT ASSEMBLY INDICATED ON HERE IS FOR CONCEPT ONLY.
2. THE DETAILS FOR FLARE STATION LAYOUT, PIPING, EQUIPMENT, AND OTHER REQUIREMENTS WILL BE FINALIZED AFTER DISCUSSIONS WITH THE FLARE MANUFACTURER AND INSTALLER.
3. THE FLEXIBLE PRESSURE EQUALIZATION LINE SHALL BE INSTALLED NO LOWER THAN THE ELEVATION OF THE DRIPLEG PIPE THAT ENTERS THE CONDENSATE SUMP.

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consultants

13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX: 813.558.9726
AUTHORIZATION NUMBER: 4321

WSI
Waste Services, Inc.

1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: GAS MANAGEMENT DETAILS I

PROJECT: SOLID WASTE RENEWAL PERMIT

SITE: SOLID WASTE MANAGEMENT FACILITY

DESIGN BY: VMD/JDQ **DATE:** NOVEMBER 2011

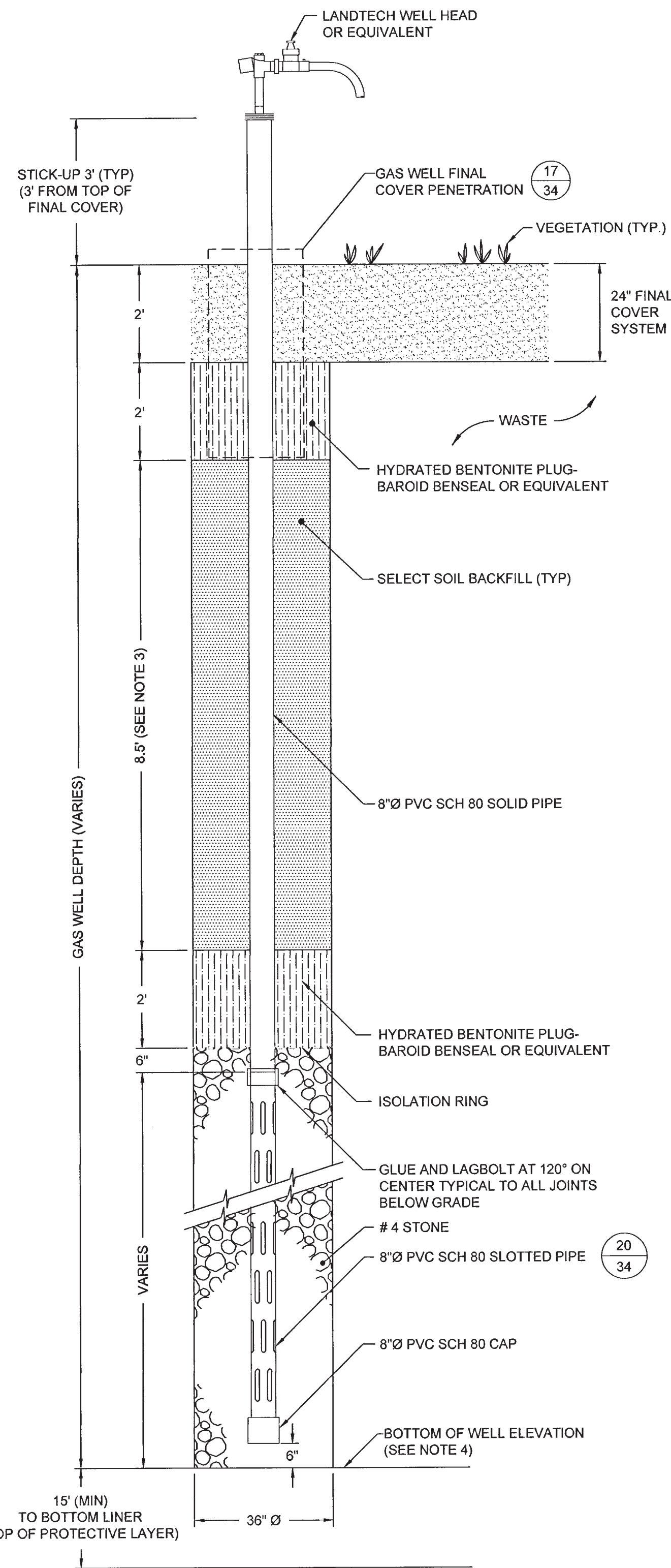
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CHECKED BY: VMD **FILE:** FL1962.02P330

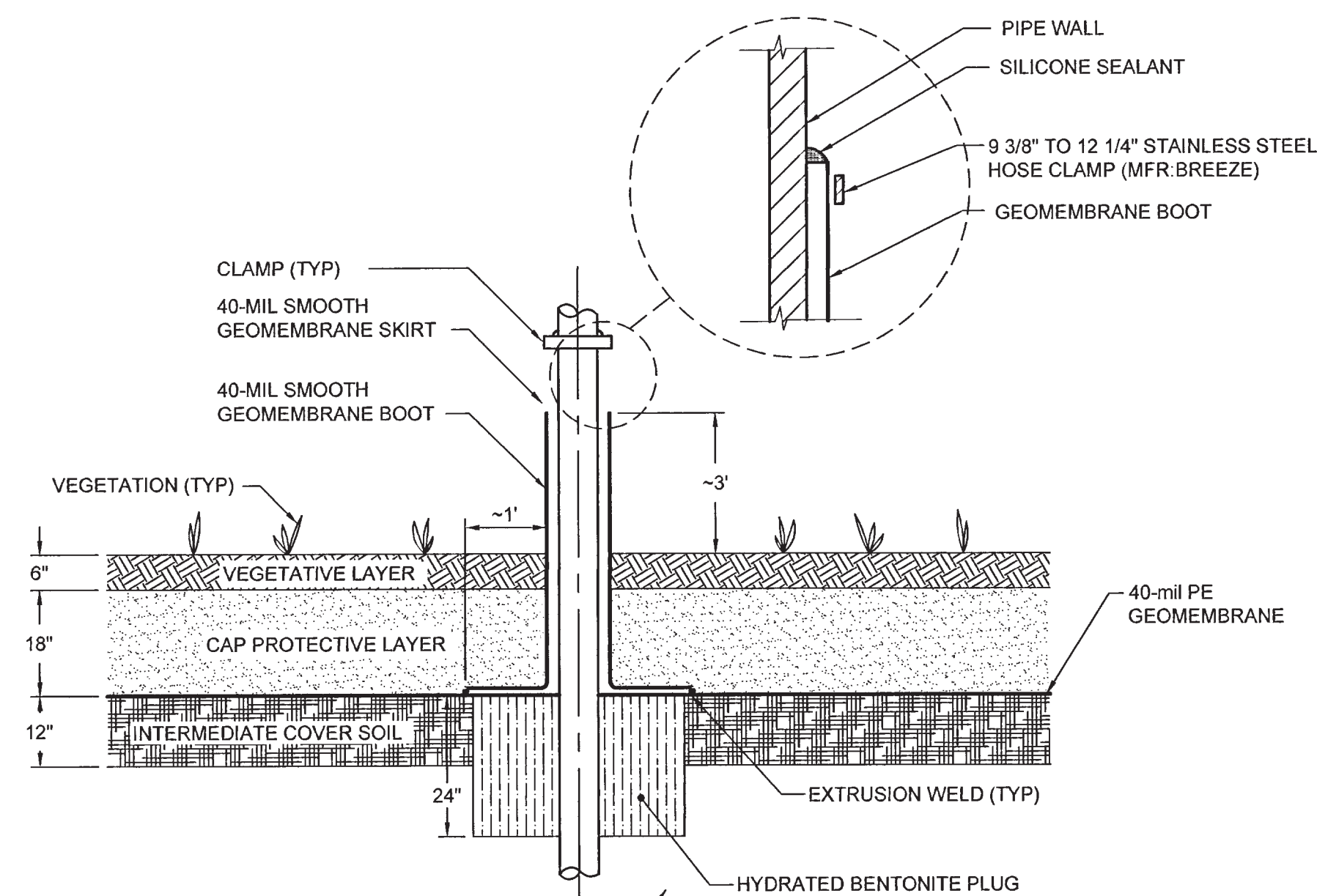
REVIEWED BY: JDQ **DRAWING NO.:** 33 OF 45

APPROVED BY: VMD

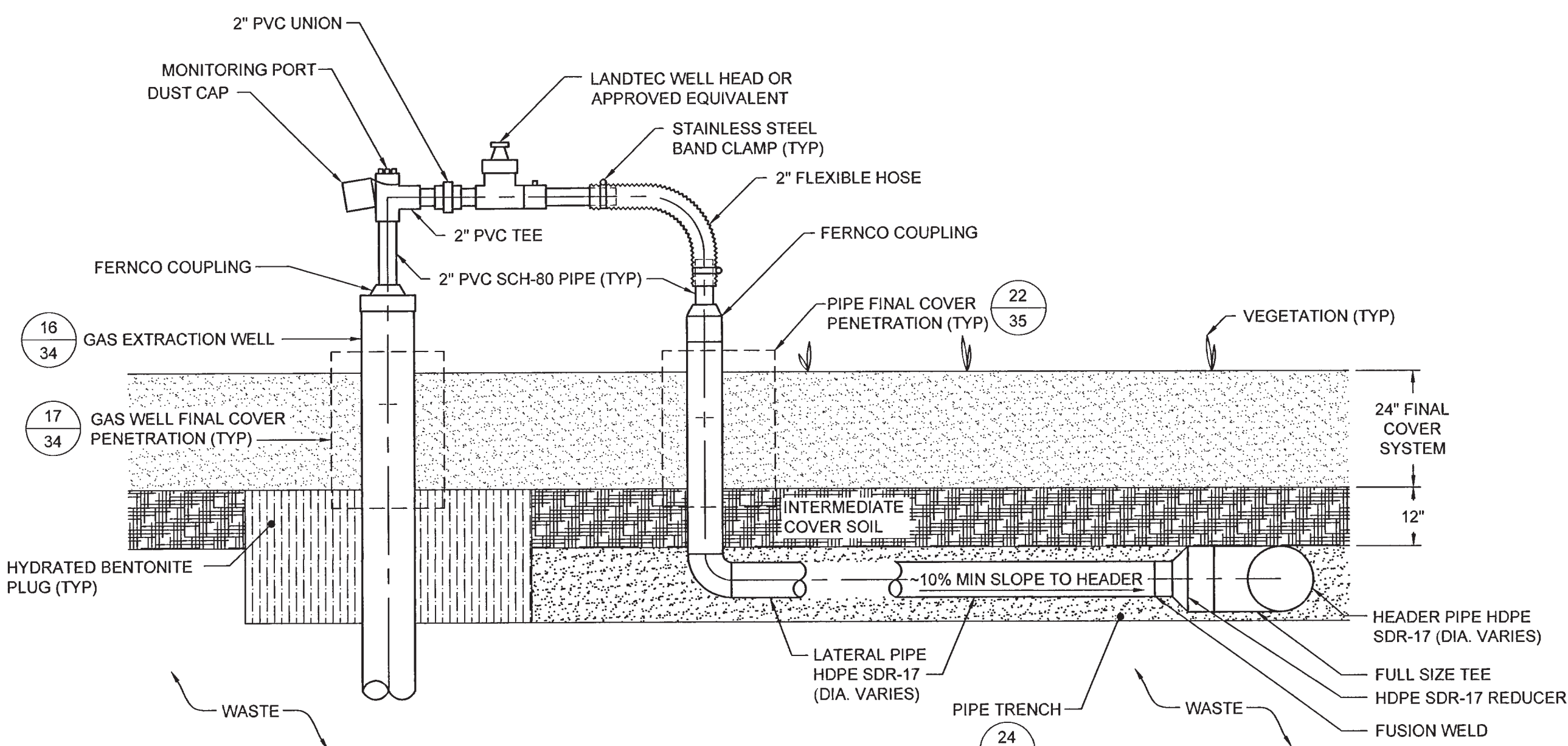
PERMIT DRAWING



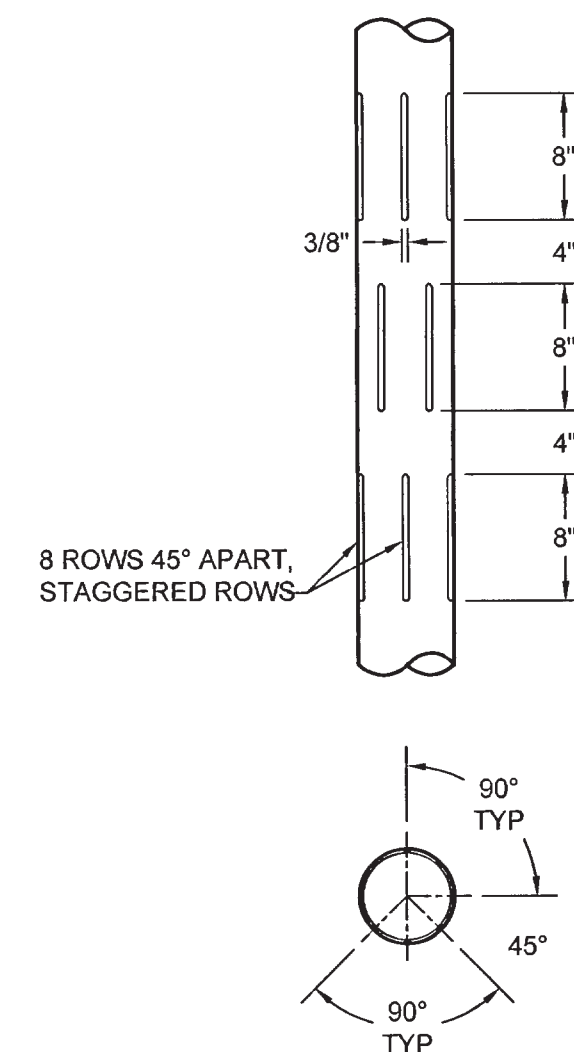
16
30 **DETAIL**
GAS EXTRACTION WELL
SCALE: N.T.S.
XREF: FL1962.02X4021



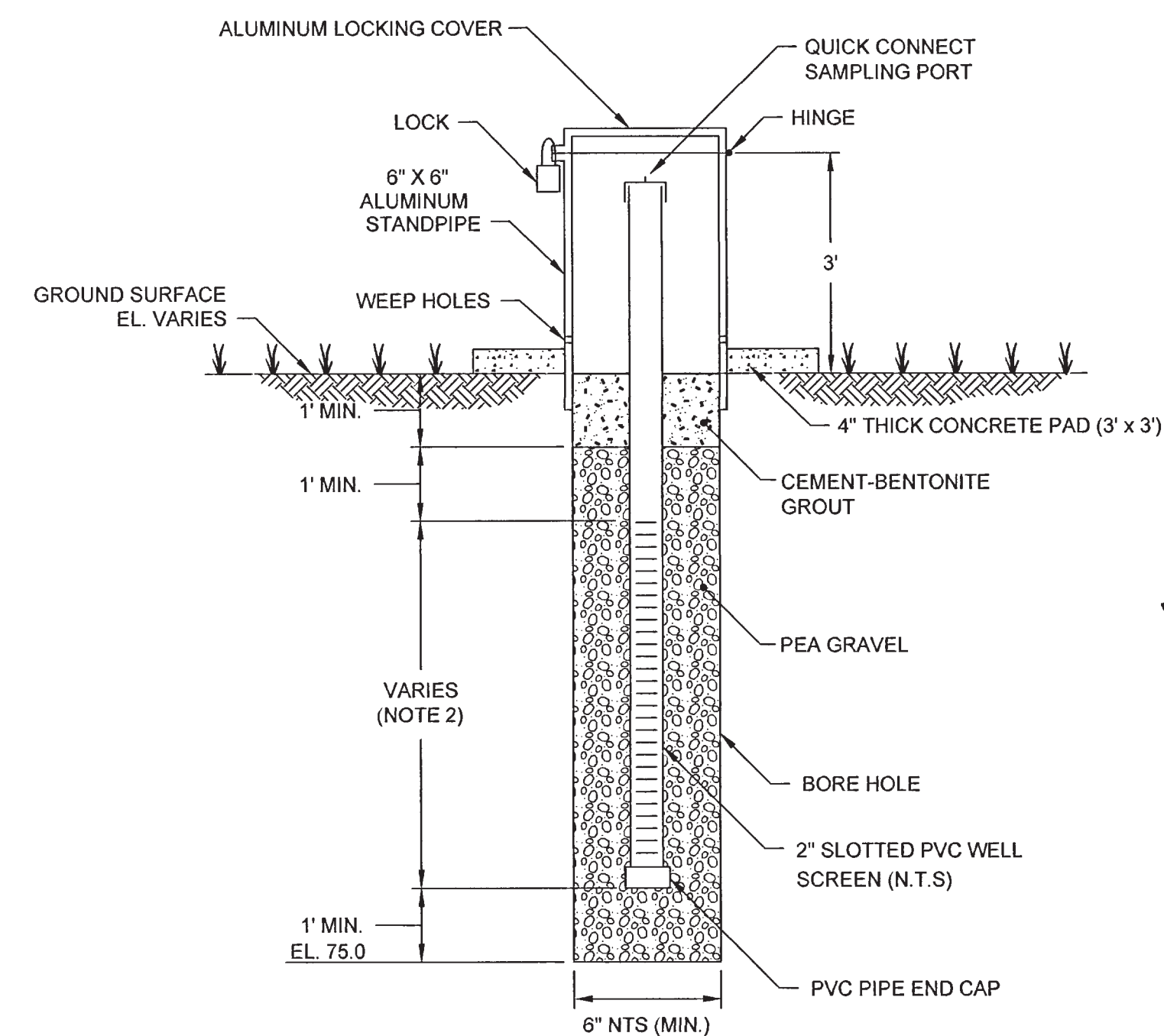
17
34 **DETAIL**
GAS WELL FINAL COVER PENETRATION
SCALE: N.T.S.
XREF: FL1962.02X4022



19
31 **DETAIL**
WELLHEAD TO LATERAL
SCALE: N.T.S.
XREF: FL1962.02X4024



20
34 **DETAIL**
PIPE SLOTS
SCALE: N.T.S.
XREF: FL1962.02X4020



18
30 **DETAIL**
GAS MONITORING PROBE
SCALE: N.T.S.
XREF: FL1962.02X4035

NOTES:

- ALL DETAILS PRESENTED ON THIS SHEET ARE PERMIT LEVEL. EXACT CONSTRUCTION DETAILS MAY VARY ACCORDING TO FIELD CONDITIONS AND MANUFACTURER SPECIFIC DETAILS WHILE KEEPING THE GENERAL CONCEPTS OF THE DETAILS PRESENTED ON THIS DRAWING.
- BOTTOM OF SCREEN SHALL BE LOCATED 3 FEET BELOW ORIGINAL (PRE-DEVELOPMENT) GROUND SURFACE.
- THE LENGTH OF SOLID PIPE EXTENDING BELOW THE FINAL COVER GEOMEMBRANE SHALL BE NO LESS THAN 13 FEET.
- BOTTOM ELEVATION OF ALL GAS EXTRACTION WELLS SHALL BE MINIMUM 15' FROM THE BOTTOM LINER (TOP OF PROTECTIVE COVER LAYER).

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consultants

13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX: 813.558.9728
AUTHORIZATION NUMBER: 4321

WSI
Waste Services, Inc.

1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: GAS MANAGEMENT DETAILS II

PROJECT: SOLID WASTE RENEWAL PERMIT

SITE: SOLID WASTE MANAGEMENT FACILITY

DESIGN BY: VMD/JDQ **DATE:** NOVEMBER 2011

DRAWN BY: JWO/CMV **PROJECT NO.:** FL1962.02

CHECKED BY: VMD **FILE:** FL1962.02P340

REVIEWED BY: JDQ **DRAWING NO.:** 34 OF 45

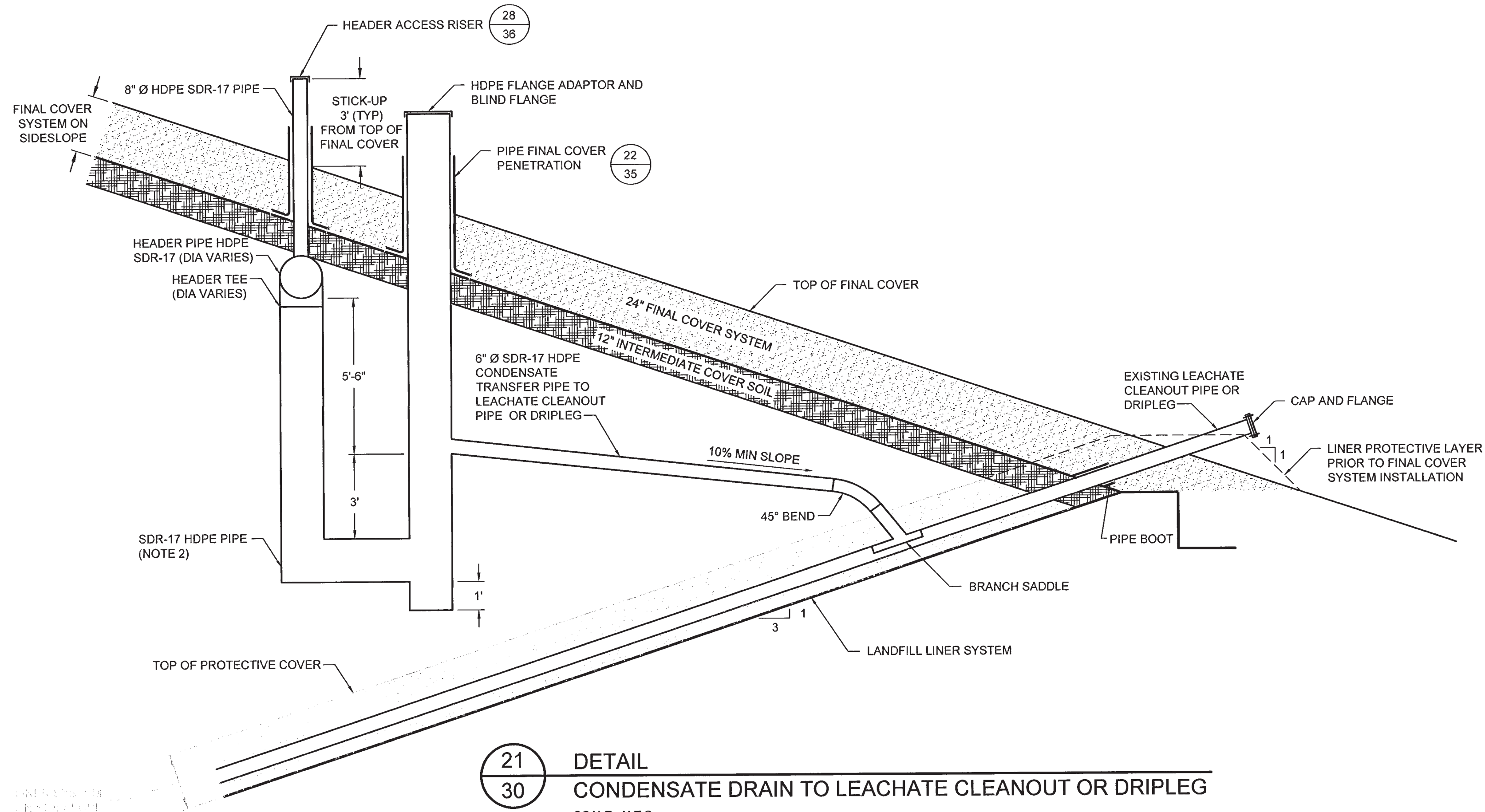
APPROVED BY: VMD

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DEP Central Dist.

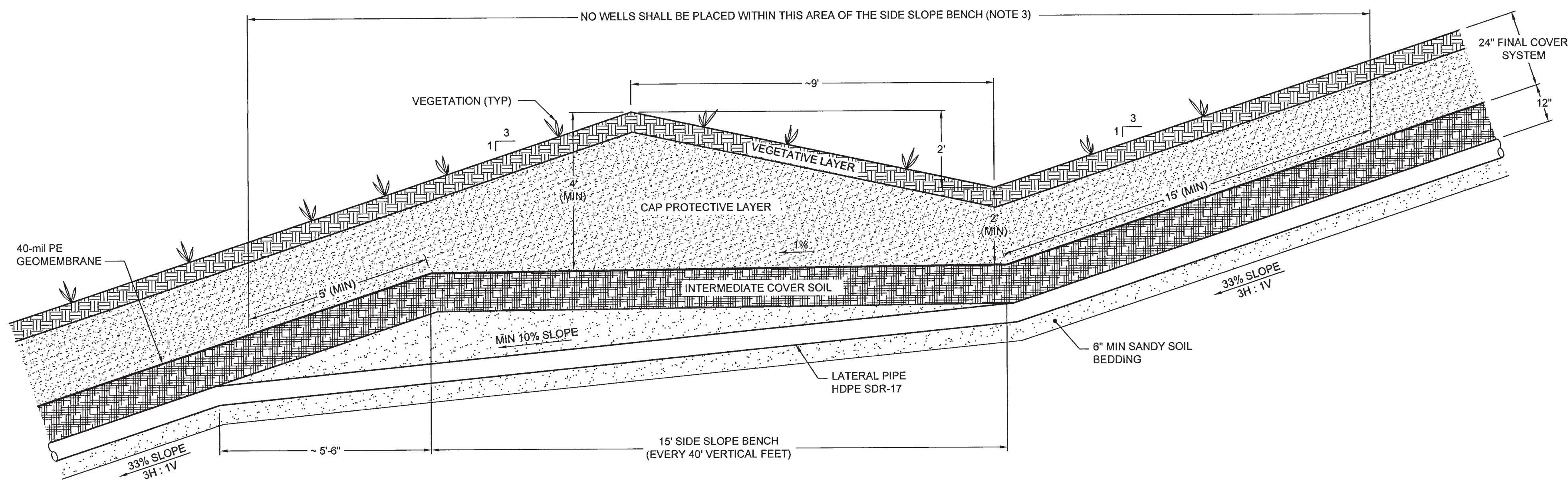
STATE OF FLORIDA
PROFESSIONAL ENGINEER
VICTOR M. DAMASCENO
No 72966
11/10/2011

VICTOR DAMASCENO - LICENSE NO. 72966

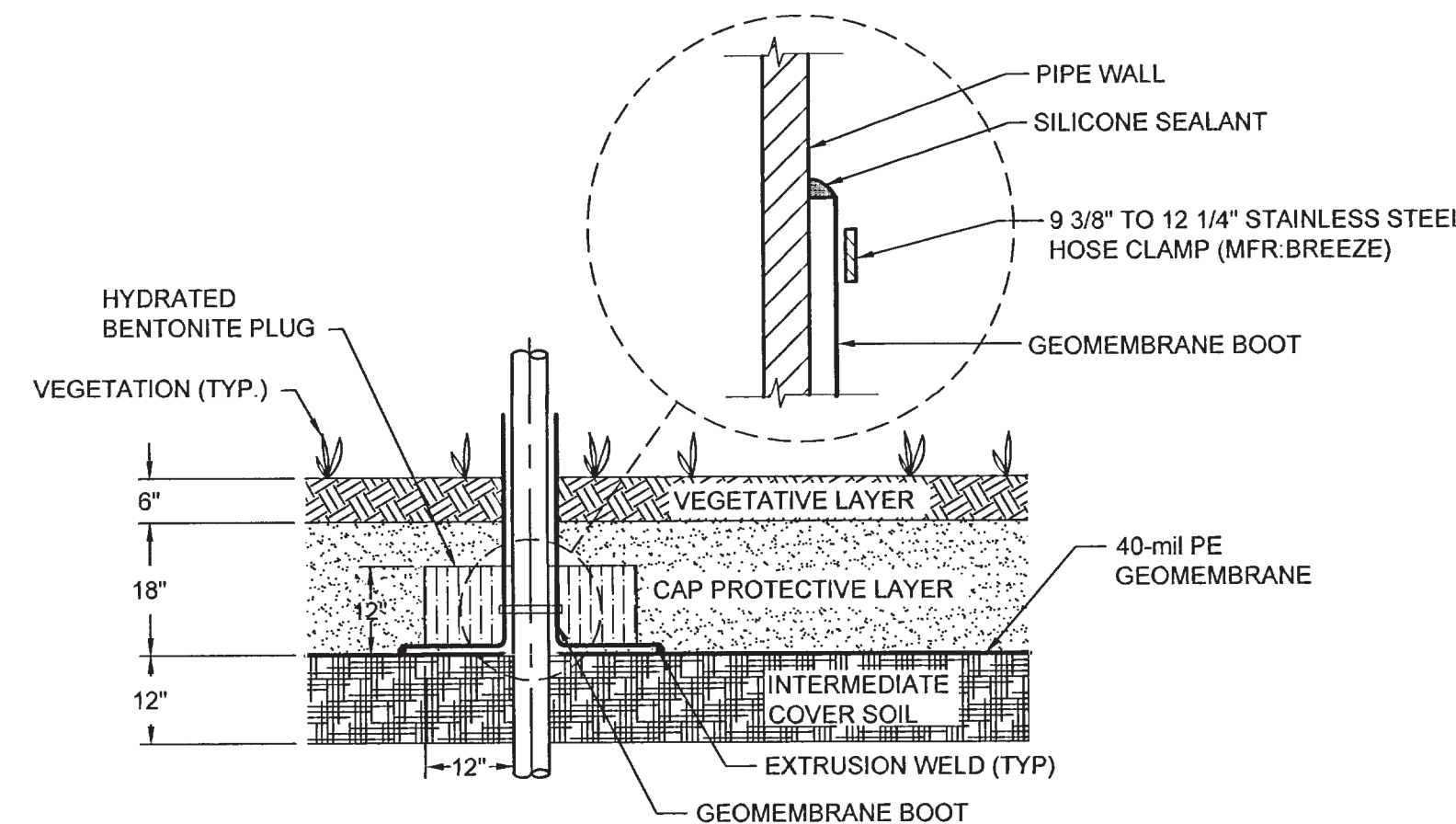
PERMIT DRAWING



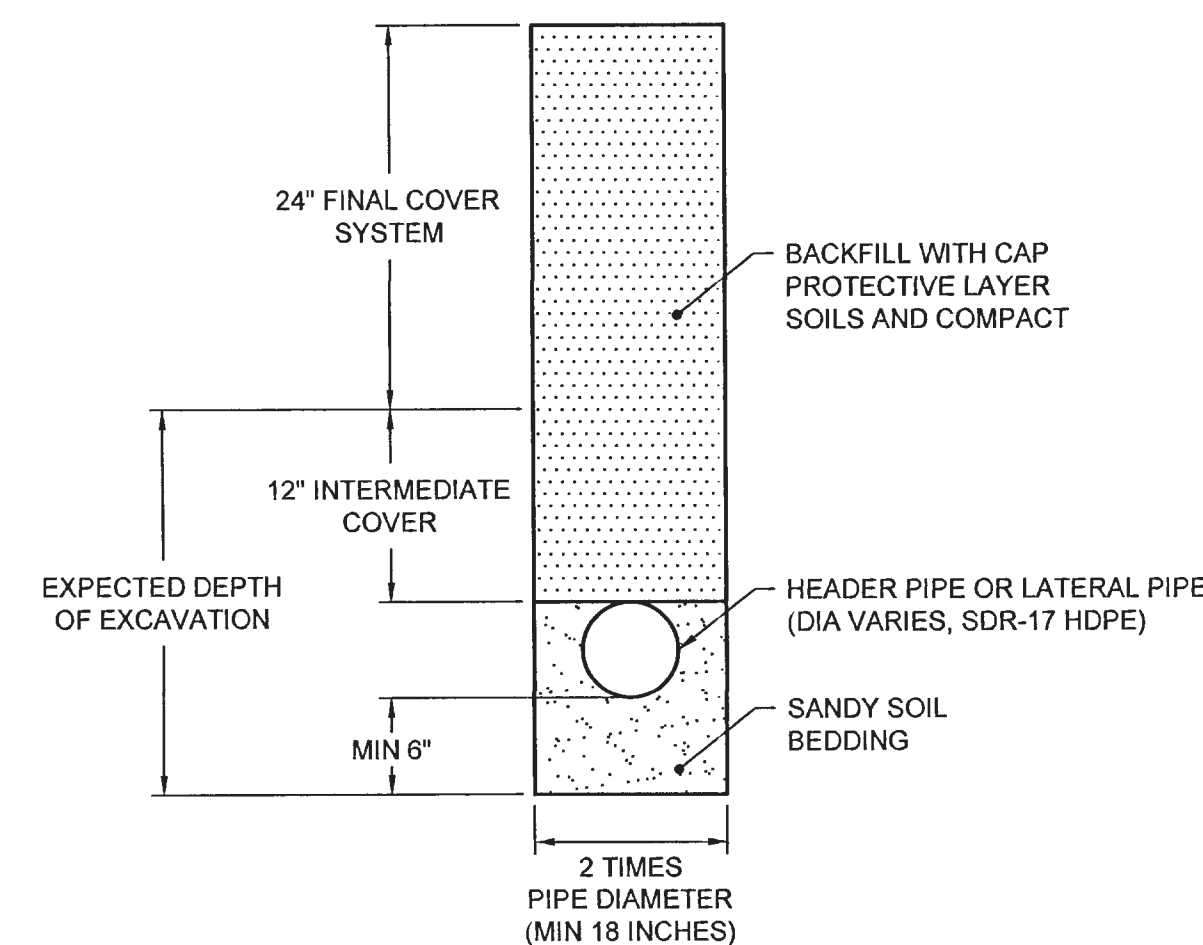
21
30 **DETAIL**
CONDENSATE DRAIN TO LEACHATE CLEANOUT OR DRIPLEG
SCALE: N.T.S.
XREF: FL1962.02X4027



23
30 **DETAIL**
LATERAL PIPE TRENCH AT BENCH CROSSING
SCALE: N.T.S.
XREF: FL1962.02X4024



22
34 **DETAIL**
PIPE FINAL COVER PENETRATION
SCALE: N.T.S.
XREF: FL1962.02X4023



NOTE:
HEADER AND LATERAL PIPES SHALL TYPICALLY BE INSTALLED 3-FT BELOW THE TOP OF FINAL COVER AS INDICATED. HOWEVER, ALL PIPES SHALL BE INSTALLED AT CONSTANT SLOPE BETWEEN THE END POINTS.

24
30 **DETAIL**
PIPE TRENCH
SCALE: N.T.S.
XREF: FL1962.02X4028

NOTES:

- ALL DETAILS PRESENTED ON THIS SHEET ARE PERMIT LEVEL. EXACT CONSTRUCTION DETAILS MAY VARY ACCORDING TO FIELD CONDITIONS AND MANUFACTURER SPECIFIC DETAILS WHILE KEEPING THE GENERAL CONCEPTS OF THE DETAILS PRESENTED ON THIS DRAWING.
- PIPE SIZE FOR CONDENSATE DRAIN "U" SHALL MATCH THE HEADER PIPE SIZE FOR THAT LOCATION, BUT SHALL NOT BE LESS THAN 10 INCHES IN DIAMETER.
- GAS EXTRACTION WELLS ADJACENT TO THE SIDE SLOPE BENCHES SHALL BE OFFSET FROM THE EDGE OF THE 15-FT WIDE BENCH AS INDICATED.

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Geosyntec
consultants

13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX: 813.558.9726
AUTHORIZATION NUMBER: 4321

WSI
Waste Services, Inc.

1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: GAS MANAGEMENT DETAILS III

PROJECT: SOLID WASTE RENEWAL PERMIT

SITE: SOLID WASTE MANAGEMENT FACILITY

DESIGN BY: VMD/JDQ **DATE:** NOVEMBER 2011

DRAWN BY: JWO/CMV **PROJECT NO.:** FL1962.02

CHECKED BY: VMD **FILE:** FL1962.02P350

REVIEWED BY: JDQ **DRAWING NO.:** 35 OF 45

APPROVED BY: VMD

PERMIT DRAWING