SEALAND WASTE, L.L.C.

CARROLL LANDFILL EXPANSION
PERMIT DRAWINGS

(NOT FOR CONSTRUCTION)

TOWN OF CARROLL, CHAUTAUQUA COUNTY, NEW YORK

MARCH 2014

LAST REVISED MAY 2017

INDEX OF DRAWINGS

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PD-4	GENERALIZED CONTOURS FOR THE HIGHLY WEATHERED SHALE/UPPER BEDROCK PIEZOMETRIC SURFACE	PD-21	SUMP RISER DETAILS
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PD-10	PHASING PLAN	PD-27	LANDFILL GAS COLLECTION AND CONTROL SYSTEM DETAILS
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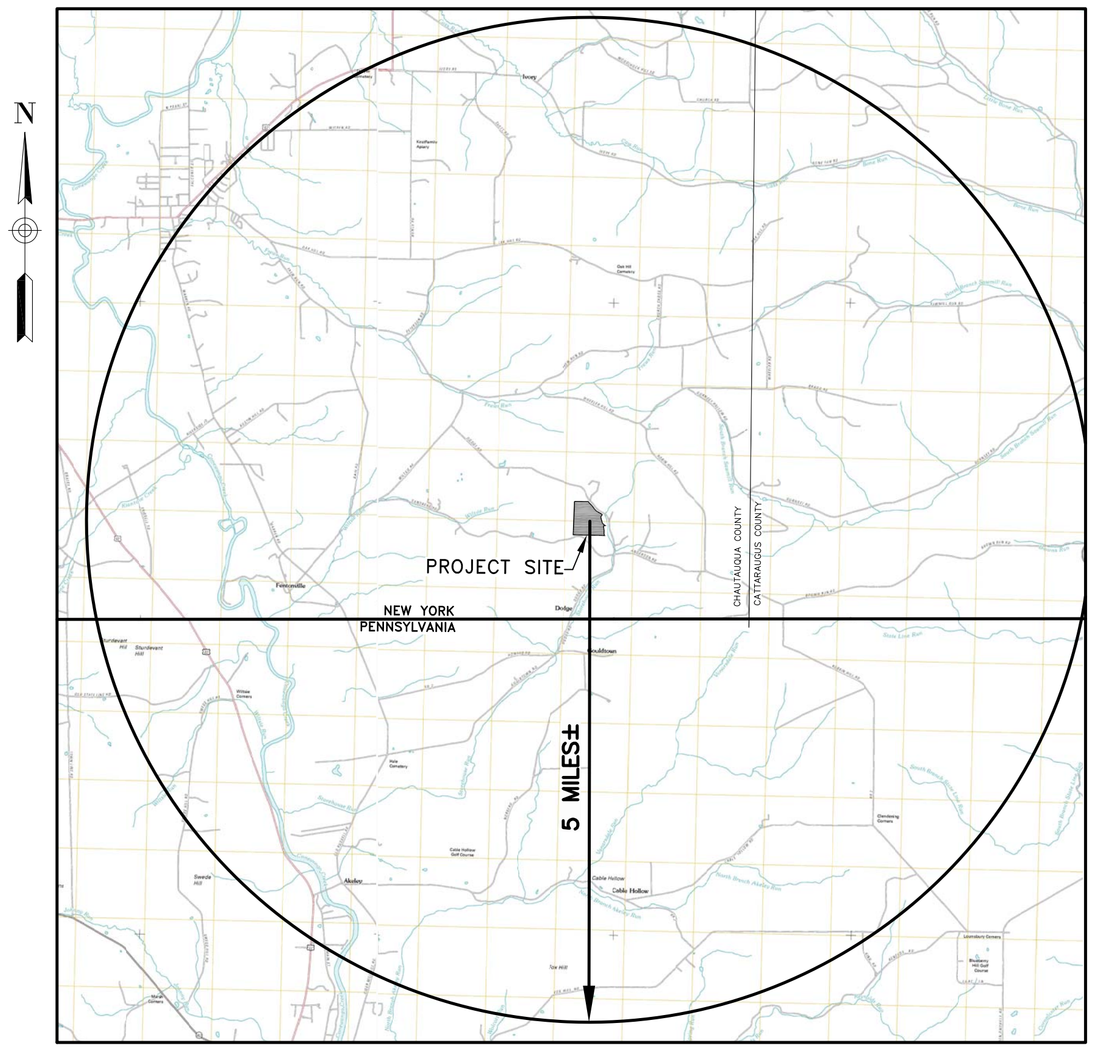
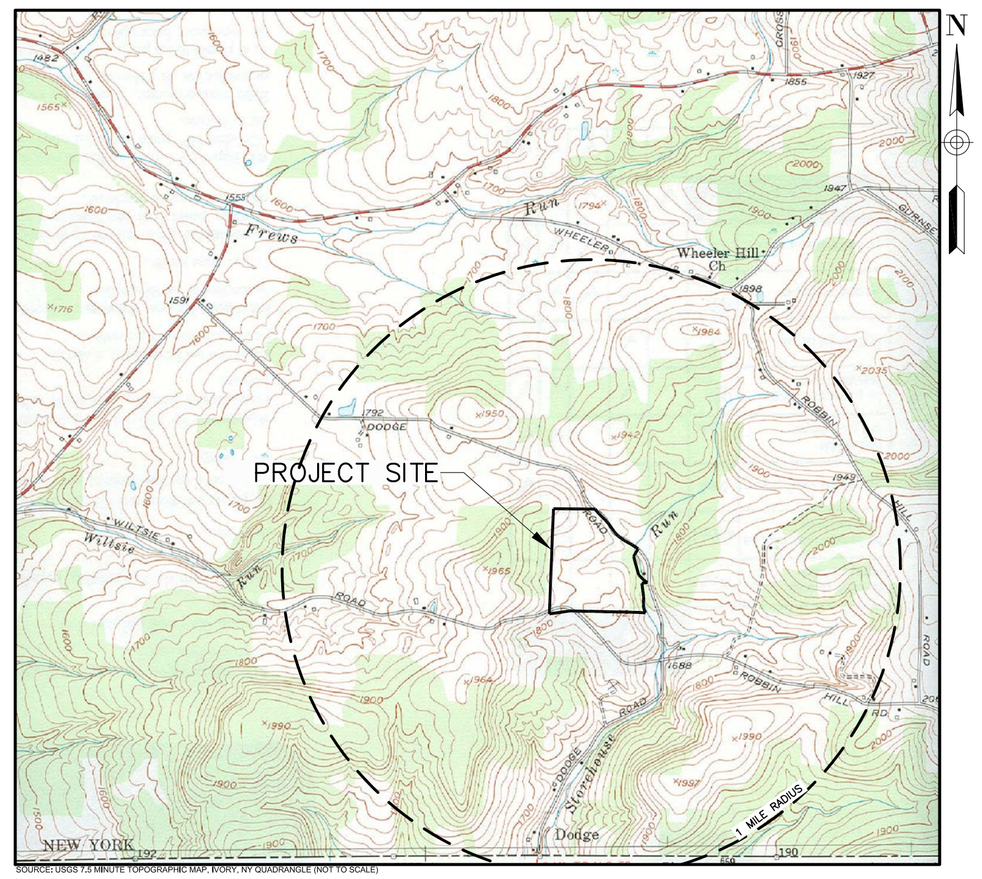
PD-14	LANDFILL CROSS SECTIONS	PD-31	TEMPORARY SEDIMENT BASIN 1 PLAN, PROFILE AND DETAILS AND SEDIMENT BASIN 1 & 2 WEIR SECTIONS & SPILLWAY DETAILS
PD-15	EMBANKMENT SECTIONS	PD-32	DRAINAGE SYSTEM DETAILS
PD-16 ⚠1	TRENCH DRAIN PLAN, PROFILE AND DETAILS	PD-33	MISCELLANEOUS DETAILS
PD-17 ⚠1	MSE BERM DRAIN, PLAN SECTIONS AND DETAILS		



SOURCE: NYSDOT (NOT TO SCALE)

VICINITY MAP

NTS



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, ROMY, NY QUADRANGLE (NOT TO SCALE)

LOCATION MAP

NTS

PREPARED BY:

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING

2620 GRAND ISLAND BLVD. (716) 773-6872

GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX

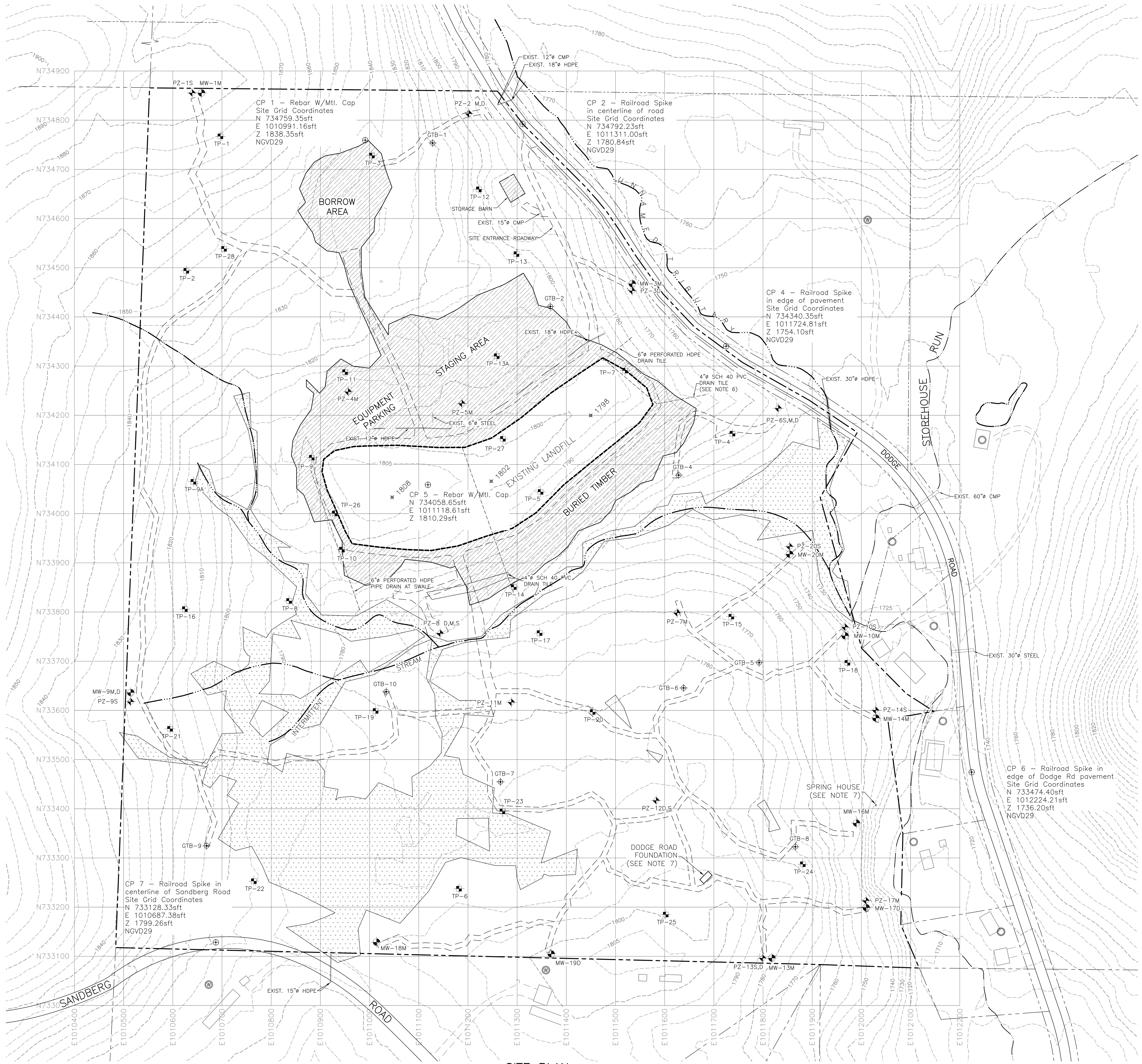
PREPARED FOR:

SEALAND WASTE, L.L.C
85 HIGH TECH DRIVE
RUSH, NEW YORK 14543

ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

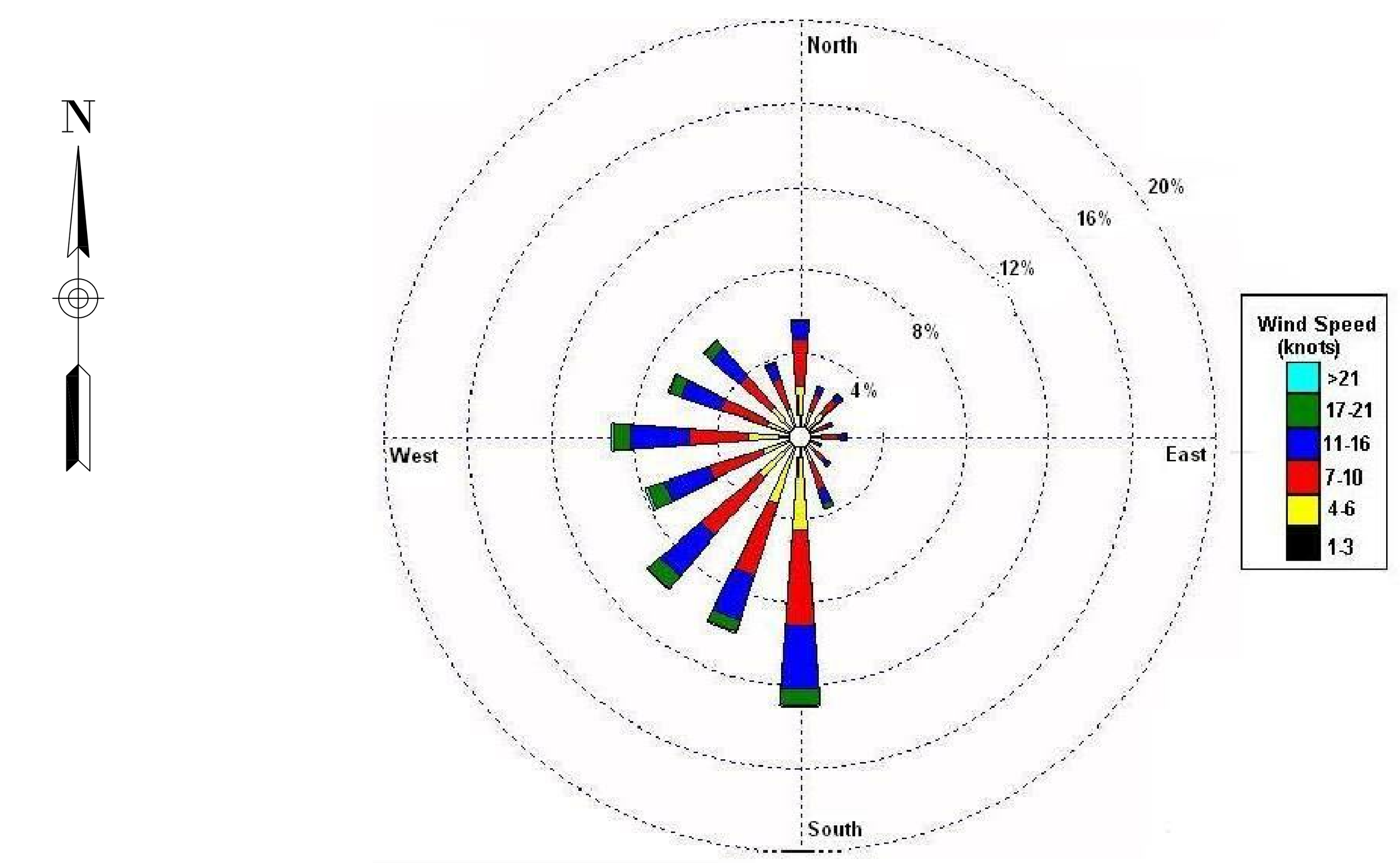
NO.	REVISION	BY	DATE
⚠3	REMOVED SHEET TITLED SITE PREPARATION PLAN	SJD	5/01/17
⚠2	ADDED NEW SHEET TITLED SITE PREPARATION PLAN	SJD	9/16/16
⚠1	ADDED NEW SHEETS PD-5, PD-16, AND PD-17	TPP	9/23/15

DATE:	DWG:	CHECKED BY:	PROJ. NO.:	SHEET:
OCTOBER 2015	CD-1 TITLE SHEET.DWG		02-0104	1 OF 34



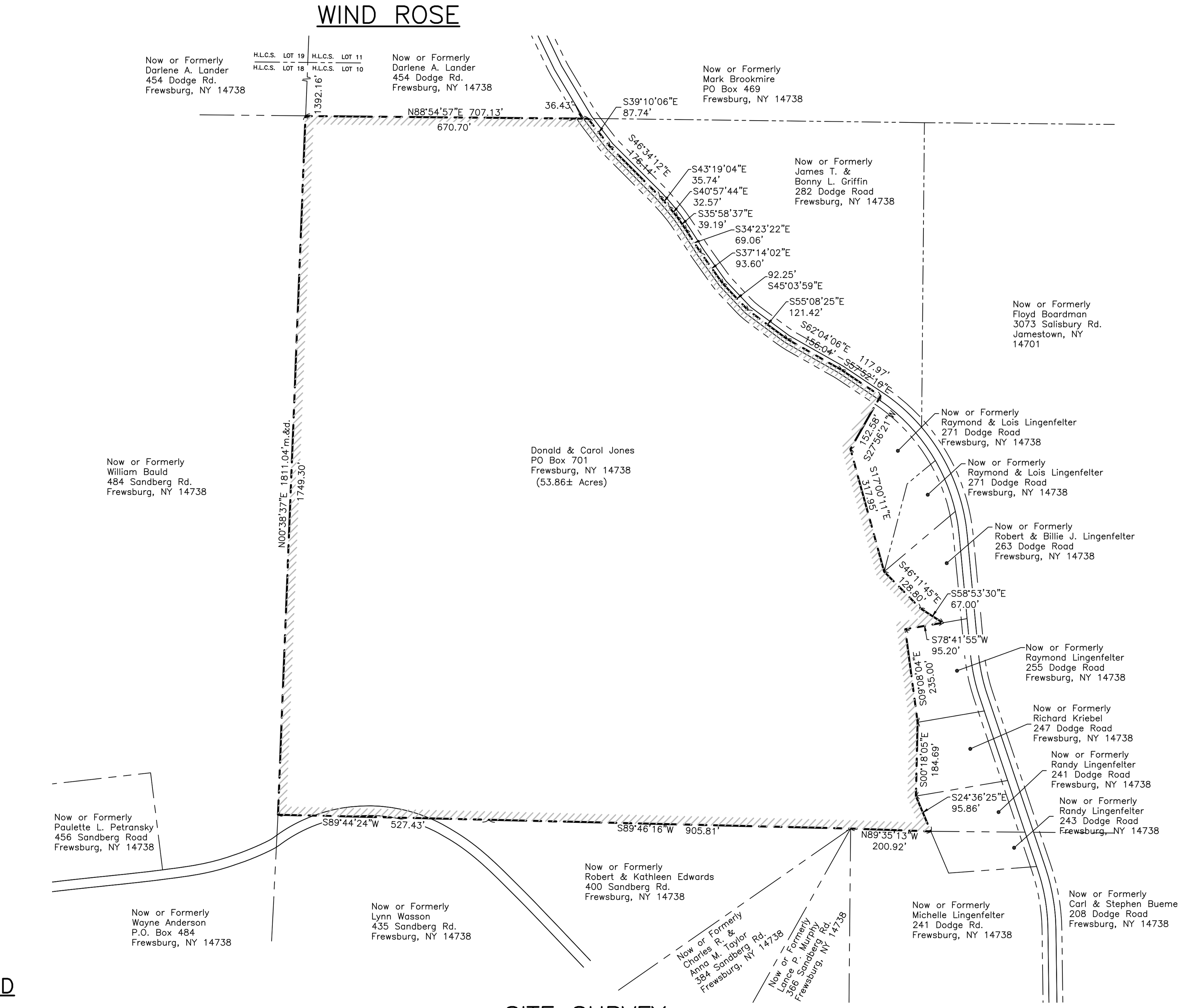
SITE PLAN

SCALE: 1"=120'



NOTE:
WIND ROSE REPRESENTS THE AVERAGE ANNUAL WIND DIRECTION AND SPEED DATA COLLECTED BY NOAA, JAMESTOWN, NEW YORK SOURCE DATES: 1973 TO 2003

WIND ROSE



SITE SURVEY

SCALE: 1"=300'

LEGEND

- SURVEY CONTROL POINT
- PZ-13D,S STANDPIPE PIEZOMETER–CLUSTER
- MW-13M GROUNDWATER MONITORING WELL
- TP-25 TEST PIT
- GTB-10 GEOTECHNICAL BORING
- RESIDENTIAL WATER WELL
- APPROXIMATE LOCATION RESIDENTIAL WATER WELL
- 1750 EXISTING GROUND CONTOUR
- PROPERTY BOUNDARY
- WATER COURSE
- UNIMPROVED ACCESS WAY
- IMPROVED ROADWAY
- WETLAND AREA
- DISTURBED AREAS
- EXISTING BUILDING
- 1802 SPOT ELEVATION
- PIPE DRAIN

GENERAL NOTES:

1. THE TOPOGRAPHY SHOWN HEREON IS OBTAINED FROM THE UNITED STATES GEOLOGICAL SURVEY (USGS) NATIONAL ELEVATION DATA SET 2009, CONVERTED FROM LATITUDE, LONGITUDE, ELEVATION TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, AND IN CONFORMANCE WITH THE NORTH AMERICAN DATUM OF 1983 (NAD–83)
2. PROPERTY BOUNDARY SHOWN RECEIVED ELECTRONICALLY FROM MICHAEL J. RODGERS (MJR) LAND SURVEYORS OF JAMESTOWN, NEW YORK, DATED OCTOBER 2012.
3. WETLAND AREA IS BASED ON A FIELD DELINEATION BY EARTH DIMENSIONS INC., OF ELMA, NEW YORK COMPLETED NOVEMBER 8, 2010, PROJECT CODE: W24H04a
4. THE WETLAND BOUNDARY SHOWN HEREON WAS LOCATED IN THE FIELD BY HAND HELD GLOBAL POSITIONAL SYSTEM (GPS) INSTRUMENT SURVEY COMPLETED BY EARTH DIMENSION INC. PERSONNEL DURING THE FIELD DELINEATION.
5. THE LOCATION OF THE TEST PITS, PIEZOMETERS AND BORINGS ARE APPROXIMATE.
6. DRAIN TILE LOCATIONS ARE TAKEN FROM A DRAWING ENTITLED CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL PREPARED BY RALPH WILSON, PE AND LAST REVISED ON JUNE 13, 1990.
7. SEE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR SHPA RELATED ISSUES REGARDING THE DODGE ROAD FOUNDATION AND THE SPRING HOUSE.

NO.	REVISION	BY	DATE

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2014
SCALE: NOTED

PREPARED FOR:	SEALAND WASTE, LLC.		SITE MAP			SHEET
DES. BY:	DRW. BY:	CHK. BY:	CARROLL LANDFILL EXPANSION APPLICATION			PD-2
DWG.	PD-2 SITE MAP.dwg		TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK	

LEGEND

- PZ-1D,S — STANDPIPE PIEZOMETER–CLUSTER
- MW-1M — MONITORING WELL
- TP-18 — TEST PIT
- GTB-6 — GEOTECHNICAL BORING
- 1750 — EXISTING GROUND CONTOUR
- 1750 — TOP OF HIGHLY WEATHERED SHALE MAJOR CONTOUR
- TOP OF HIGHLY WEATHERED SHALE MINOR CONTOUR
- PROPERTY BOUNDARY
- UNIMPROVED ACCESSWAY
- IMPROVED ROADWAY
- EXISTING BUILDING
- 2 A11 — SECTION ID AND SHEET WHERE SECTION IS LOCATED

NOTES:

1. THE TOPOGRAPHY SHOWN HEREON IS OBTAINED FROM THE UNITED STATES GEOLOGICAL SURVEY (USGS) NATIONAL ELEVATION DATA SET 2009, CONVERTED FROM LATITUDE, LONGITUDE, ELEVATION TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, AND IN CONFORMANCE WITH THE NORTH AMERICAN DATUM OF 1983 (NAD–83).
2. PROPERTY BOUNDARY SHOWN RECEIVED ELECTRONICALLY FROM MICHAEL J. RODGERS (MJR) LAND SURVEYORS OF JAMESTOWN, NEW YORK, DATED OCTOBER 2012.
3. THE LOCATION OF PIEZOMETERS IS APPROXIMATE.
2. 4. TOP OF HIGHLY WEATHERED SHALE CONTOURS GENERATED BY PJ CAREY ASSOCIATES, SUGAR HILL, GEORGIA USING INTERPOLATION SOFTWARE ROCK WORKS 15.

NO.	REVISION	BY	DATE
2	REPLACED THE TOP OF COMPETENT BEDROCK SURFACE WITH THE HIGHLY WEATHERED SHALE SURFACE	TPP	5/21/15
1	REVISED SECTION CALL OUT LABELS	TPP	4/30/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX

JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: May 2014

SCALE: 1"=120'

PREPARED FOR: SEALAND WASTE, LLC			GENERALIZED CONTOURS FOR THE TOP OF HIGHLY WEATHERED SHALE (2) CARROLL LANDFILL EXPANSION APPLICATION
DES. BY:	DRW. BY:	CHK. BY:	SHEET PD-3
DWG. PD-3 TOP OF THE HIGHLY WEATHERED SHALE.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK

LEGEND

- PZ-1D,S — STANDPIPE PIEZOMETER-CLUSTER
- MW-1M — MONITORING WELL
- TP-18 — TEST PIT
- GTB-6 — GEOTECHNICAL BORING
- 1750 — EXISTING GROUND CONTOUR
- 1730 — HIGHLY WEATHERED SHALE/UPPER BEDROCK PIEZOMETRIC HEAD CONTOUR
- PROPERTY BOUNDARY
- UNIMPROVED ACCESSWAY
- IMPROVED ROADWAY
- EXISTING BUILDING
- A11 — SECTION ID AND SHEET WHERE SECTION IS LOCATED
- ⚠

NOTES:

1. THE TOPOGRAPHY SHOWN HEREON IS OBTAINED FROM THE UNITED STATES GEOLOGICAL SURVEY (USGS) NATIONAL ELEVATION DATA SET 2009, CONVERTED FROM LATITUDE, LONGITUDE, ELEVATION TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, AND IN CONFORMANCE WITH THE NORTH AMERICAN DATUM OF 1983 (NAD-83).
2. PROPERTY BOUNDARY SHOWN RECEIVED ELECTRONICALLY FROM MICHAEL J. RODGERS (MJR) LAND SURVEYORS OF JAMESTOWN, NEW YORK, DATED OCTOBER 2012.
3. THE LOCATION OF TEST PITS, GEOTECHNICAL BORINGS, PIEZOMETERS, AND MONITORING WELLS ARE APPROXIMATE.
4. PIEZOMETRIC HEAD CONTOURS HAVE BEEN GENERATED USING THE MAXIMUM GROUNDWATER ELEVATIONS MEASURED IN THE PIEZOMETERS AND MONITORING WELLS OVER 19 DIFFERENT DATES BETWEEN MARCH 2011 AND SEPTEMBER 2013.

NO.	REVISION	BY	DATE
2	REMOVED HIGHLY WEATHERED SHALE SURFACE/REVISED SHEET TITLE	TPP	5/21/15
1	REVISED SECTION CALL OUT LABELS	TPP	4/30/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: May 2014

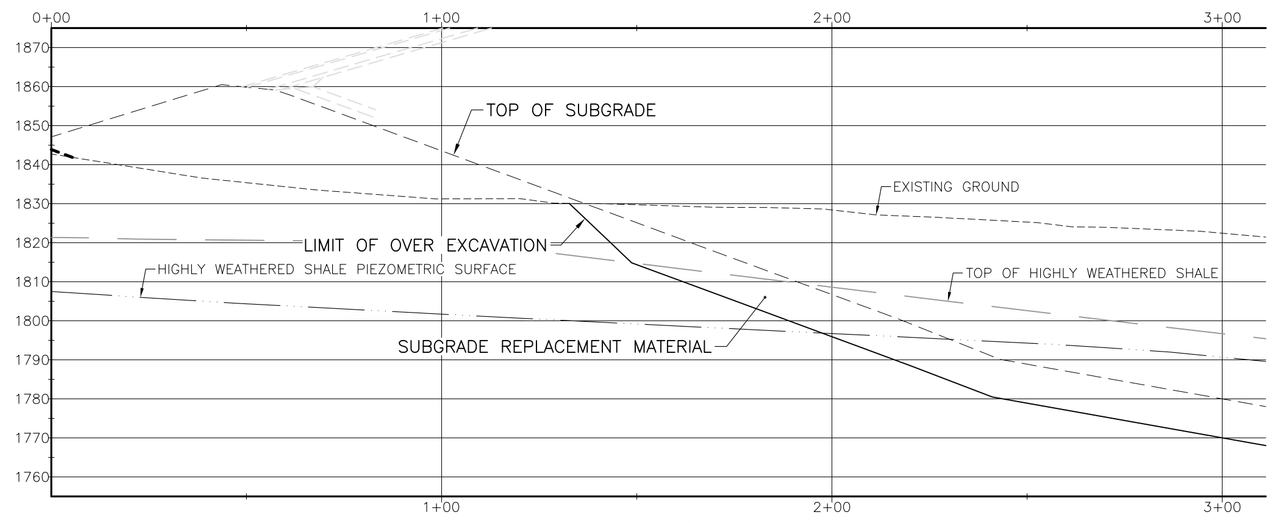
SCALE: 1"=120'

PREPARED FOR: SEALAND WASTE, LLC			GENERALIZED CONTOURS FOR THE HIGHLY WEATHERED SHALE/UPPER BEDROCK PIEZOMETRIC SURFACE ⚠2
DES. BY:	DRW. BY:	CHK. BY:	CARROLL LANDFILL EXPANSION APPLICATION
DWG. PD-4 TOP OF WEATHERED SHALE PIEZOMETRIC SURFACE.dwg	TOWN OF CARROLL	CHAUTAUQIA COUNTY	STATE OF NEW YORK

SHEET PD-4

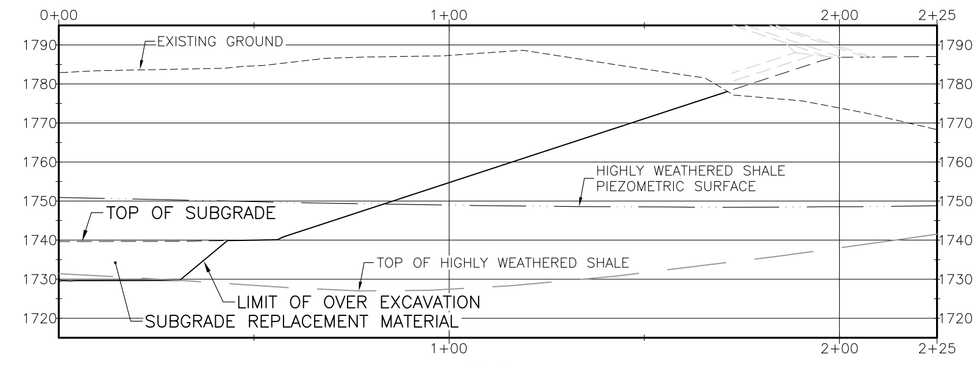
PLAN

SCALE: 1"=200'



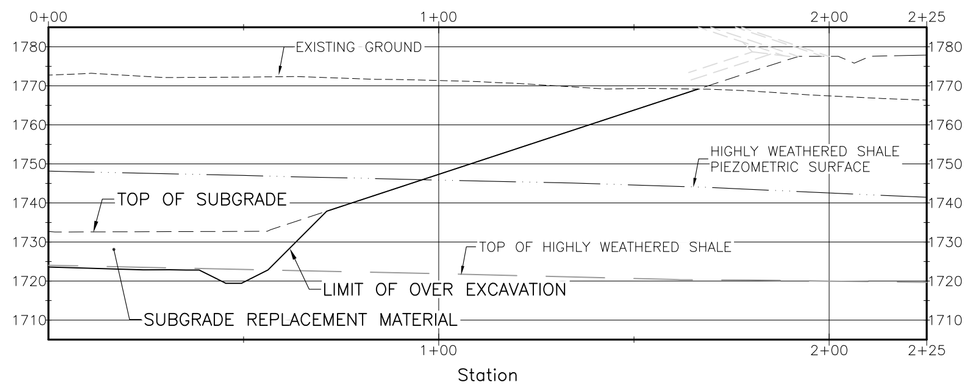
PROFILE VIEW OF SECTION a–a

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



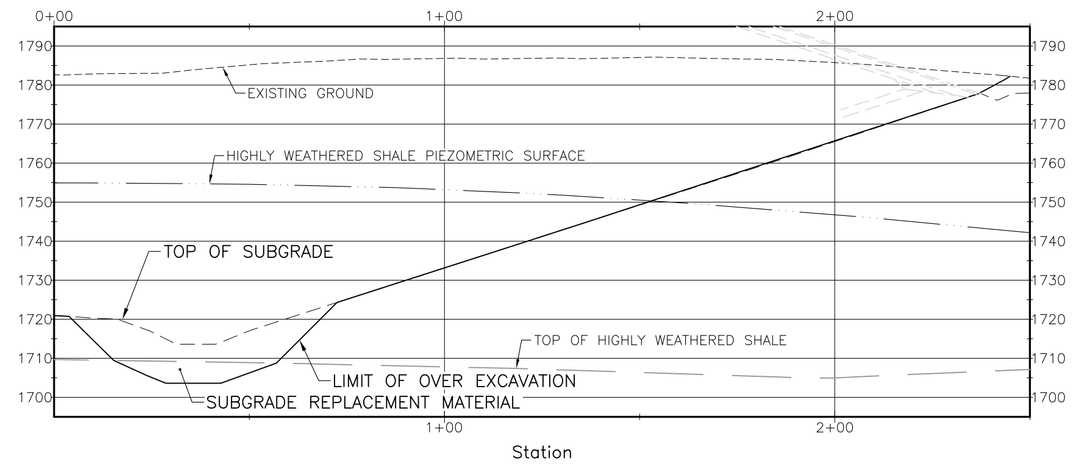
PROFILE VIEW OF SECTION b–b

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



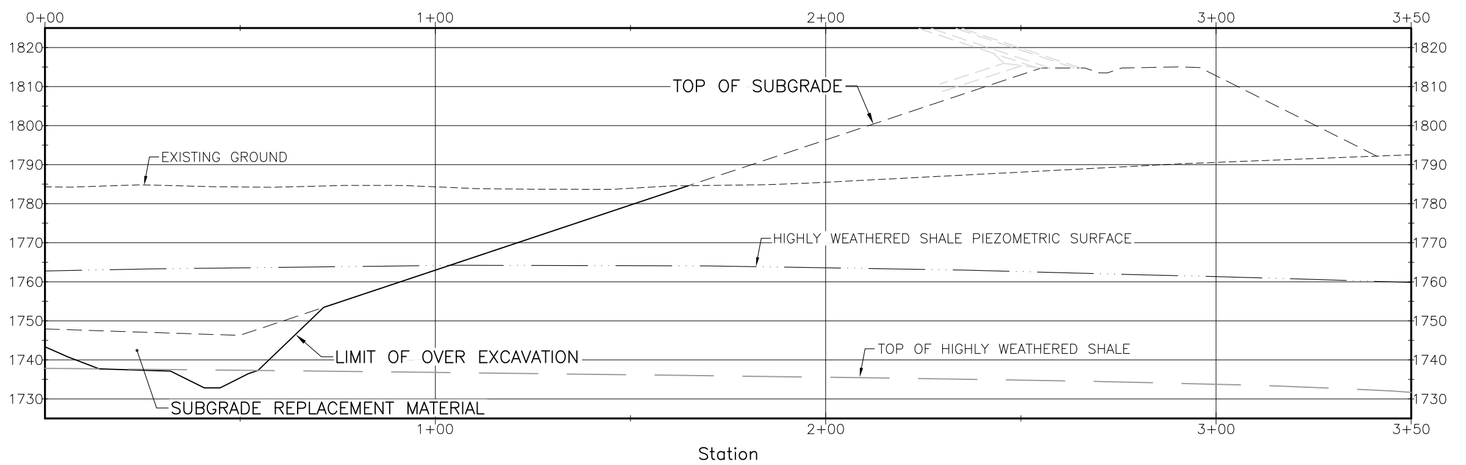
PROFILE VIEW OF SECTION c–c

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



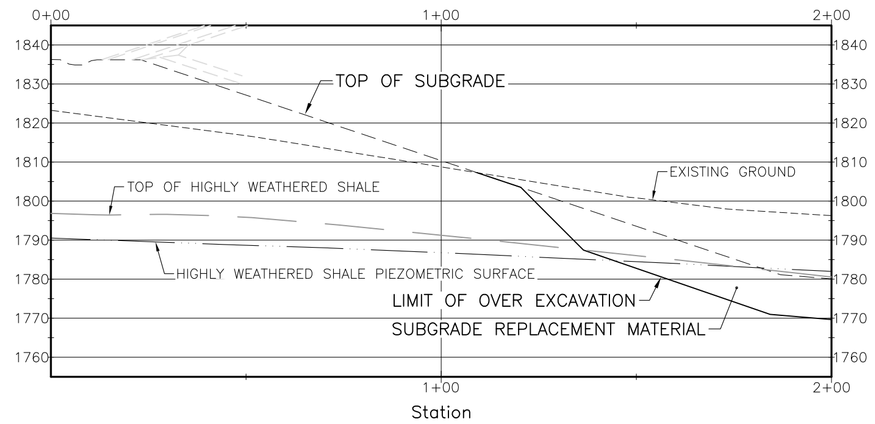
PROFILE VIEW OF SECTION d–d

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



PROFILE VIEW OF SECTION e–e

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



PROFILE VIEW OF SECTION f–f

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL

NOTES:

1. THE TRENCH DRAIN MUST BE INSTALLED PRIOR TO COMPLETING THE EXCAVATION TO SUBGRADE. SEE SHEET PD–16 FOR TRENCH DRAIN PLAN, PROFILES AND DETAILS
2. SEE SECTION 4.4.3 OF THE ENGINEERING REPORT FOR A DISCUSSION OF THE GROUNDWATER DRAIN DESIGN.

NO.	REVISION	BY	DATE
1	UPDATED DRAIN LOCATION	SJD	11/08/16

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072

JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: October 2015

SCALE: NOTED

PREPARED FOR:	SEALAND WASTE, LLC		
DES. BY:	DRW. BY:	CHK. BY:	
DWG.	PD-5 AND 16 EXCAVATION PLAN AND PROFILES.dwg		

EXCAVATION PLAN AND PROFILES
CARROLL LANDFILL EXPANSION APPLICATION

TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

SHEET PD-5

PLAN
SCALE: 1"=120'

LEGEND

- PZ-60,S — STANDPIPE PIEZOMETER
- MW-13M — MONITORING WELL
- MW-10MR — REPLACEMENT MONITORING WELL
- TP-20 — TEST PIT
- GTB-2 — GEOTECHNICAL BORING
- 1750 — EXISTING GROUND CONTOUR
- 1740 — PROPOSED CONTOUR
- LIMIT OF WASTE
- PROPERTY BOUNDARY
- PERFORATED POREWATER DRAIN PIPE
- NON-PERFORATED POREWATER DRAIN /CLEAN-OUT
- DRAINAGE CHANNEL AND FLOW DIRECTION
- SITE SECURITY LIGHTING
- GRAVEL SURFACE
- LIMIT OF GEOCOMPOSITE POREWATER DRAIN
- WATER COURSE
- SLOPE INDICATOR
- A12 — SECTION ID AND SHEET WHERE SECTION IS LOCATED

GENERAL NOTES:

1. THE SUBGRADE SURFACE SHOWN HEREON REPRESENTS THE SURFACE ON WHICH THE GEOCOMPOSITE POREWATER DRAIN OR SOIL LINER WILL BE CONSTRUCTED.

NO.	REVISION	BY	DATE
13	REMOVED DISCHARGE DRAIN FROM PLAN	SJD	11/08/16
12	ADD STREAM DISCHARGE STRUCTURES AND REVISED GRADED FILTER 4	JAD	9/6/16
11	REVISE SHEET NUMBER	TPP	10/13/15
10	ADDED POREWATER DRAIN DISCHARGE	TPP	9/29/15
9	ADDED LFG FLARE PAD	TPP	9/29/15
8	REMOVED ISOPACH	SJD	5/21/15
7	REMOVED GROUNDWATER DRAIN ITEMS FROM LEGEND	SJD	5/21/15
6	REMOVED NOTES 2, 3, 4, AND 5	SJD	5/21/15
5	REMOVED ALL GROUNDWATER DRAINS	SJD	5/21/15
4	ADDED STORMWATER DISCHARGE FROM LEACHATE HOLDING TANK	SJD	3/06/15
3	ADDED CONTROL PANEL	TPP	2/05/15
2	REVISED POREWATER PIPING	TPP	5/23/14
1	REVISED SECTION CALL OUT LABELS	TPP	4/30/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX

JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2014

SCALE: 1"=120'

PREPARED FOR: SEALAND WASTE, LLC			SUBGRADE PLAN
DES. BY:	DRW. BY:	CHK. BY:	CARROLL LANDFILL EXPANSION APPLICATION
DWG. PD-6 SUBGRADE AND POREWATER DRAIN PLAN.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK

SHEET PD-6 13

PLAN
SCALE: 1"=120'

LEGEND

- PZ-6D,S — STANDPIPE PIEZOMETER
- MW-13M — GROUNDWATER MONITORING WELL
- MW-10MR — REPLACEMENT GROUNDWATER MONITORING WELL
- TP-20 — TEST PIT
- GTB-2 — GEOTECHNICAL BORING
- —1750— EXISTING GROUND CONTOUR
- —1740— PROPOSED CONTOUR
- PROPERTY BOUNDARY
- PERFORATED LEACHATE COLLECTION PIPE
- LEACHATE CLEANOUT PIPE
- DRAINAGE CHANNEL AND FLOW DIRECTION
- SITE SECURITY LIGHTING
- GRAVEL SURFACE
- WATER COURSE
- SLOPE INDICATOR
- A11 — SECTION ID AND SHEET WHERE SECTION IS LOCATED

NOTES:

1. THE GRADING SURFACE SHOWN HEREON REPRESENTS THE SURFACE ON WHICH THE SECONDARY 60 MIL HIGH DENSITY POLYETHYLENE GEOMEMBRANE LINER WILL BE INSTALLED.
2. SEE SECTION 4.5 OF THE ENGINEERING REPORT FOR A DISCUSSION OF THE COMPOSITE LINER AND LEACHATE COLLECTION SYSTEM DESIGN.
3. THE INITIAL LOCATION OF THE LEACHATE STORAGE AND LOADOUT FACILITY IS INSIDE CELL 4 AS SHOWN ON SHEETS PD-10A AND PD-23. STORAGE TANK AND LOADOUT COMPONENTS WILL BE RE-BUILT IN THE LOCATION SHOWN HEREON WHEN LANDFILLING OPERATIONS BEGIN IN CELL 3.

NO.	REVISION	BY	DATE
5	ADD UPDATED STREAM DISCHARGE STRUCTURES AND GRADED FILTER 4	JAD	9/2/16
4	ADDED LFG PAD	TPP	9/30/15
3	ADDED STORMWATER DISCHARGE FROM LEACHATE HOLDING TANK	TPP	3/02/15
2	ADDED CONTROL PANEL	TPP	2/5/15
1	REVISED SECTION CALL OUT LABELS	TPP	4/30/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E. NYSPE NO. 061689

DATE: March 2014

SCALE: 1"=120'

PREPARED FOR: SEALAND WASTE, LLC

DES. BY: | DRW. BY: | CHK. BY:

DWG. PD-6 SECONDARY LINER AND LEACHATE COLLECTION SYSTEM PLAN.dwg

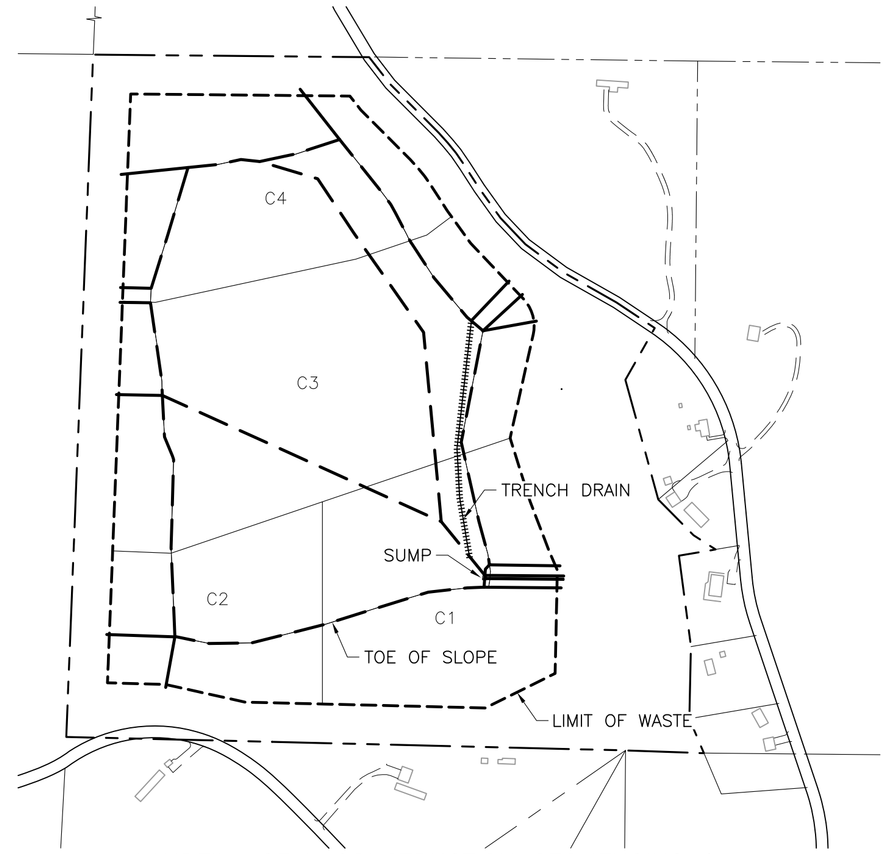
SECONDARY LINER AND LEACHATE COLLECTION SYSTEM PLAN

CARROLL LANDFILL EXPANSION APPLICATION

TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

SHEET PD-7

PLAN
SCALE: 1"=120'



LANDFILL CELL CONSTRUCTION SEQUENCING ⚠2
SCALE: NOT TO SCALE

LEGEND

- PZ-6D,S — STANDPIPE PIEZOMETER
- MW-13M — GROUNDWATER MONITORING WELL
- MW-10MR — REPLACEMENT GROUNDWATER MONITORING WELL
- TP-20 — TEST PIT
- GTB-2 — GEOTECHNICAL BORING
- 1750 — EXISTING GROUND CONTOUR
- 1740 — PROPOSED CONTOUR
- LIMIT OF WASTE
- PERFORATED LEACHATE COLLECTION PIPE
- SOLID WALL CLEANOUT PIPE
- PROPERTY BOUNDARY
- DRAINAGE CHANNEL AND FLOW DIRECTION
- SITE SECURITY LIGHTING
- GRAVEL SURFACE
- WATER COURSE
- SLOPE INDICATOR
- A12 — SECTION ID AND SHEET WHERE SECTION IS LOCATED ⚠1
- C1 — LANDFILL CELL DESIGNATION ⚠2
- LEAK DETECTION POINT (LD)
- AIR RELEASE VALVE POINT (AR)

NOTES:

1. THE GRADING SURFACE SHOWN HEREON REPRESENTS THE SURFACE ON WHICH THE PRIMARY 60 MIL HIGH DENSITY POLYETHYLENE GEOMEMBRANE LINER WILL BE INSTALLED.
2. SEE SECTION 4.5 OF THE ENGINEERING REPORT FOR A DISCUSSION OF THE COMPOSITE LINER AND LEACHATE COLLECTION SYSTEM DESIGN.
⚠1 3. THE INITIAL LOCATION OF THE LEACHATE STORAGE AND LOADOUT FACILITY IS INSIDE CELL 4 AS SHOWN ON SHEETS PD-10A AND PD-23. STORAGE TANK AND LOADOUT COMPONENTS WILL BE RE-BUILT IN THE LOCATION HEREIN WHEN LANDFILLING OPERATIONS BEGIN IN CELL 3.

NO.	REVISION	BY	DATE
7	UPDATED NOTE	SJD	9/12/16
6	ADDED UPDATED STREAM DISCHARGE STRUCTURES AND GRADED FILTER 4	JAD	9/02/16
5	ADDED LFG PAD	TPP	9/30/15
4	ADDED STORMWATER DISCHARGE FROM LEACHATE HOLDING TANK	TPP	3/06/15
3	ADDED CONTROL PANEL	TPP	2/5/15
2	ADDED LANDFILL SEQUENCING DETAIL WITH GROUNDWATER DRAINS	TPP	5/27/14
1	REVISED SECTION CALL OUT LABELS	TPP	4/30/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: May 2014

SCALE: 1"=120'

PREPARED FOR: SEALAND WASTE, LLC			PRIMARY LINER AND LEACHATE COLLECTION SYSTEM PLAN CARROLL LANDFILL EXPANSION APPLICATION
DES. BY:	DRW. BY:	CHK. BY:	SHEET PD-8
DWG. PD-7 PRIMARY LINER AND LEACHATE COLLECTION SYSTEM PLAN.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK

Q:\Sealand\02-0104 Carroll Landfill\Permit Drawings\2016 REVISIONS\PD-8 PRIMARY LINER AND LEACHATE COLLECTION SYSTEM PLAN.dwg 9/16/2016 11:21 AM

NOTES:

1. LANDFILL GAS COLLECTION & CONTROL SYSTEM NOT SHOWN HEREON FOR CLARITY. SEE SHEET PD-25 THROUGH 27 FOR THE LAYOUT & POSITIONING OF THESE COMPONENTS.
2. SEDIMENT BASIN, POND, GRADED FILTER AND RELATED STORMWATER SYSTEM PLAN AND DETAIL ARE PROVIDED ON SHEETS PD-28 THROUGH PD-32.

LEGEND

- EXISTING GROUND CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPERTY BOUNDARY
- 3:1 TYP — SLOPE INDICATOR
- DRAINAGE CHANNEL (INDICATES FLOW DIRECTION)
- SECTION ID AND SHEET WHERE SECTION IS LOCATED
- MONITORING WELL
- STANDPIPE PIEZOMETER-CLUSTER
- MONITORING WELL REPLACEMENT

NO.	REVISION	BY	DATE
6	UPDATED LABELS	SJD	10/19/16
5	UPDATED NOTE	JAD	9/2/16
4	REMOVED MANHOLE 7	JAD	9/2/16
3	ADDED UPDATED STREAM DISCHARGE STRUCTURES AND GRADED FILTER 4	JAD	9/2/16
2	REVISE SHEET NUMBER	TPP	10/13/15
1	ADDED LFG PAD AND BOX CULVERT	TPP	10/01/15
0	ADDED STORMWATER DISCHARGE FROM LEACHATE HOLDING TANK	TPP	3/06/15
	REVISED SECTION CALL OUT LABELS	TPP	4/30/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E. NYSPE NO. 061689

DATE: August 2014

SCALE: 1"=120'

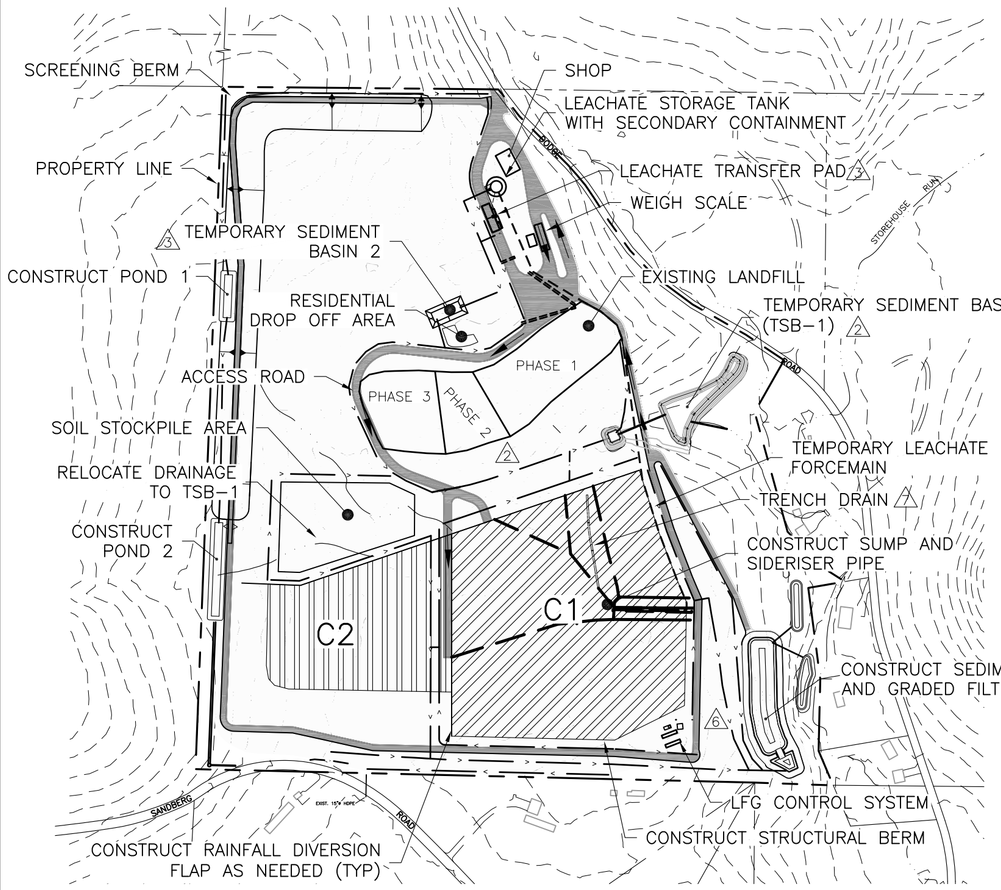
PREPARED FOR: SEALAND WASTE, LLC		
DES. BY:	DRW. BY:	CHK. BY:
DWG. PD-9 FINAL GRADING AND DRAINAGE PLAN.dwg		

FINAL GRADING AND DRAINAGE PLAN
CARROLL LANDFILL EXPANSION APPLICATION

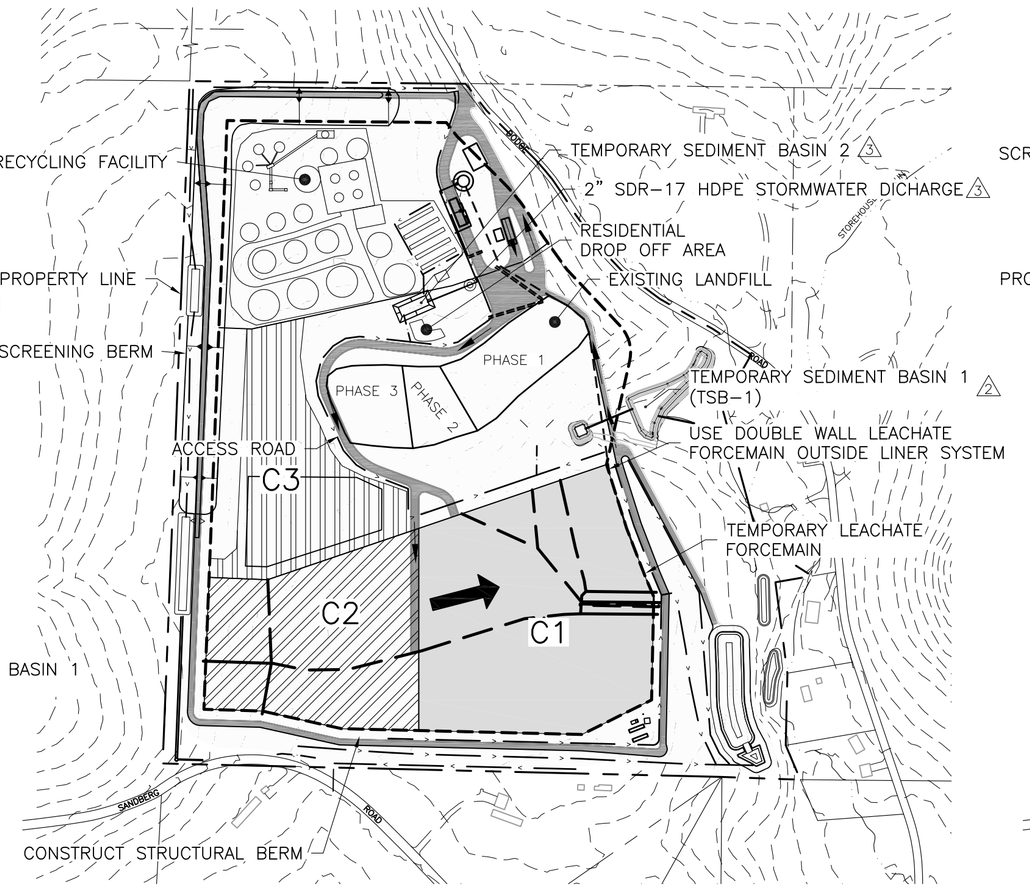
TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK

SHEET PD-9 4

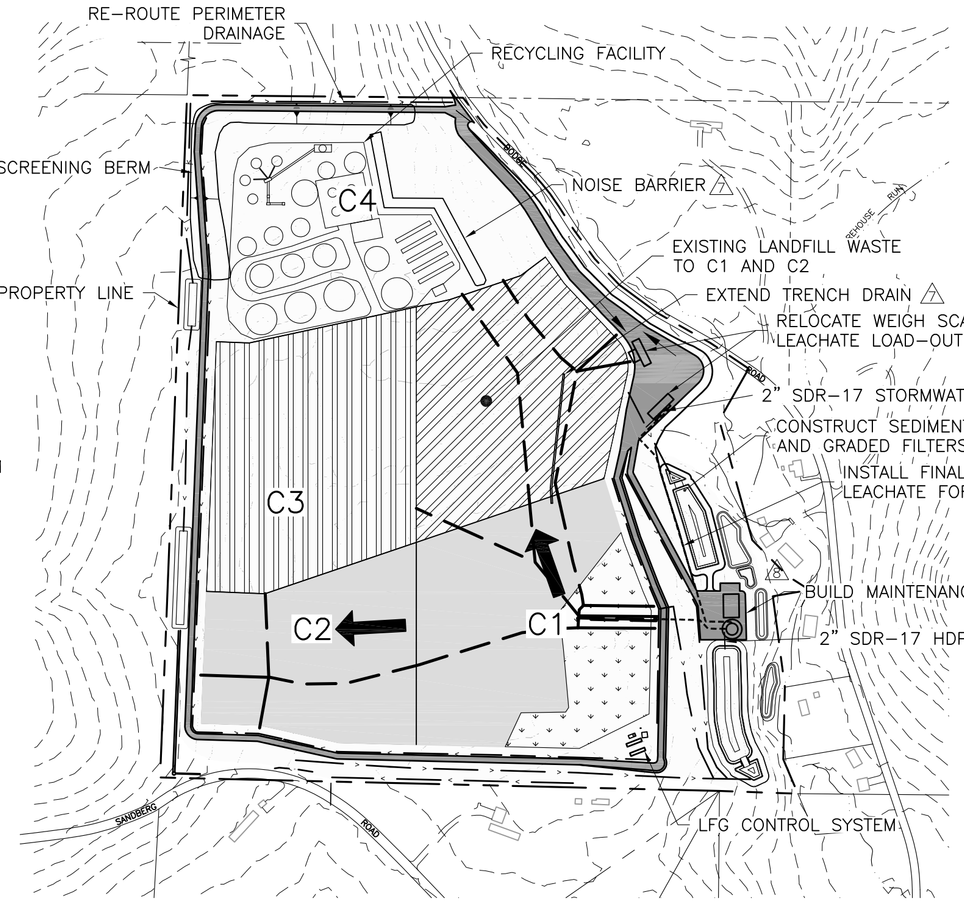
D:\Sealand\002-0104 Carroll Landfill\Permit Drawings\2016 REVISIONS\PD-9 FINAL GRADING AND DRAINAGE PLAN.dwg 11/19/2016 10:18 AM



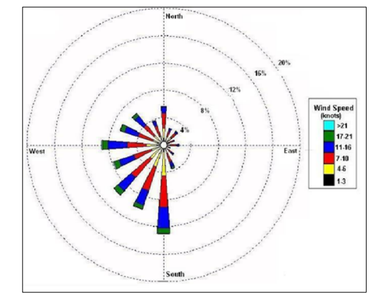
1 INITIAL CONSTRUCTION
Scale: 1"=300'



2 PHASE 4
Scale: 1"=300'



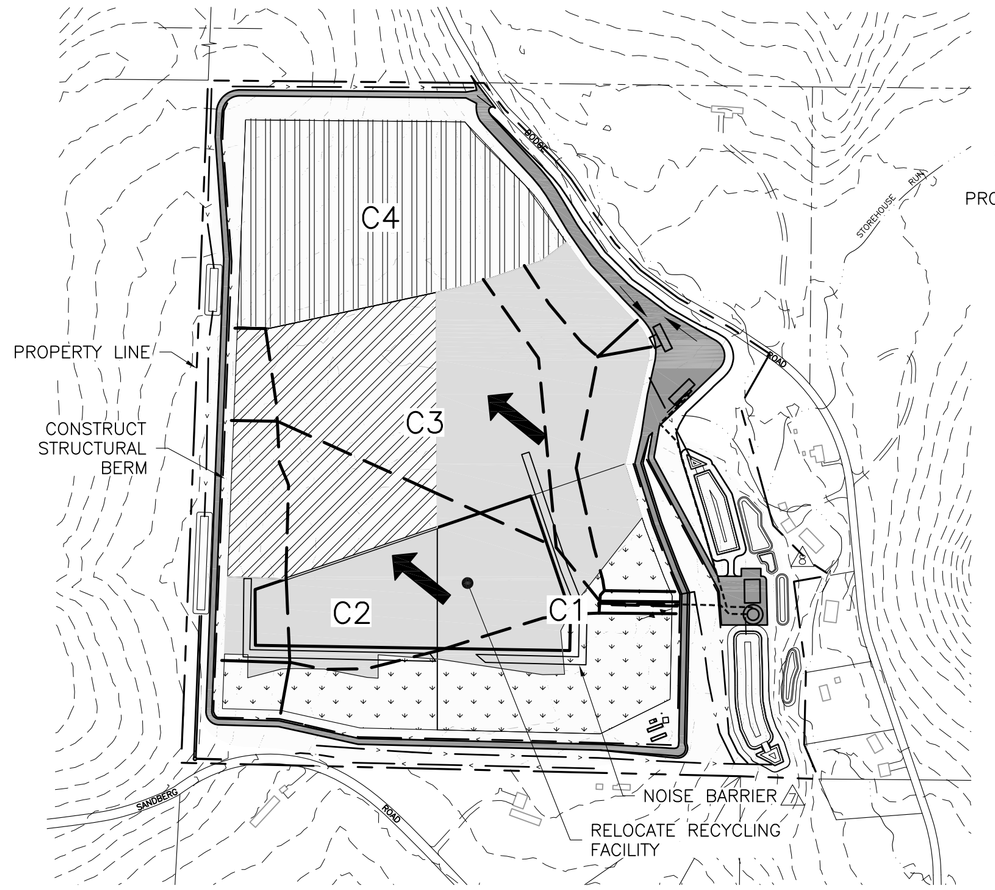
3 PHASE 5 5
Scale: 1"=300'



WIND ROSE

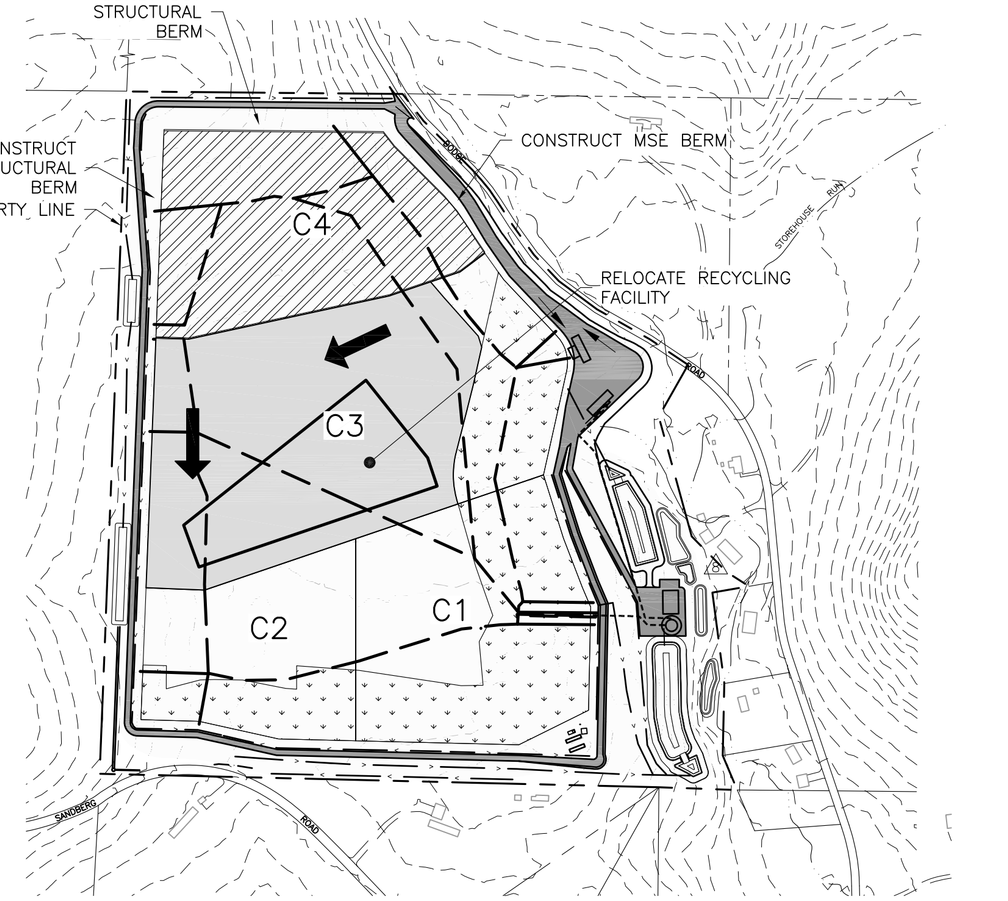
NOTE:
WIND ROSE REPRESENTS THE AVERAGE ANNUAL WIND DIRECTION AND SPEED DATA COLLECTED BY NOAA, JAMESTOWN, NEW YORK SOURCE DATES: 1973 TO 2003

N



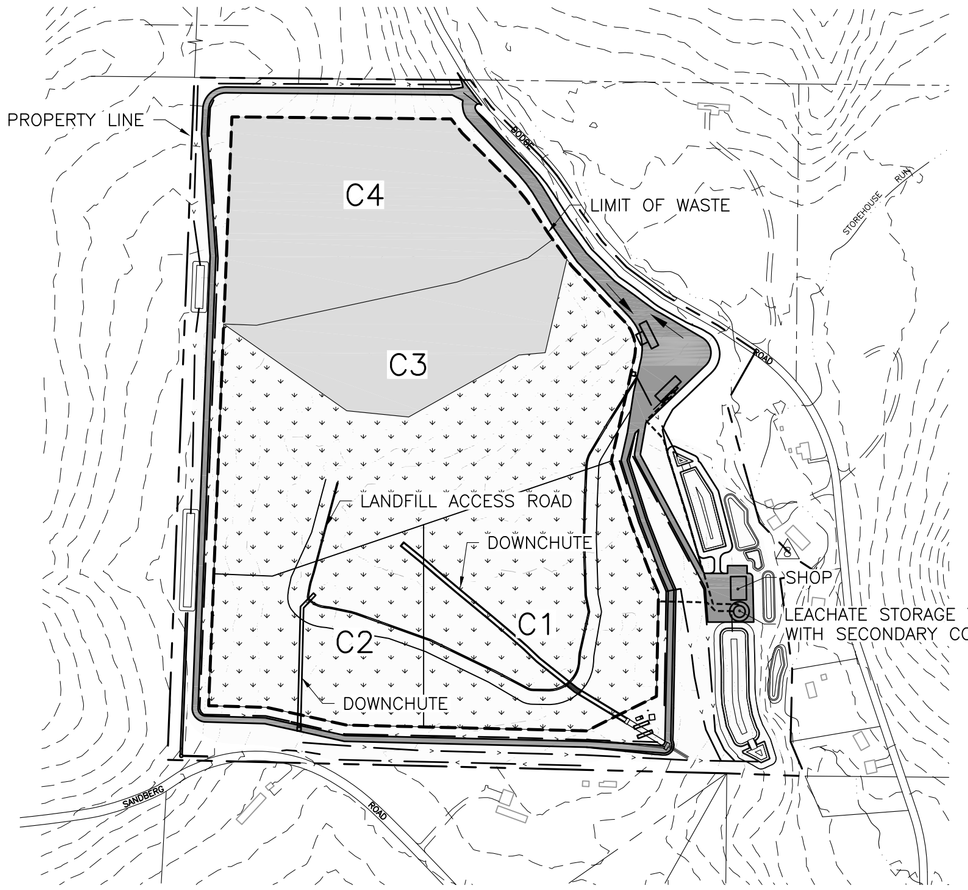
4 PHASE 6 6
Scale: 1"=300'

NOTE:
RECYCLING FACILITY TO BE RELOCATED SEQUENTIALLY DURING PHASE 6 TO ACCOMMODATE PROGRESS OF LANDFILLING IN CELL 1 AND 3, AND BORROW AREA IN CELL 4.



5 PHASE 7 6
Scale: 1"=300'

NOTE:
RECYCLING FACILITY TO BE RELOCATED SEQUENTIALLY DURING PHASE 7 TO ACCOMMODATE PROGRESS OF LANDFILLING IN CELL 3 AND CELL 4.



6 PHASE 8 6
Scale: 1"=300'

LEGEND:

- BORROW AREA
- LINER CONSTRUCTION
- ACTIVE LANDFILLING
- FINAL COVER
- DIRECTION OF INITIAL FILL PLACEMENT
- DRAINAGE CHANNEL FLOW DIRECTION
- LEACHATE FORCEMAIN
- ACCESS ROAD
- LD1 LEAK DETECTION POINT
- 1 PRIMARY LEACHATE COLLECTION PIPE
- 1 PRIMARY LEACHATE CLEAN OUT PIPE

NOTE:
1. THE SIZE OF THE LANDFILL CELLS SHOWN HEREON ARE FOR ILLUSTRATION PURPOSES TO SHOW FILL SEQUENCING. THE ACTUAL SIZE AND NUMBER OF CELLS WILL BE DEPENDENT ON WEATHER AND MARKET CONDITIONS.
2. SEE PD-9 FOR FINAL GRADING AND DRAINAGE PLAN

NO.	REVISION	BY	DATE
9	UPDATED NOTE	SJD	9/12/16
8	UPDATED GRADED FILTER 4	SJD	9/12/16
7	ADDED TRENCH DRAIN AND NOISE BARRIER	TPP	10/02/15
6	ADDED LFG PAD AND DRAINAGE	TPP	10/02/15
5	REVISED FINAL COVER PLACEMENT PROGRESSION	TPP	5/14/15
4	ADDED DRAINAGE PHASE 5 TANK AND TRANSFER PAD TO FOREBAY SB 1 AND 2	TPP	3/06/15
3	ADDED DRAINAGE TO INITIAL PHASE TANK AND TRANSFER PAD TO TEMPORARY SEDIMENT BASIN 2	TPP	3/02/15
2	ADDED INITIAL CONSTRUCTION RETENTION BASIN	TPP	6/06/14
1	ADDED PLCRS PIPING AND SUBGRADE DRAIN IN PHASES	TPP	7/01/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2014

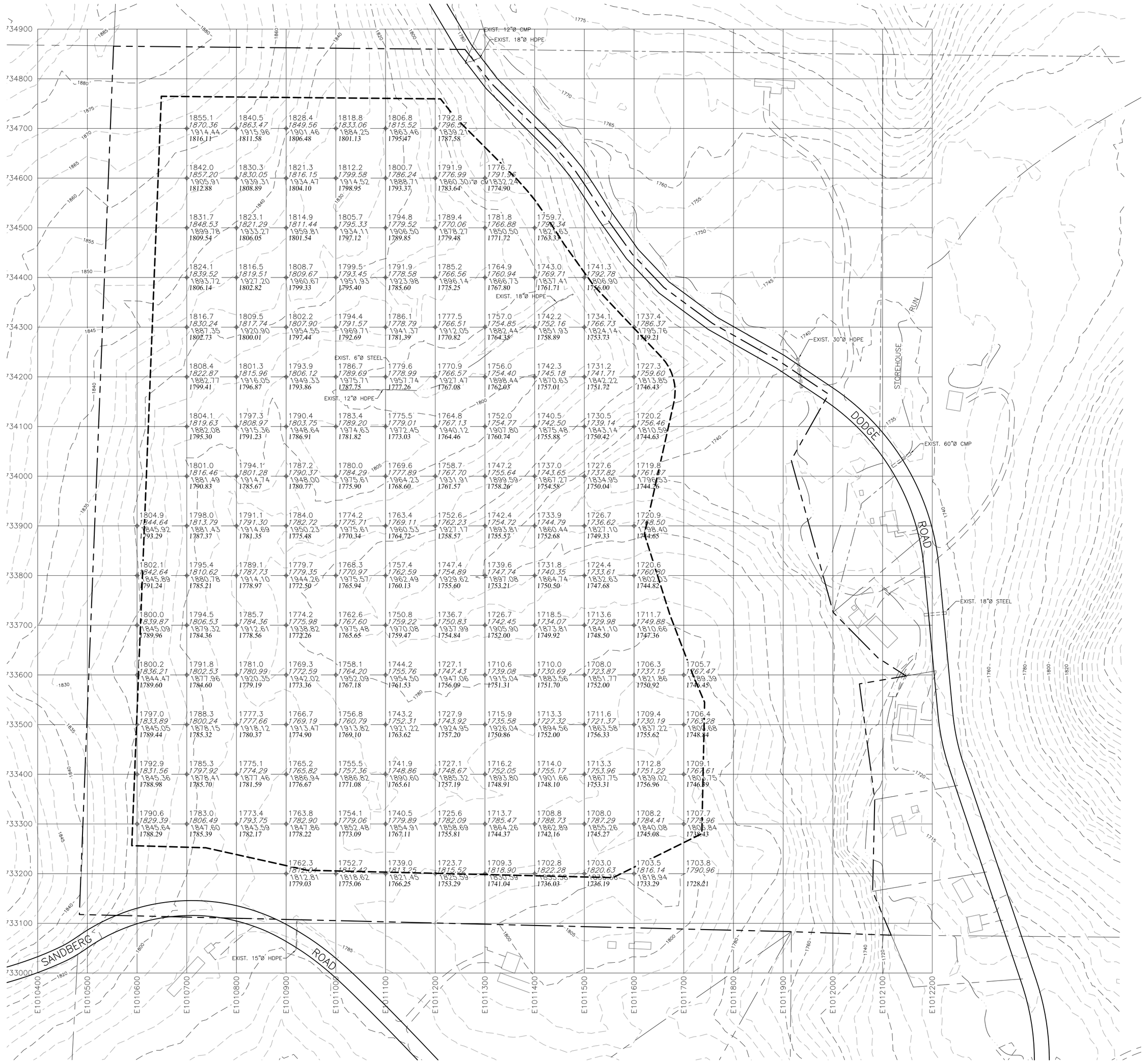
SCALE: 1"=300'

PREPARED FOR:	SEALAND WASTE, LLC.		
DES. BY:	DRW. BY:	CHK. BY:	
DWG.	PD-10 CARROLL-PHASING.dwg		

PHASING PLAN
CARROLL LANDFILL EXPANSION APPLICATION

TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK

SHEET PD-10



GENERAL NOTES:

1. THE TOPOGRAPHY SHOWN HEREON IS OBTAINED FROM THE UNITED STATES GEOLOGICAL SURVEY (USGS) NATIONAL ELEVATION DATA SET 2009, CONVERTED FROM LATITUDE, LONGITUDE, ELEVATION TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, AND IN CONFORMANCE WITH THE NORTH AMERICAN DATUM OF 1983 (NAD–83)
2. PROPERTY BOUNDARY SHOWN RECEIVED ELECTRONICALLY FROM MICHAEL J. RODGERS (MJR) LAND SURVEYORS OF JAMESTOWN, NEW YORK, DATED OCTOBER 2012.
3. ELEVATIONS SHOWN ON THIS DRAWING ARE TAKEN FROM A NUMBER OF 3D SURFACE MODELS GENERATED BY DAIGLER ENGINEERING, PC OF GRAND ISLAND, NEW YORK AND P.J. CAREY & ASSOCIATES, PC OF SUGAR HILL, GEORGIA.

LEGEND:

- 1727.9 TOP OF HIGHLY WEATHERED SHALE ELEVATION
- *1763.52* TOP OF LINER SUBGRADE ELEVATION
- 1765.52 FINAL COVER ELEVATION
- *1708.56* WATER TABLE
- PROPERTY BOUNDARY
- LIMIT OF WASTE

NO.	REVISION	BY	DATE
2	REVISE SHEET NUMBER	TPP	10/13/15
1	REPLACE TOP OF BEDROCK ELEVATIONS WITH TOP OF HIGHLY WEATHERED SHALE ELEVATIONS	SJD	5/26/15

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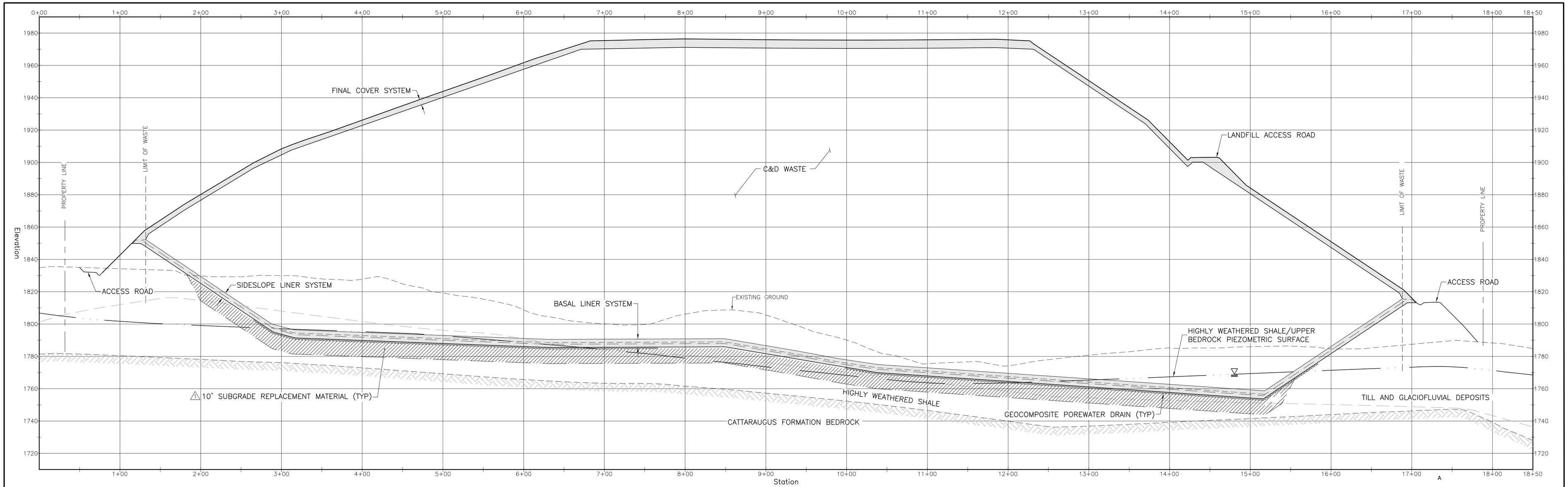
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E. NYSPE NO. 061689

DATE: March 2014

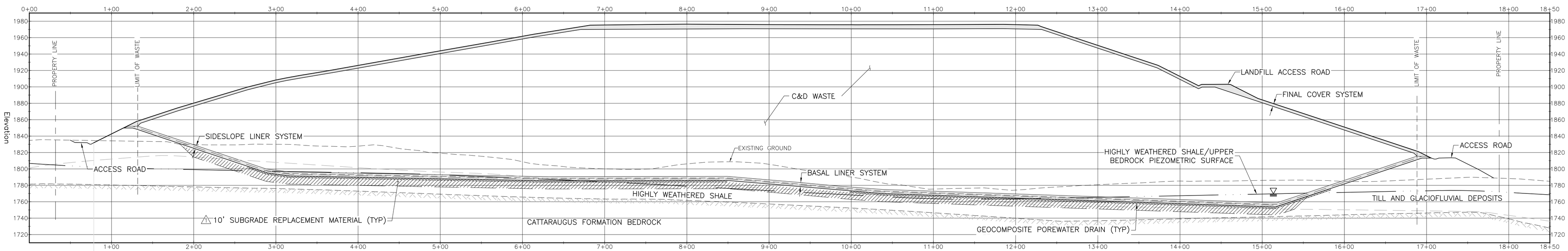
SCALE: 1"=120'

PREPARED FOR:	SEALAND WASTE, LLC	GRID MAP	SHEET PD-11 2
DES. BY:	DRW. BY:	CHK. BY:	CARROLL LANDFILL EXPANSION APPLICATION
DWG.	PD-11 GRID MAP-REVISED 2-17-14.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY / STATE OF NEW YORK



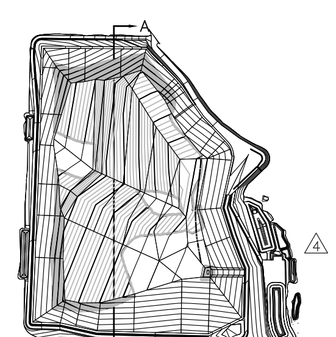
Profile View of A–A

SCALE: 1"=60' HORIZONTAL
1"=30' VERTICAL



Profile View of A–A TRUE SCALE

SCALE: 1"=60' HORIZONTAL
1"=60' VERTICAL



KEY MAP
NOT TO SCALE

NO.	REVISION	BY	DATE
4	UPDATED KEY MAP FOR GRADED FILTER 4	SJD	9/12/16
3	REVISE SHEET NUMBER	TPP	10/13/15
2	SUBGRADE REPLACEMENT MATERIAL TO 10' THICK	TPP	03/14/15
1			

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CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: August 2014

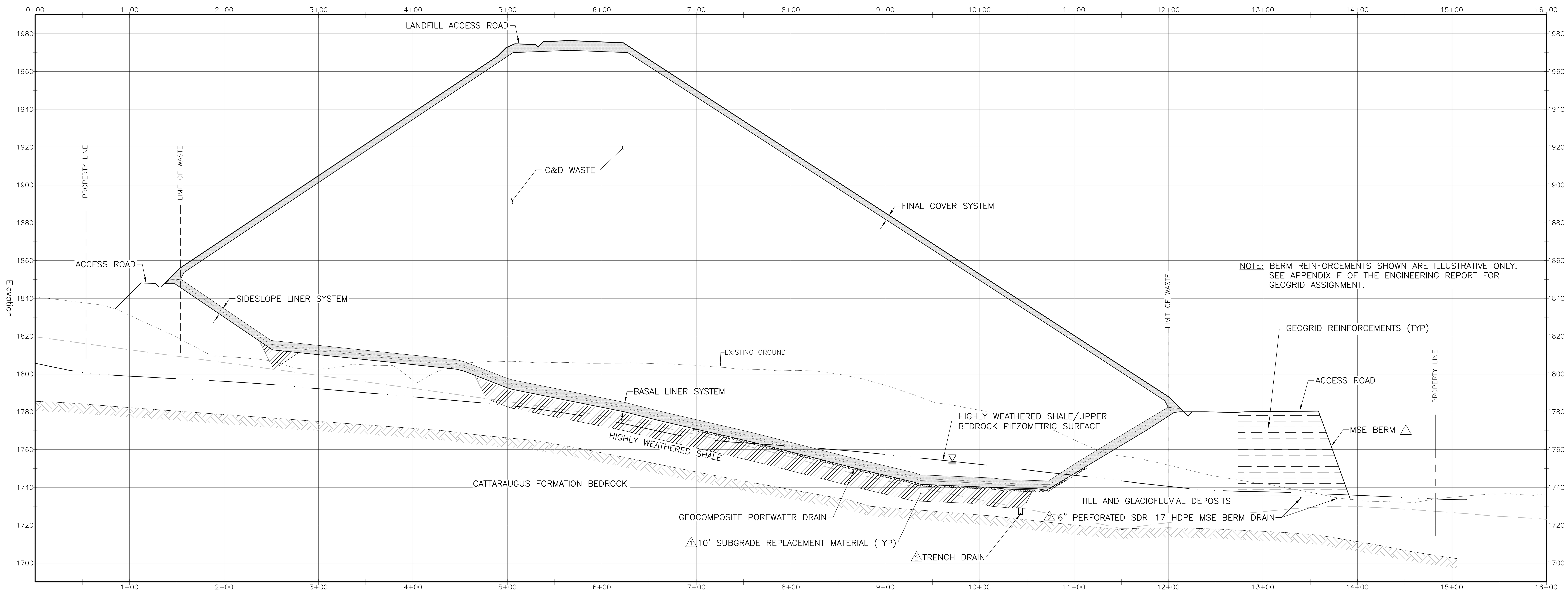
SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC		
DES. BY:	DRW. BY:	CHK. BY:
DWG. PD-12 13 14 LANDFILL CROSS SECTIONS.dwg		

LANDFILL CROSS SECTIONS
CARROLL LANDFILL EXPANSION APPLICATION

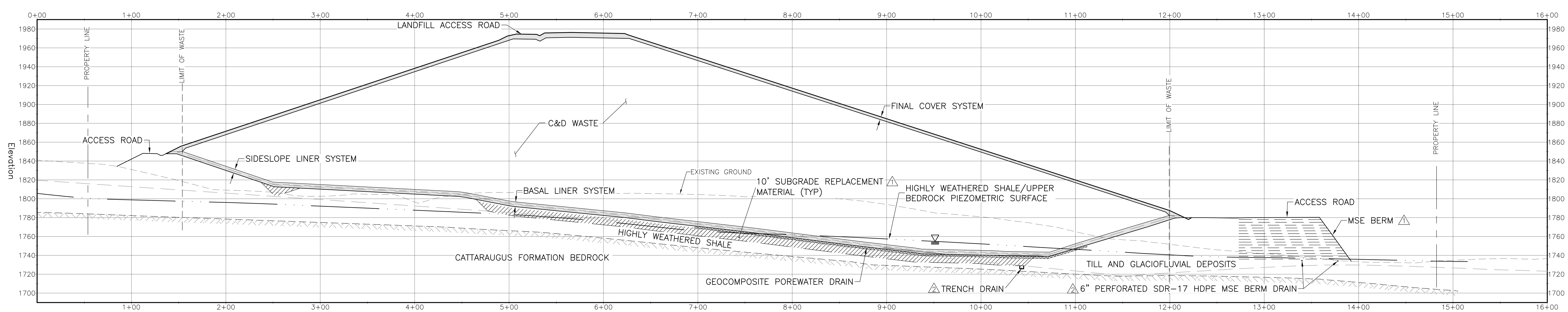
TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

SHEET PD-12 4



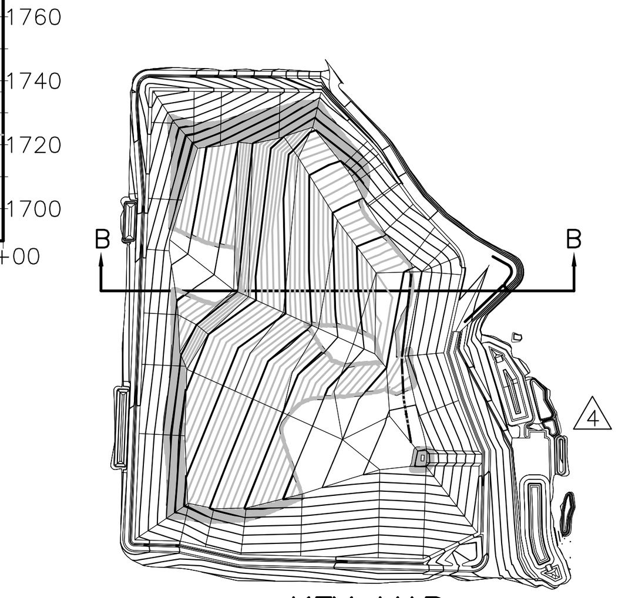
Profile View of B–B

SCALE: 1"=60' HORIZONTAL
1"=30' VERTICAL



Profile View of B–B TRUE SCALE

SCALE: 1"=60' HORIZONTAL
1"=60' VERTICAL



KEY MAP
NOT TO SCALE

ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NO.	REVISION	BY	DATE
4	UPDATED KEY MAP FOR GRADED FILTER 4	SJD	9/12/16
3	REVISE SHEET NUMBER	TPP	10/13/15
2	REVISED MSE BERM DRAIN AND TRENCH DRAIN LOCATIONS	TPP	10/01/15
1	SUBGRADE REPLACEMENT MATERIAL TO 10' THICK, MSE BREM DRAIN	TPP	03/14/15

JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX

DATE: August 2014

SCALE: NOTED

PREPARED FOR:	SEALAND WASTE, LLC	
DES. BY:	DRW. BY:	CHK. BY:
DWG.	PD-12 13 14 LANDFILL CROSS SECTIONS.dwg	

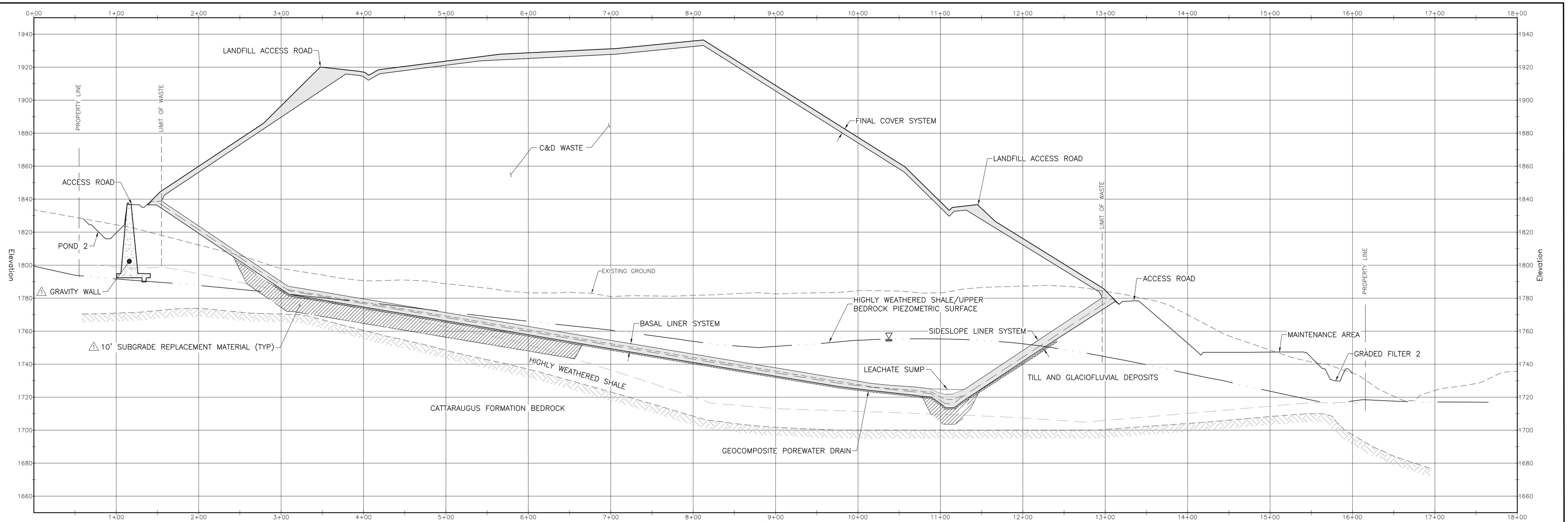
LANDFILL CROSS SECTIONS

CARROLL LANDFILL EXPANSION APPLICATION

TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

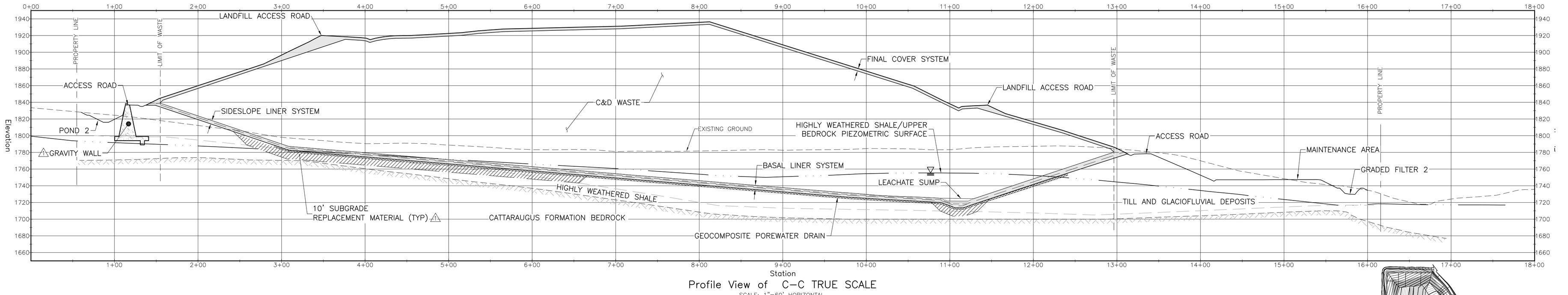
SHEET PD-13 4

Q:\Sealand\02-0104 Carroll Landfill\Permit Drawings\2016 REVISIONS\PD-12 13 14 LANDFILL CROSS SECTIONS.dwg 9/16/2016 2:52 PM



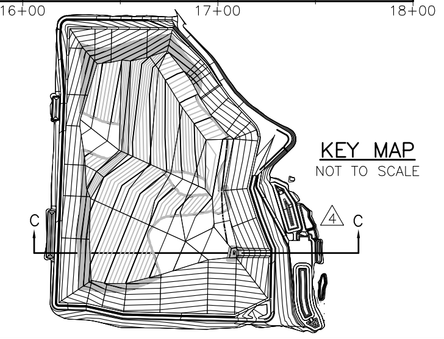
Profile View of C–C

SCALE: 1"=60' HORIZONTAL
1"=30' VERTICAL



Profile View of C–C TRUE SCALE

SCALE: 1"=60' HORIZONTAL
1"=60' VERTICAL



NO.	REVISION	BY	DATE
4	UPDATED KEY MAP FOR GRADED FILTER 4	SJD	9/12/16
3	REVISE SHEET NUMBER	TPP	10/13/15
2	SUBGRADE REPLACEMENT MATERIAL TO 10' THICK, POND 2 GRAVITY WALL	TPP	03/14/15

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CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX

JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: August 2014

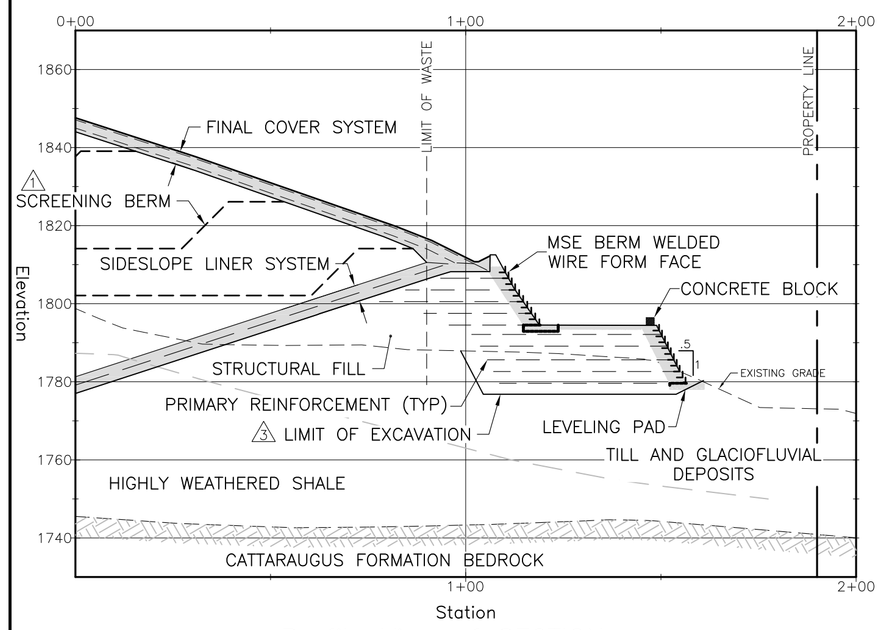
SCALE: NOTED

PREPARED FOR:	SEALAND WASTE, LLC		
DES. BY:	DRW. BY:	CHK. BY:	
DWG.	PD-12 13 14 LANDFILL CROSS SECTIONS.dwg		

LANDFILL CROSS SECTIONS
CARROLL LANDFILL EXPANSION APPLICATION

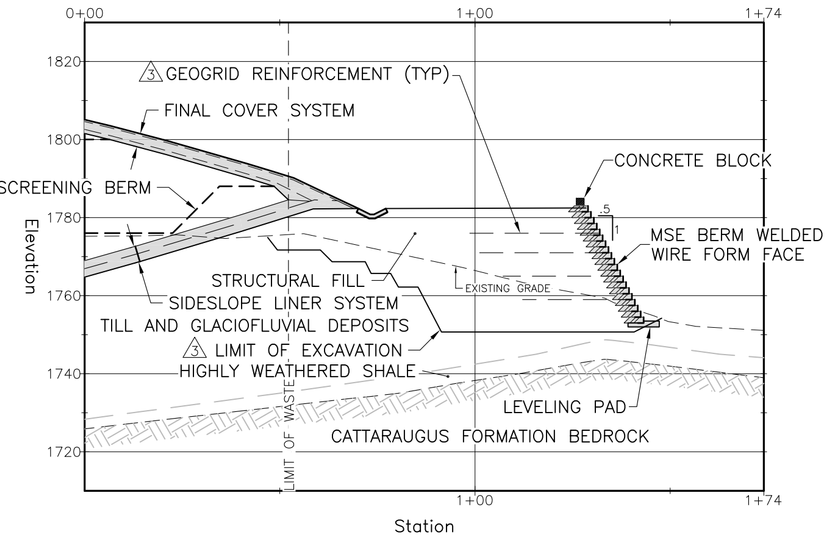
TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

SHEET PD-14 2



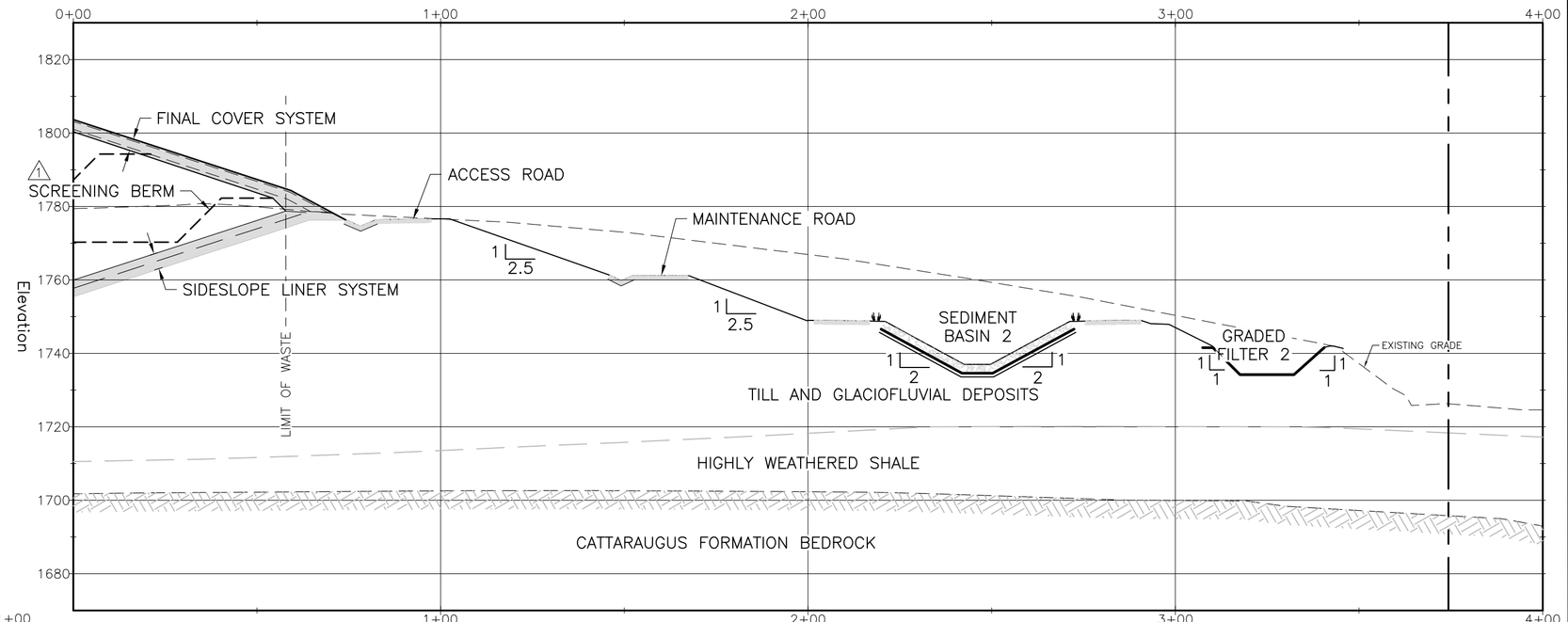
Profile View of SECTION a–a

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



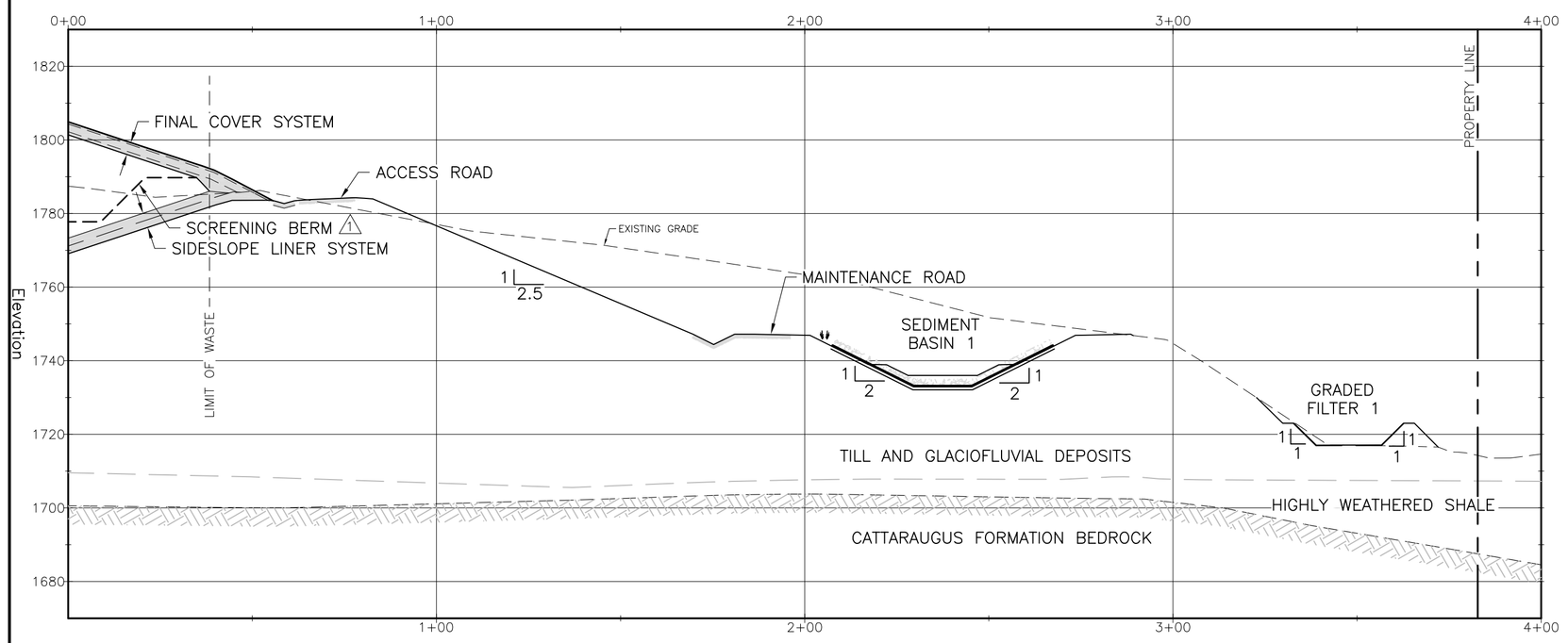
Profile View of SECTION b–b

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



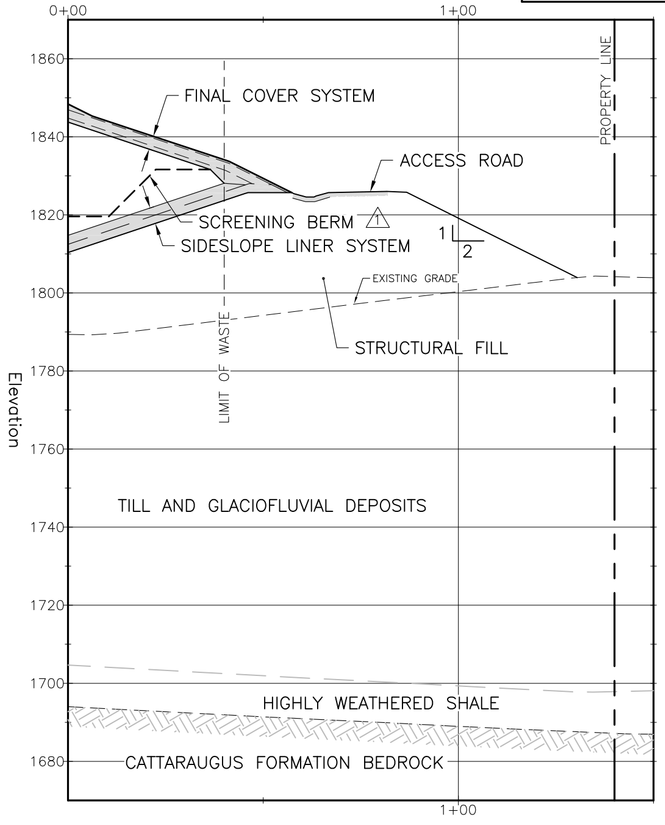
Profile View of SECTION c–c

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



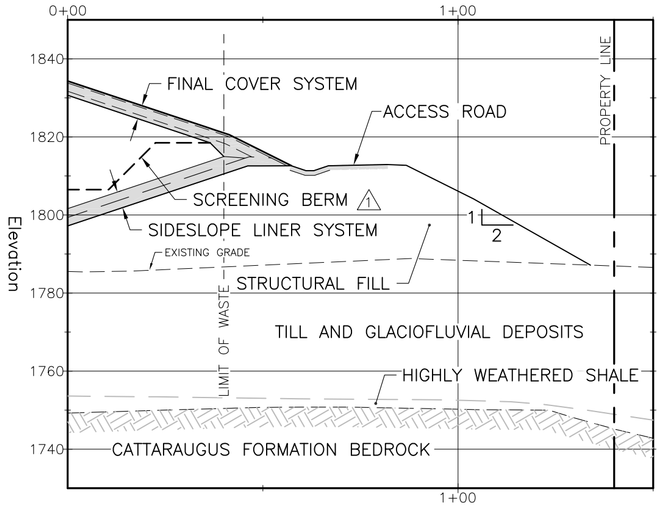
Profile View of SECTION d–d

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



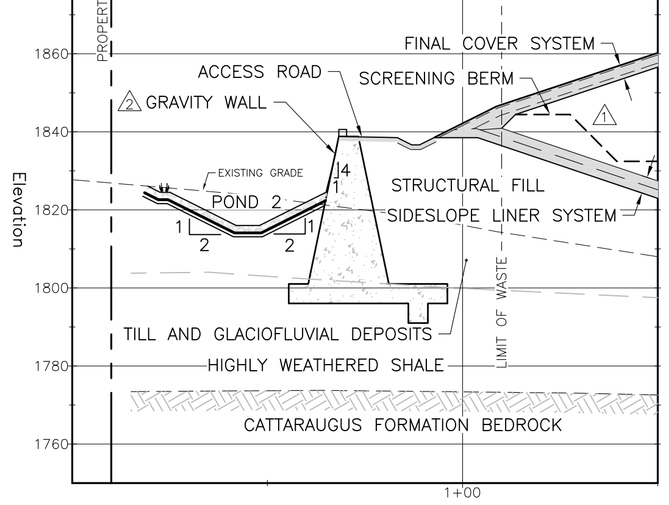
Profile View of SECTION e–e

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



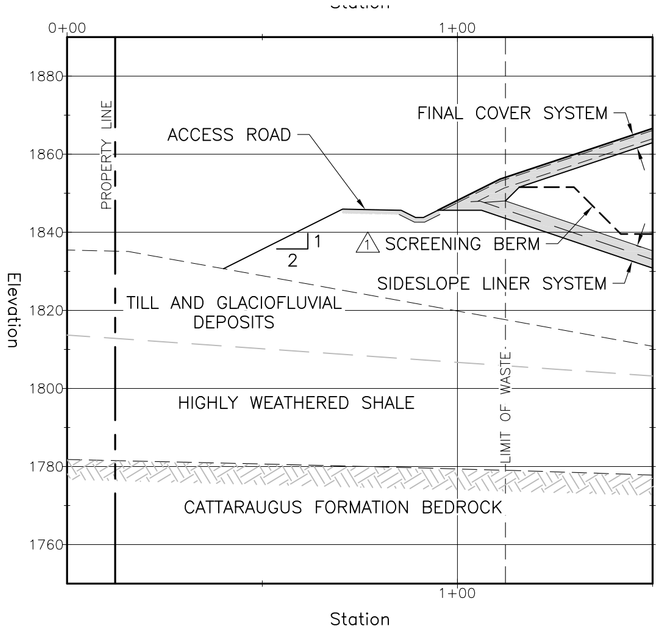
Profile View of SECTION f–f

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



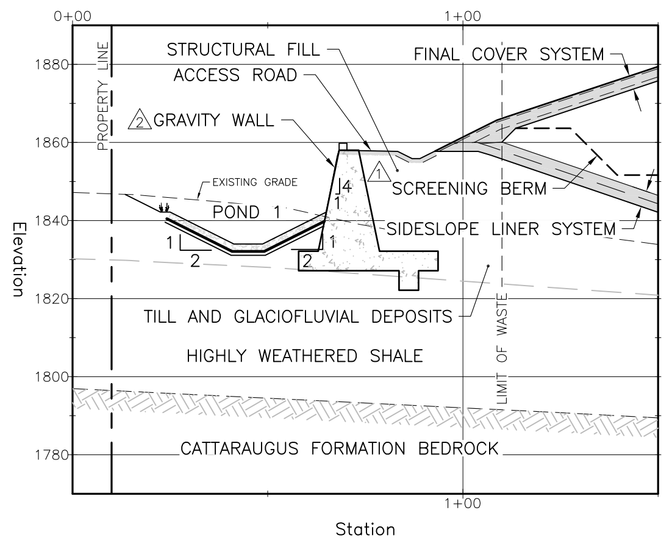
Profile View of SECTION g–g

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



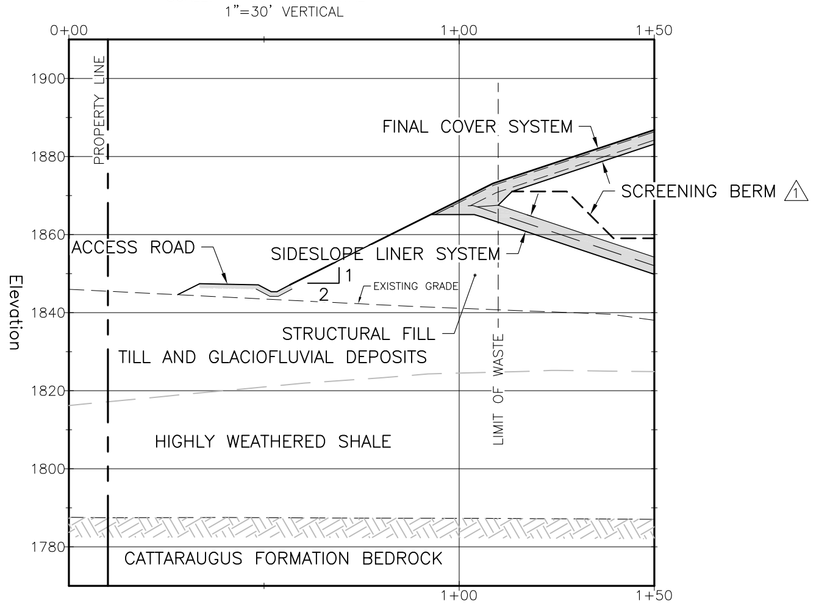
Profile View of SECTION h–h

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



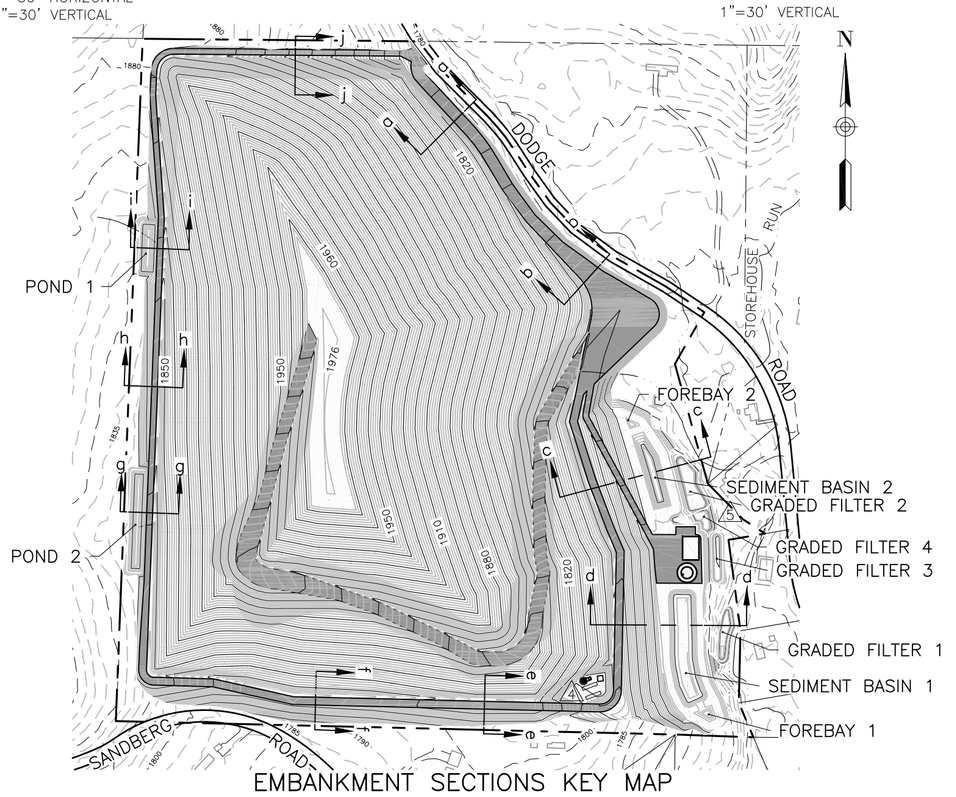
Profile View of SECTION i–i

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



Profile View of SECTION j–j

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



EMBANKMENT SECTIONS KEY MAP

SCALE: 1"=300'

ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NO.	REVISION	BY	DATE
5	UPDATED KEY MAP FOR GRADED FILTER 4	SJD	9/12/16
4	ADDED LFG PAD	TPP	10/01/15
3	REVISED GEOGRIDS AND LIMIT OF EXCAVATION	TPP	5/18/15
2	DETAIL FOR GRAVITY WALL	TPP	3/03/15
1	ADDED SCREENING BERMS	TPP	5/27/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX

JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2014

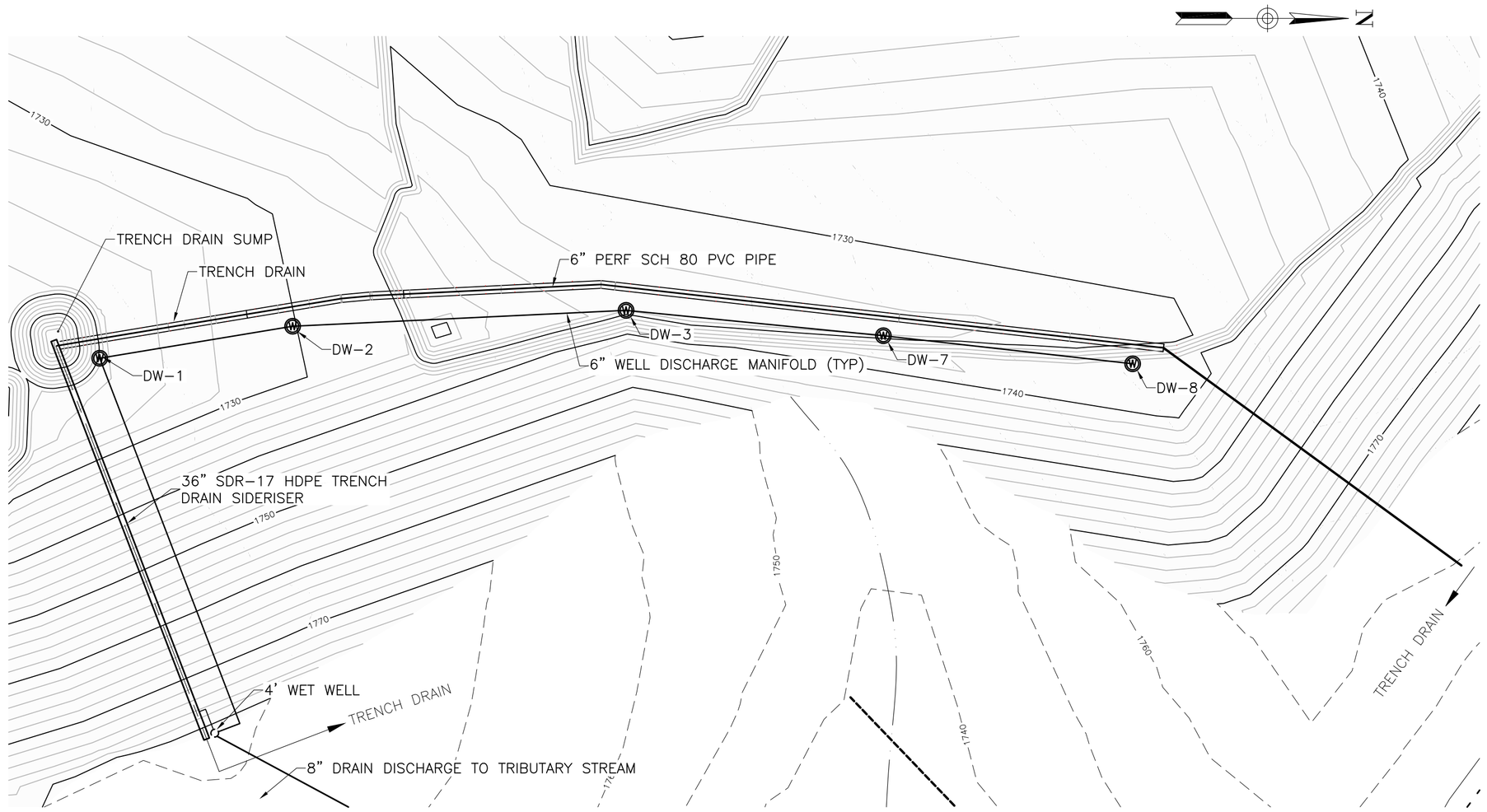
SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC		
DES. BY:	DRW. BY:	CHK. BY:
DWG. PD-15 EMBANKMENT SECTIONS.dwg		

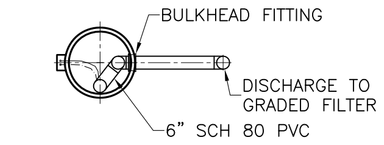
EMBANKMENT SECTIONS
CARROLL LANDFILL EXPANSION APPLICATION

TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

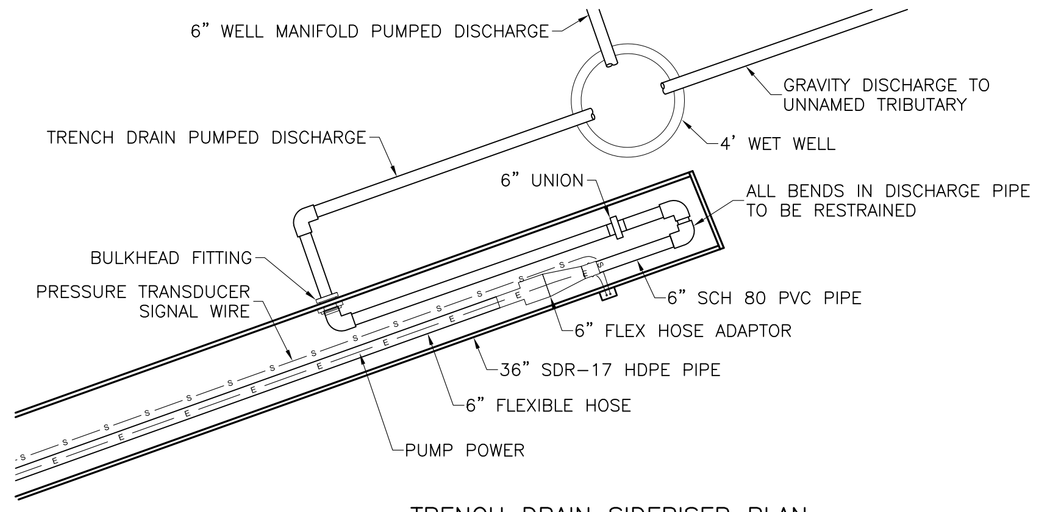
SHEET PD-15



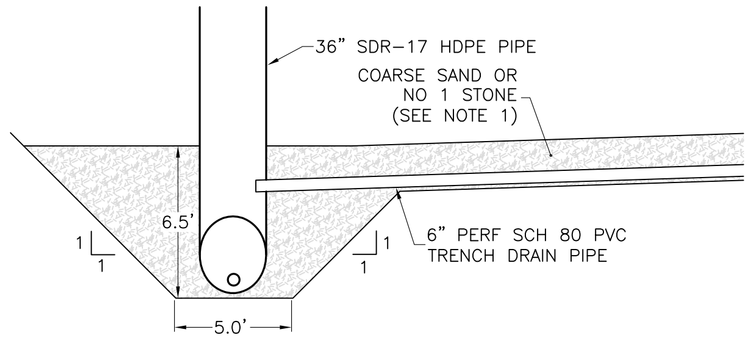
PLAN
SCALE: 1"=60'



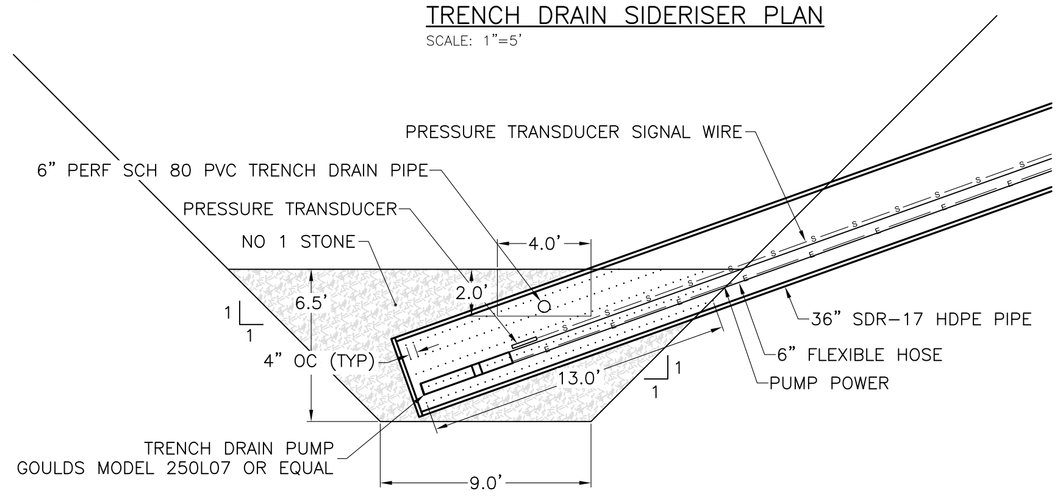
TRENCH DRAIN SIDERISER SECTION
SCALE: 1"=5'



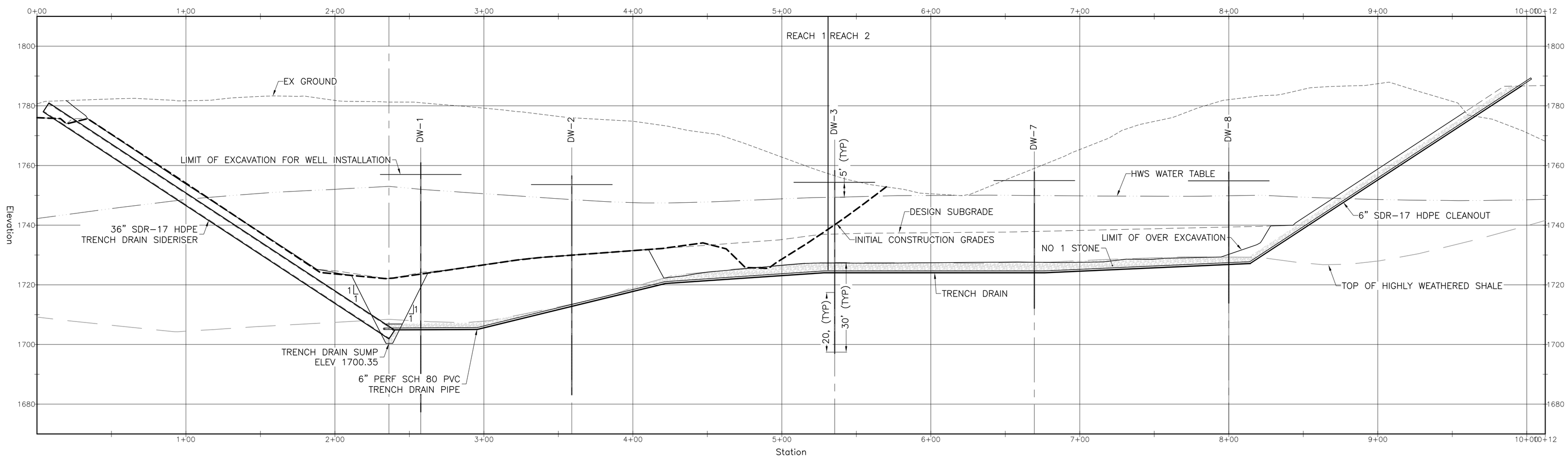
TRENCH DRAIN SIDERISER PLAN
SCALE: 1"=5'



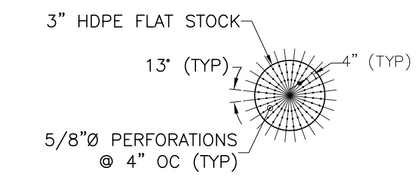
TRENCH DRAIN SUMP ELEVATION
SCALE: 1"=5'



TRENCH DRAIN SUMP SECTION
SCALE: 1"=5'



Profile View of TRENCH DRAIN
SCALE: 1"=40' HORIZONTAL
1"=20' VERTICAL



END VIEW

TRENCH DRAIN SIDERISER END CAP
SCALE: 1"=5'

NOTES:
1. THE TRENCH DRAIN MUST BE INSTALLED PRIOR TO COMPLETING THE EXCAVATION TO SUBGRADE.
2. SEE SECTION 4.4.2, OF THE ENGINEERING REPORT FOR A DISCUSSION OF THE GROUNDWATER DRAIN DESIGN.

NO.	REVISION	BY	DATE

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072

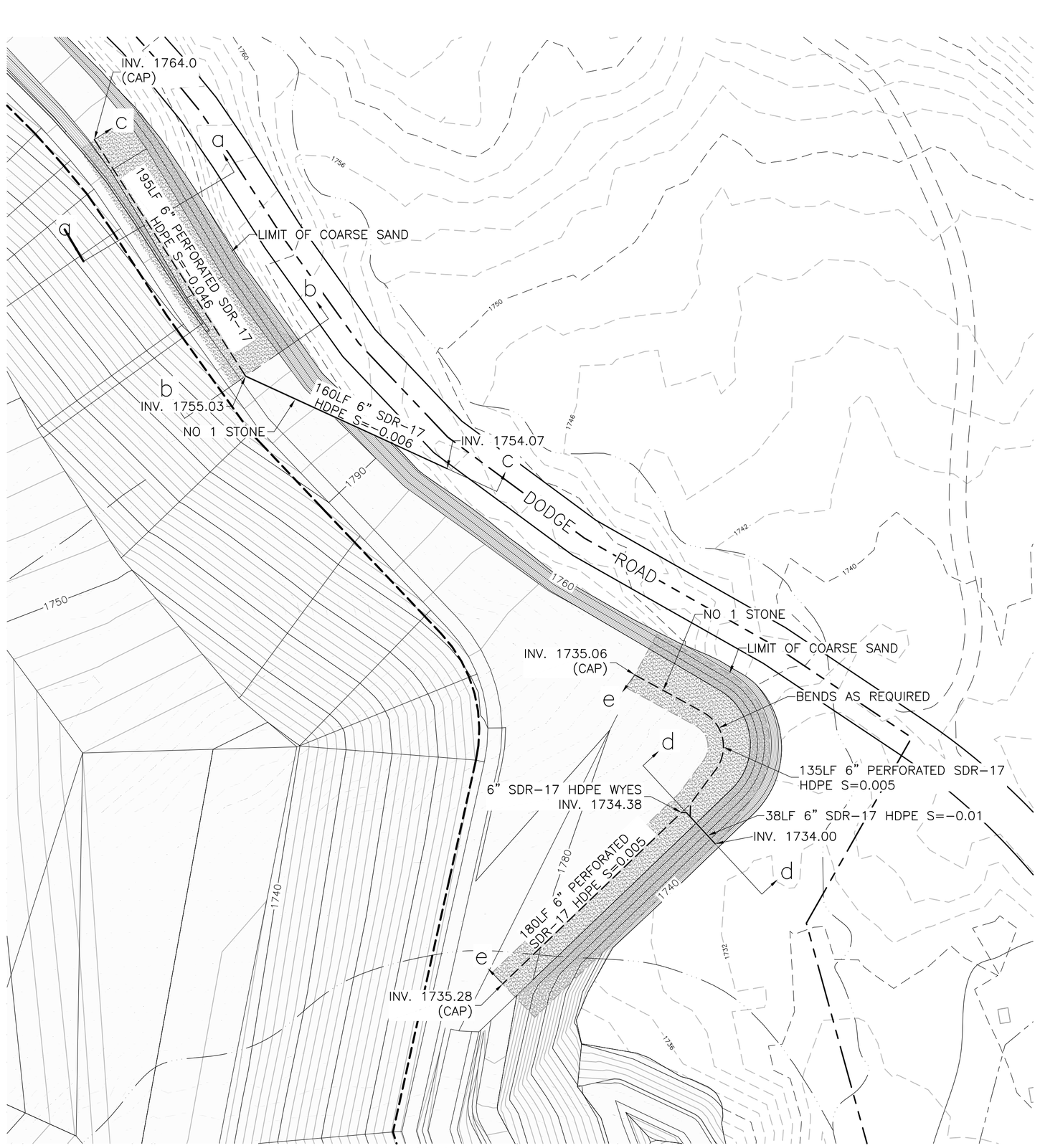
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: October 2015

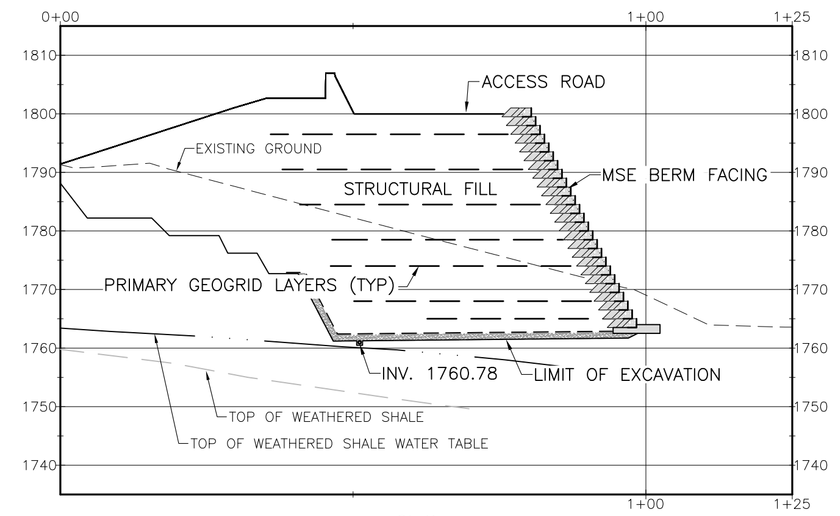
SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC			TRENCH DRAIN PLAN, PROFILE AND DETAILS
DES. BY:	DRW. BY:	CHK. BY:	CARROLL LANDFILL EXPANSION APPLICATION
DWG. PD-5 AND 16 EXCAVATION PLAN AND PROFILES.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK

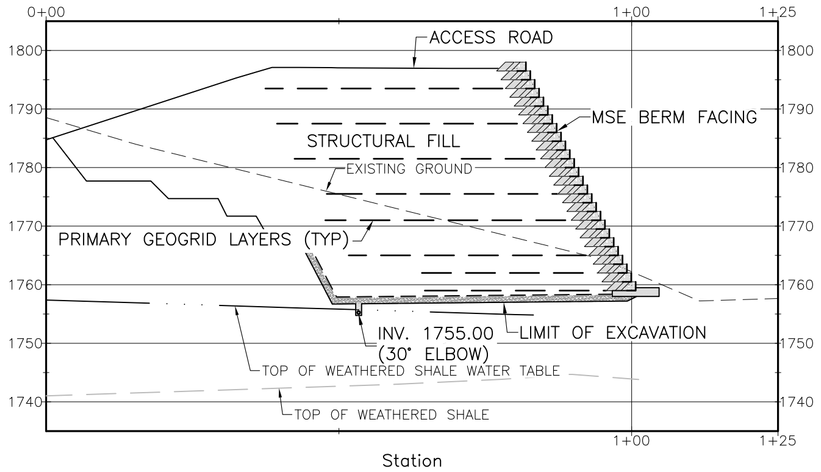
SHEET PD-16



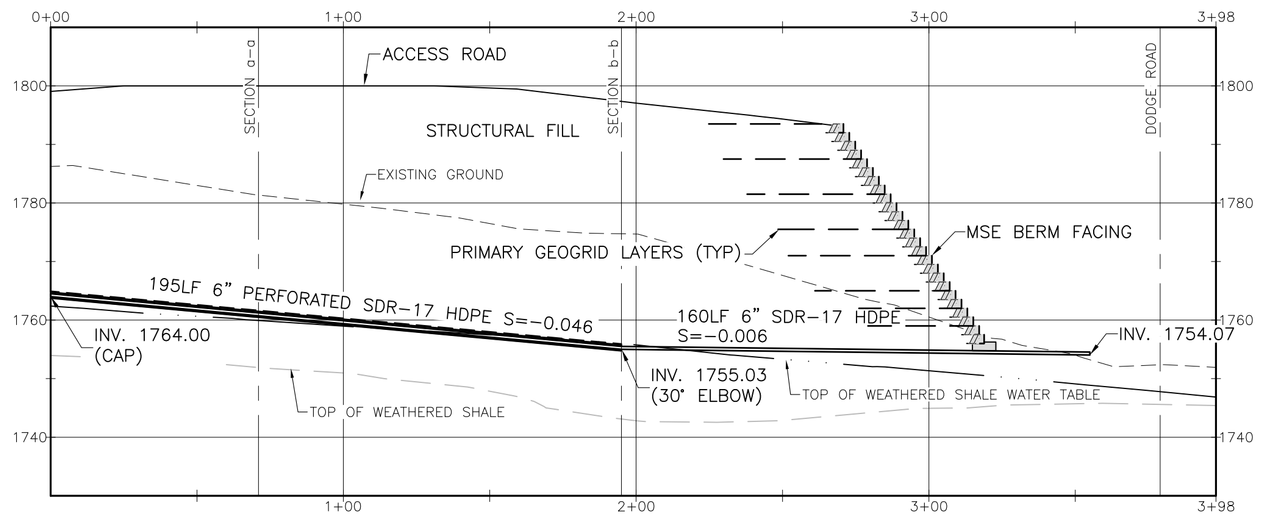
PLAN
SCALE: 1"=60'



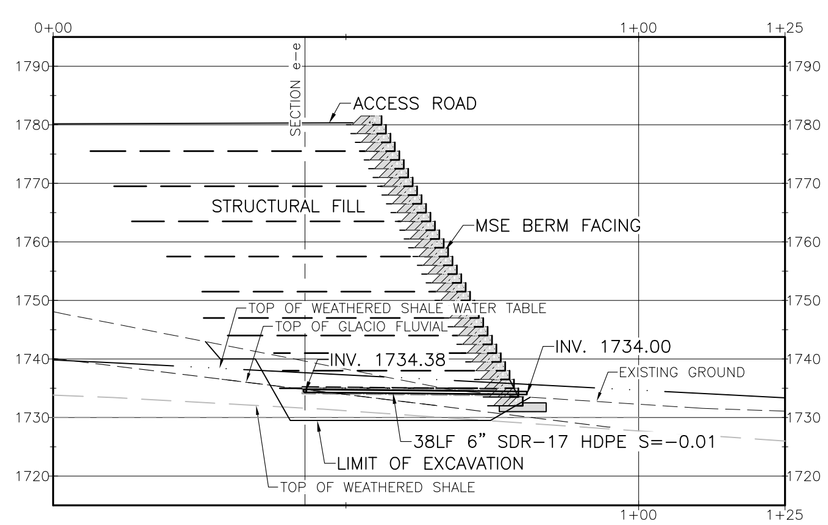
PROFILE a–a
SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



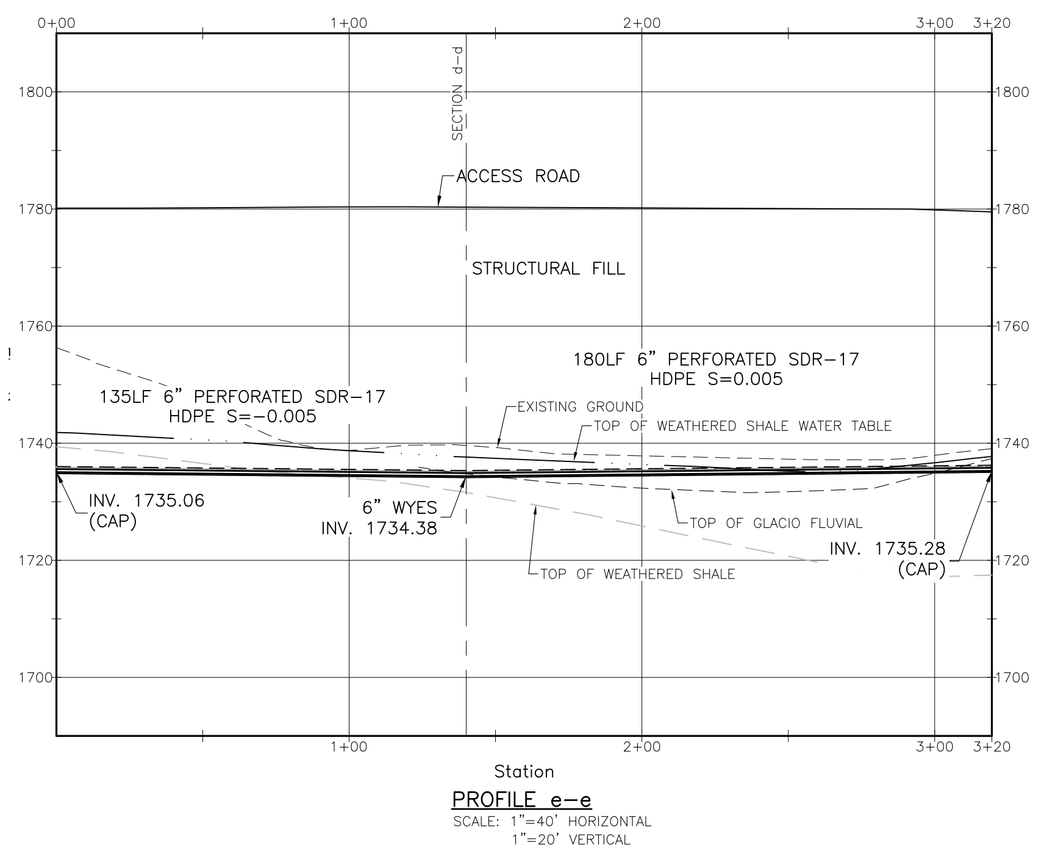
PROFILE b–b
SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



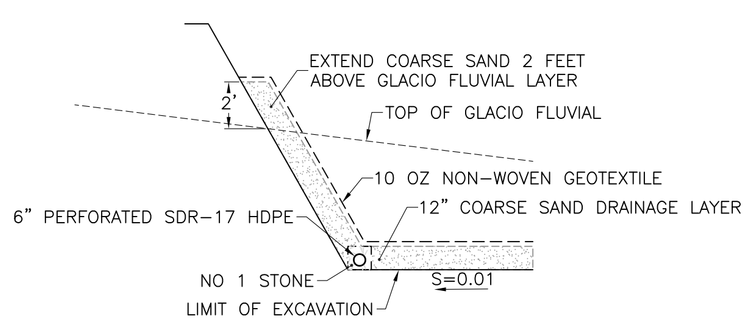
PROFILE c–c
SCALE: 1"=40' HORIZONTAL
1"=20' VERTICAL



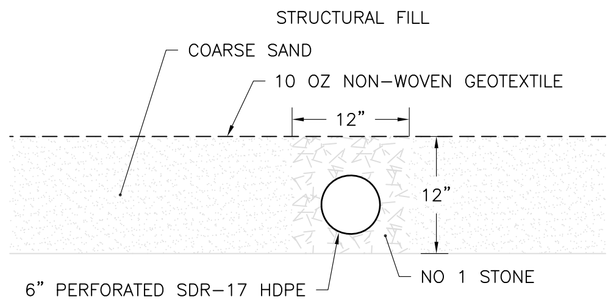
PROFILE d–d
SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



PROFILE e–e
SCALE: 1"=40' HORIZONTAL
1"=20' VERTICAL



MSE BERM DRAINAGE DETAIL
SCALE: 1"=5'



MSE BERM PIPE DETAIL
SCALE: 1"=1'

NO.	REVISION	BY	DATE

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: October 2015

SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC

DES. BY: | DRW. BY: | CHK. BY:

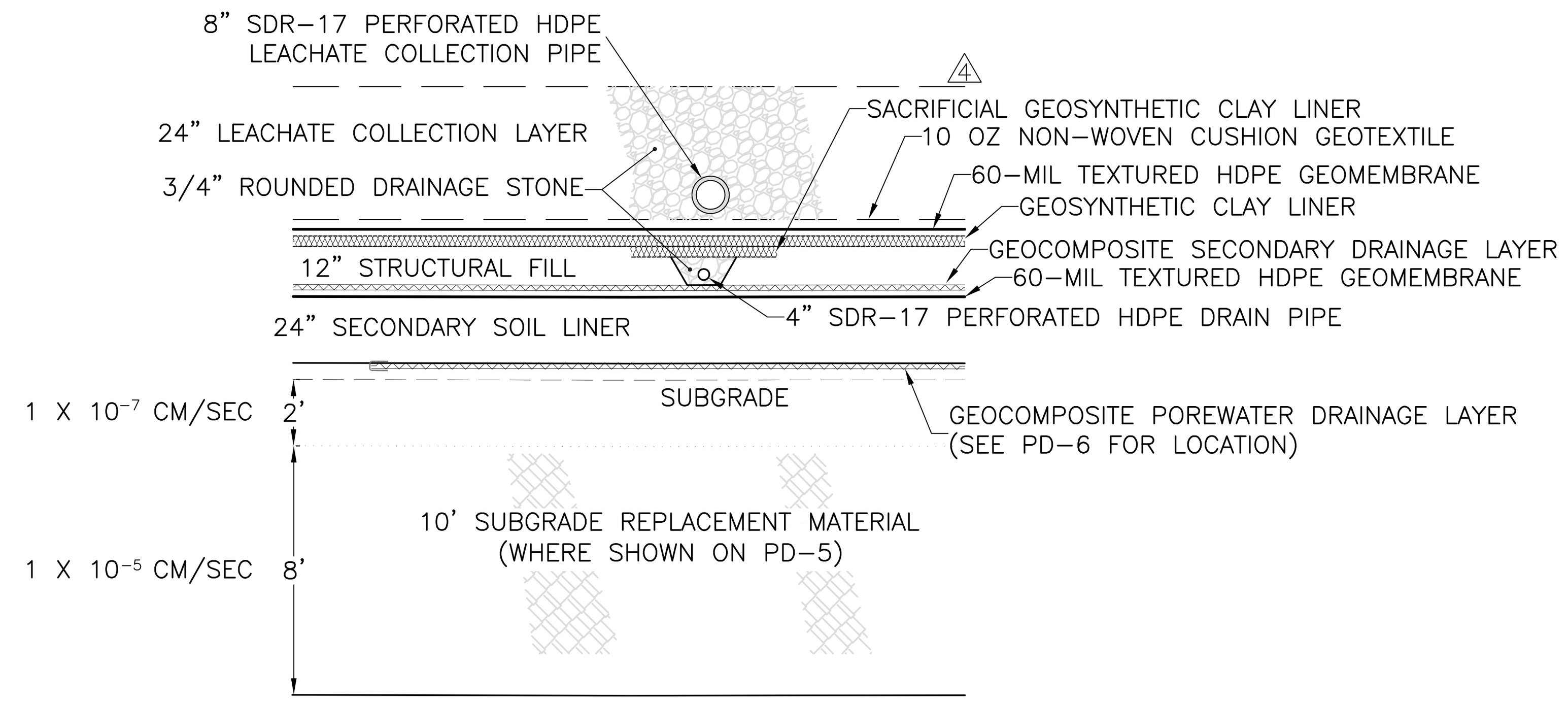
DWG. PD-17 MSE BERM DRAIN PLAN SECTIONS AND DETAILS.dwg

MSE BERM DRAIN PLAN, SECTIONS AND DETAILS

CARROLL LANDFILL EXPANSION APPLICATION

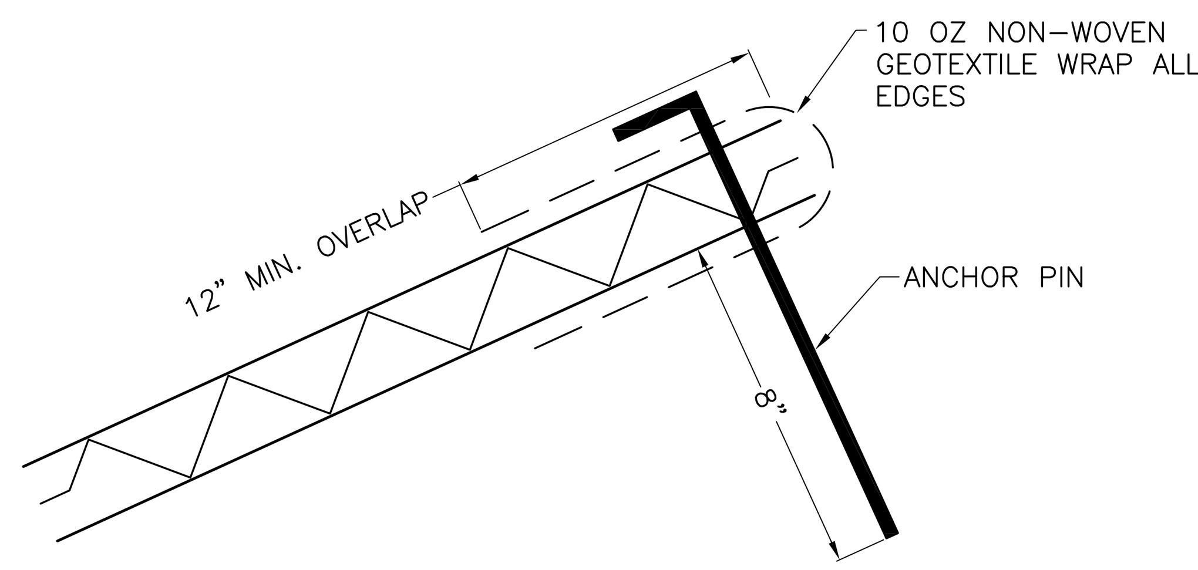
TOWN OF LEWISTON | NIAGARA COUNTY | STATE OF NEW YORK

SHEET PD-17



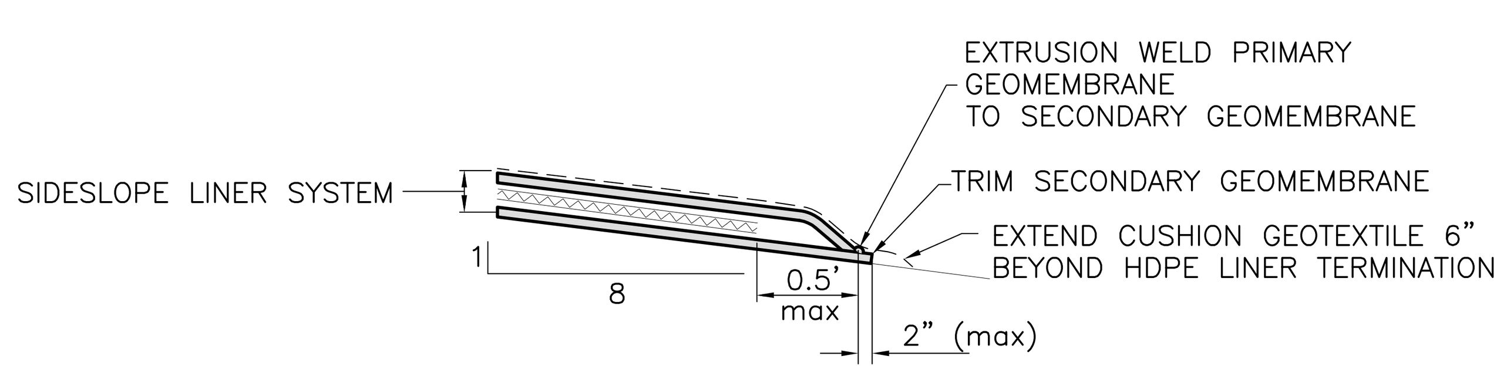
DOUBLE COMPOSITE LINER SYSTEM

NOT TO SCALE



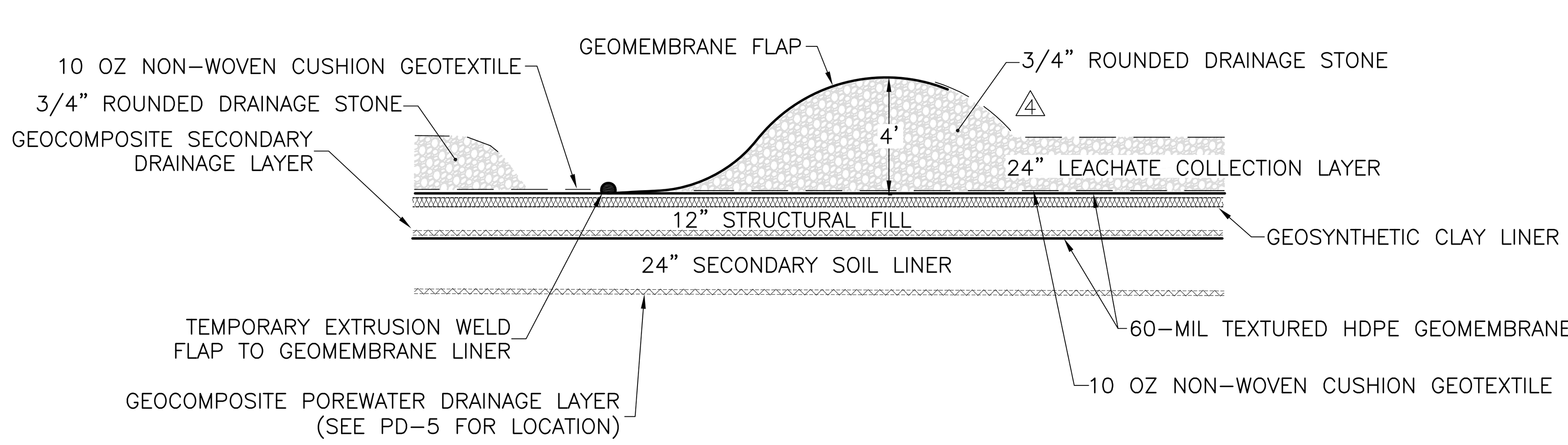
GEOCOMPOSITE TERMINATION

NOT TO SCALE



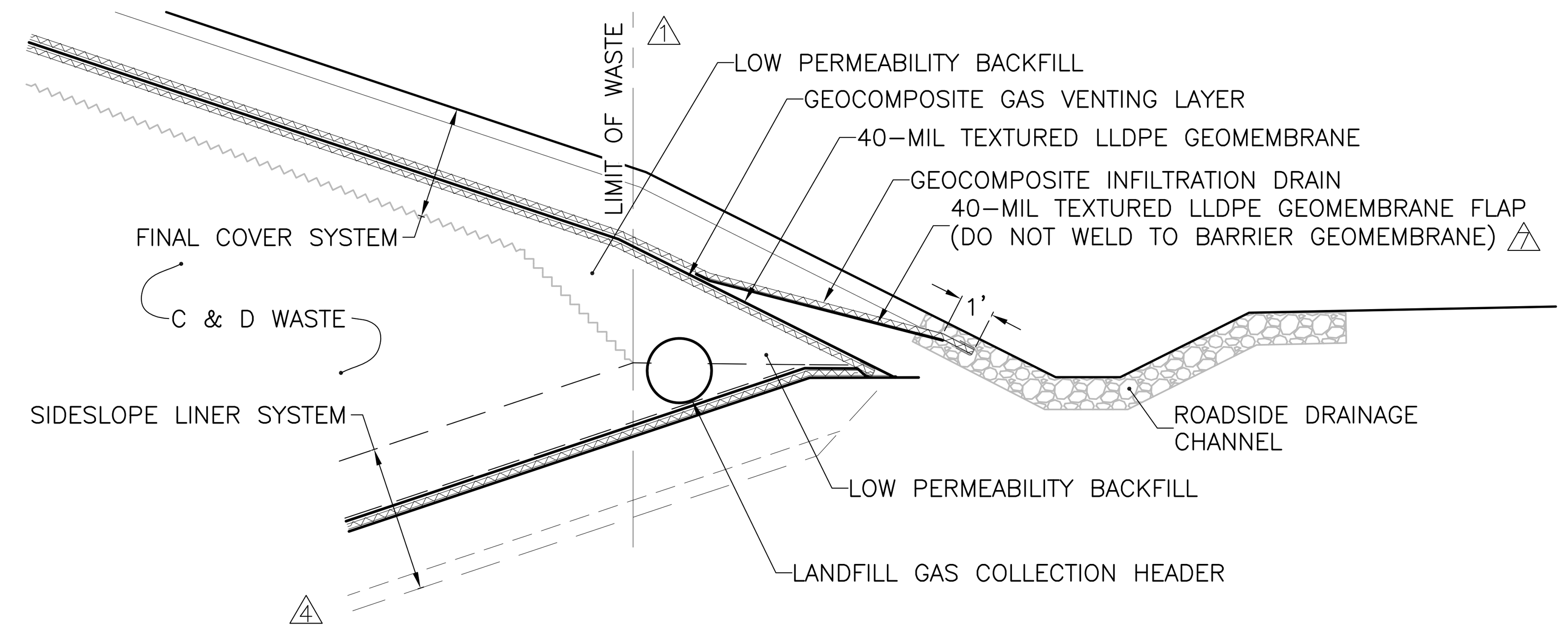
SIDELINER SYSTEM TERMINATION AT PERIMETER BERM

NOT TO SCALE



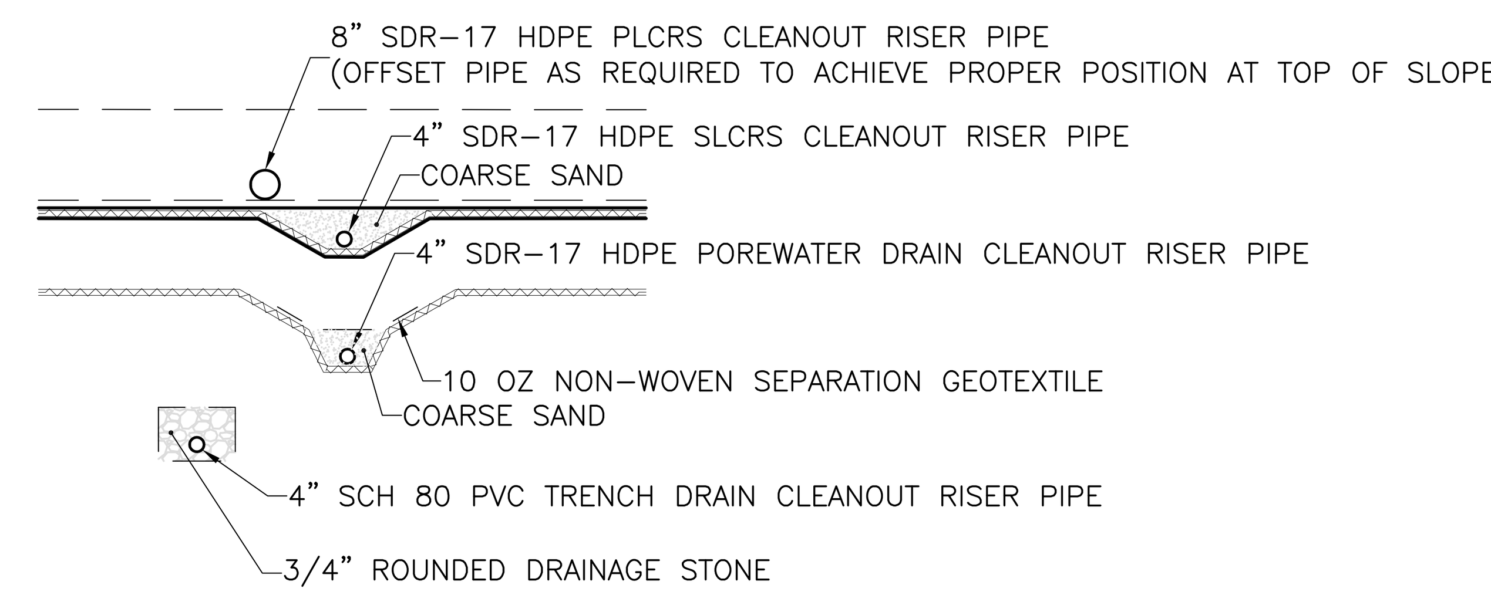
RAINFALL DIVERSION FLAP

NOT TO SCALE



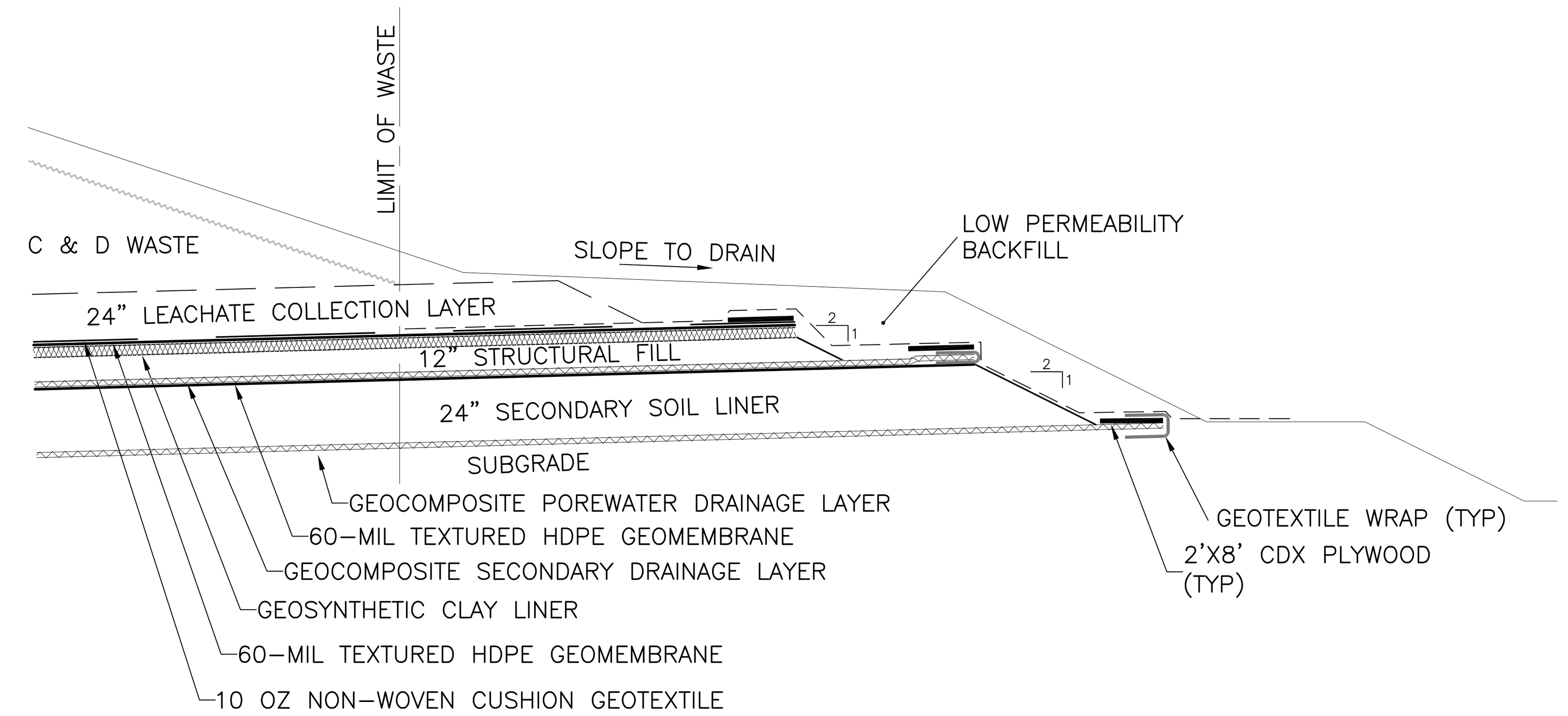
FINAL COVER SYSTEM DRAINAGE

NOT TO SCALE



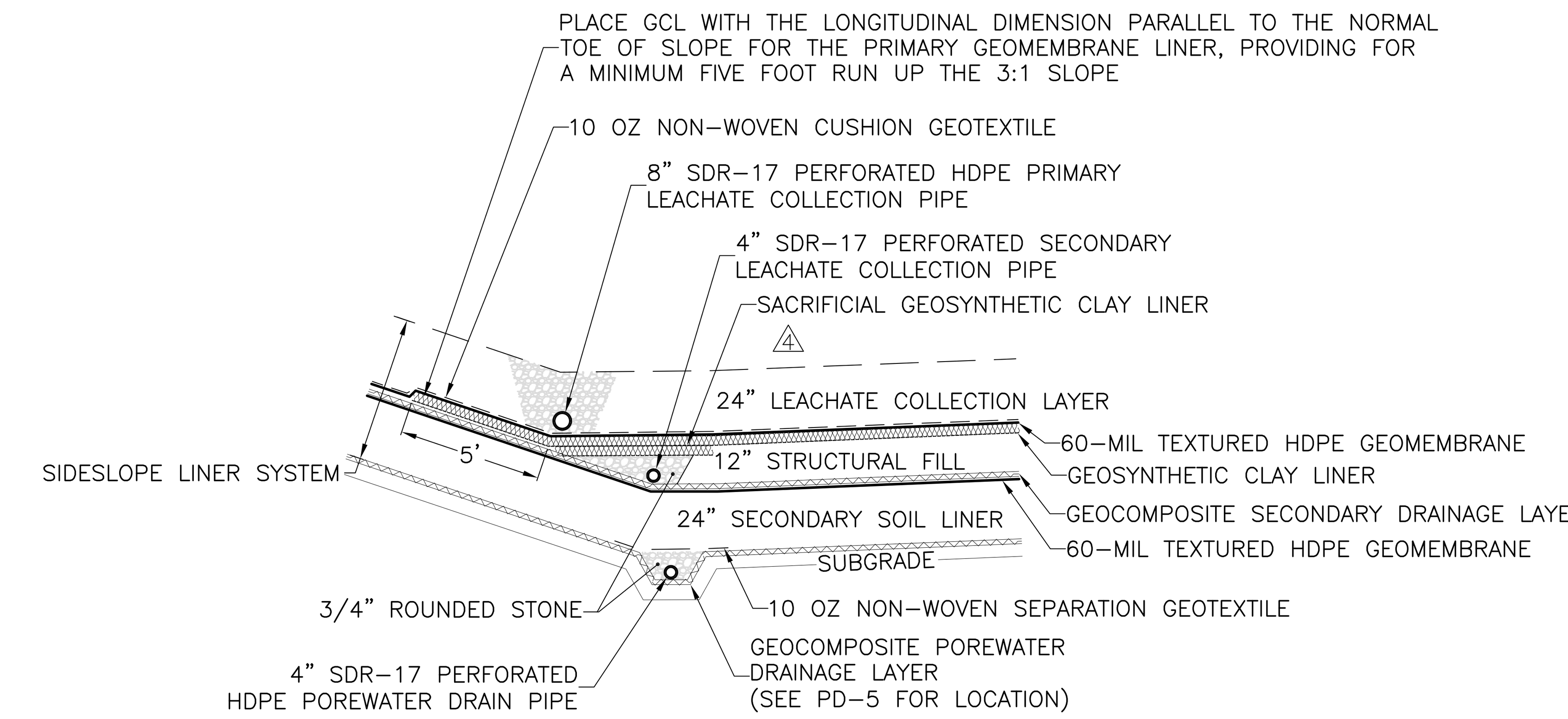
SECTION THRU CLEANOUT RISERS ON SIDESLOPE

NOT TO SCALE



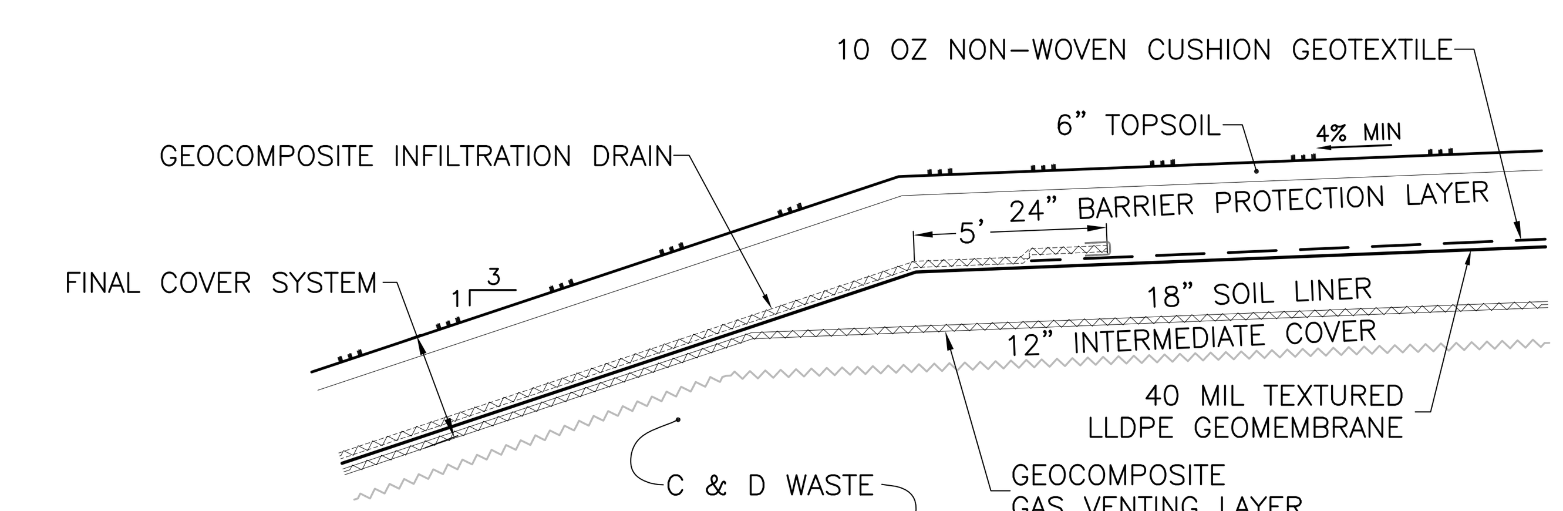
BASELINER TEMPORARY TERMINATION

NOT TO SCALE



DOUBLE COMPOSITE LINER SYSTEM AT TOE OF SLOPE

NOT TO SCALE



FINAL COVER SYSTEM

NOT TO SCALE

GENERAL NOTES:

1. PRIOR TO CONSTRUCTION, THE SHEAR STRENGTH OF ALL CRITICAL SOIL AND GEOSYNTHETIC INTERFACES MUST BE DETERMINED BY LABORATORY TESTING AS DESCRIBED IN SECTION 02597 OF THE TECHNICAL SPECIFICATIONS INCLUDED IN APPENDIX A OF THE CQA/CQC PLAN.

2. FOR SLOPES <5%, THE MINIMUM INTERFACE SHEAR STRENGTH SHALL BE NO LESS THAN IS DESCRIBED BY A FRICTION ANGLE OF 18°. FOR LINER SLOPES GREATER THAN 5% THE MINIMUM POST PEAK FRICTION ANGLE SHALL BE NO LESS THAN AS DESCRIBED BY TABLE 3-1 IN APPENDIX F OF THE ENGINEERING REPORT, OR AS DETERMINED BY THE STABILITY ANALYSIS TO BE COMPLETED FOR CELL SPECIFIC CONSTRUCTION DRAWINGS. REFER TO SECTION 3 OF THE STABILITY DEMONSTRATION INCLUDED AS APPENDIX F OF THE ENGINEERING REPORT FOR A COMPLETE DESCRIPTION OF THE SHEAR STRENGTH REQUIREMENTS FOR THIS LINER SYSTEM.

NO.	REVISION	BY	DATE
10	REVISED SHEET NUMBER	TPP	10/13/15
9	ADDED GEOCOMPOSITE TERMINATION	TPP	8/19/15
8	REMOVED POREWATER DRAINAGE FOR SUBGRADE REPLACEMENT MATERIAL	TPP	8/19/15
7	ADDED 40-MIL TEXTURED LLDPE GEOMEMBRANE FLAP	TPP	8/19/15
6	MODIFIED DOUBLE COMPOSITE LINER DETAIL DETAIL	TPP	4/21/15
5	REMOVED 10 OZ NON-WOVEN FILTER GEOTEXTILE	TPP	2/17/15
4	MODIFIED POREWATER GCD TO ILLUSTRATE TERMINATION	TPP	2/05/15
3	ADDED BASELINER TEMPORARY TERMINATION DETAIL	TPP	6/04/14
1	ADDED SIDELINER TERMINATION DETAIL	TPP	6/04/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX

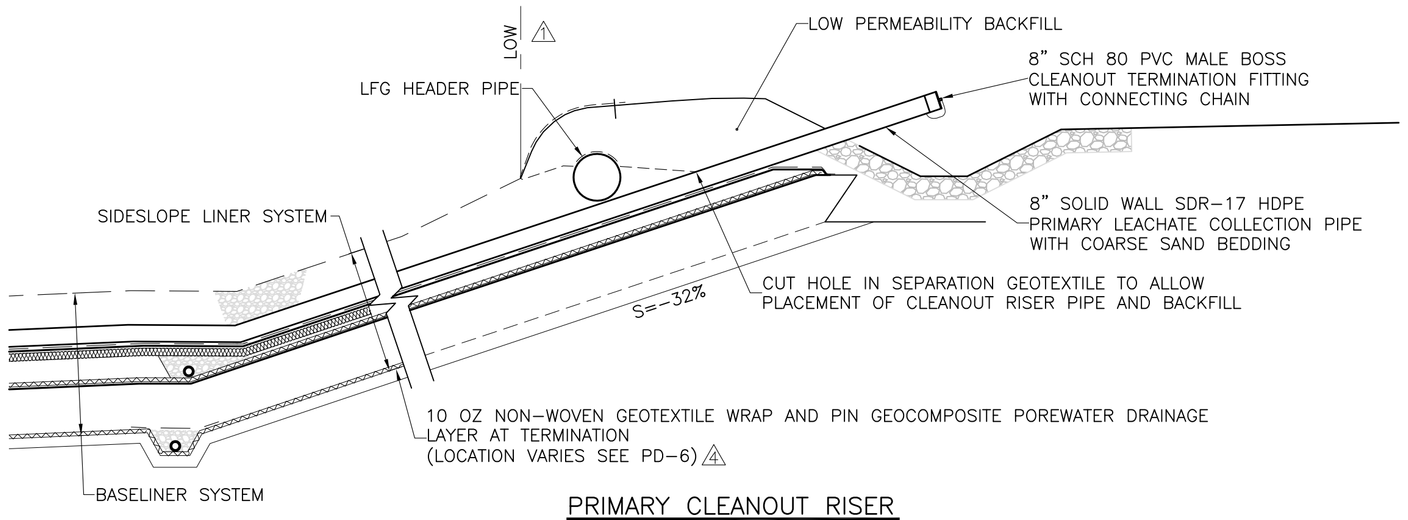
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2014

SCALE: NOTED

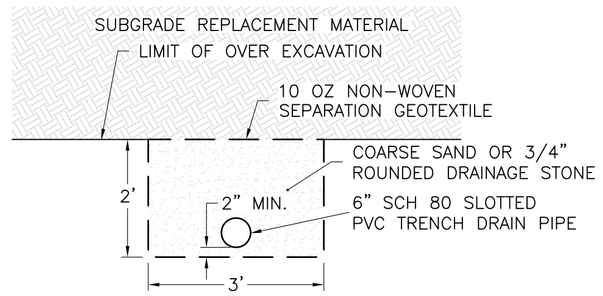
PREPARED FOR: SEALAND WASTE, LLC			LINER AND LEACHATE COLLECTION SYSTEM DETAILS
DES. BY:	DRW. BY:	CHK. BY:	CARROLL LANDFILL EXPANSION APPLICATION
DWG. PD-18 LINER AND LEACHATE COLLECTION SYSTEM DETAILS.dwg			TOWN OF CARROLL / CHAUTAUQUA COUNTY / STATE OF NEW YORK

SHEET PD-18



PRIMARY CLEANOUT RISER

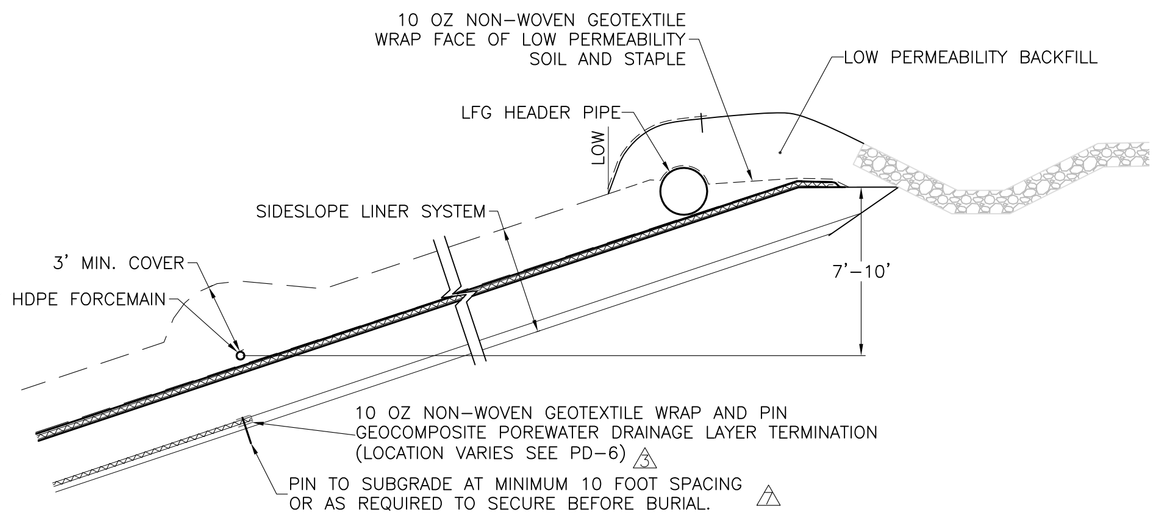
NOT TO SCALE



TRENCH DRAIN PIPE INSTALLATION 4

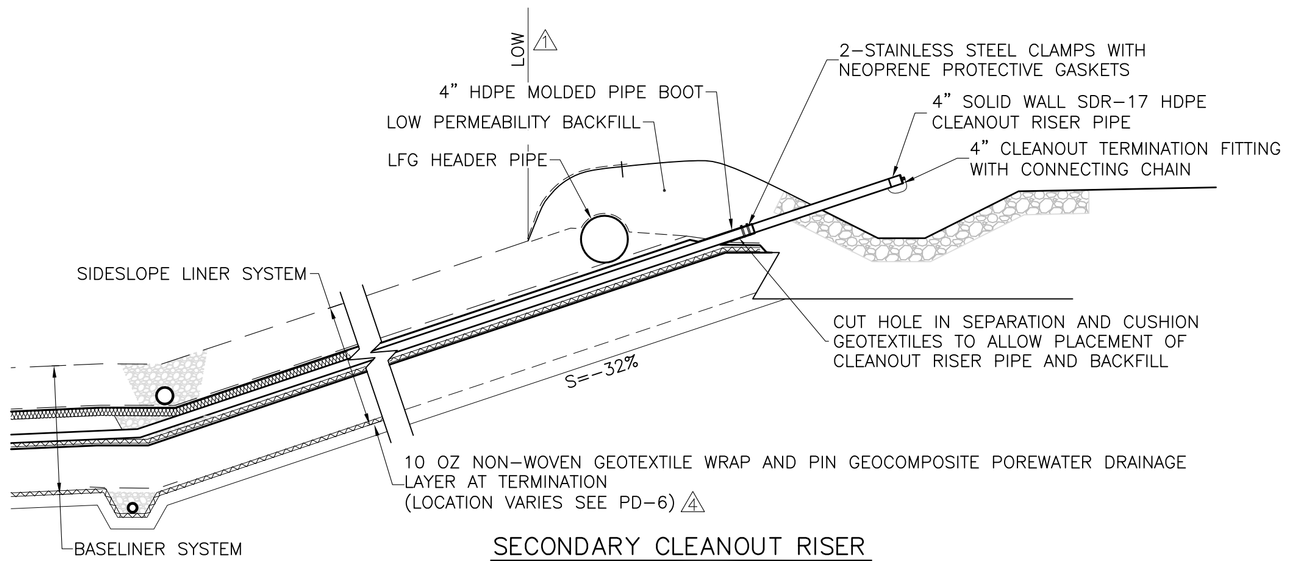
NOT TO SCALE

NOTE:
1. COARSE SAND BACKFILL USED WHERE THE HIGHLY WEATHERED SHALE PARTICLE DISTRIBUTION IS A COARSE SAND.
2. 3/4" ROUNDED DRAINAGE STONE USED WHERE THE HIGHLY WEATHERED SHALE PARTICLE DISTRIBUTION IS GREATER THAN MEDIUM GRAVEL.



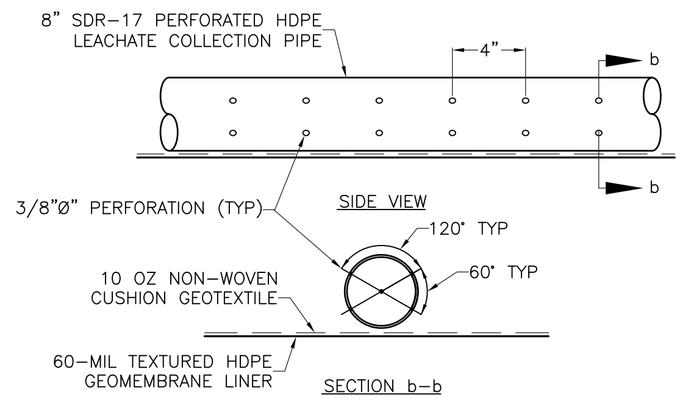
SINGLE WALL FORCEMAIN BURIAL 2

NOT TO SCALE



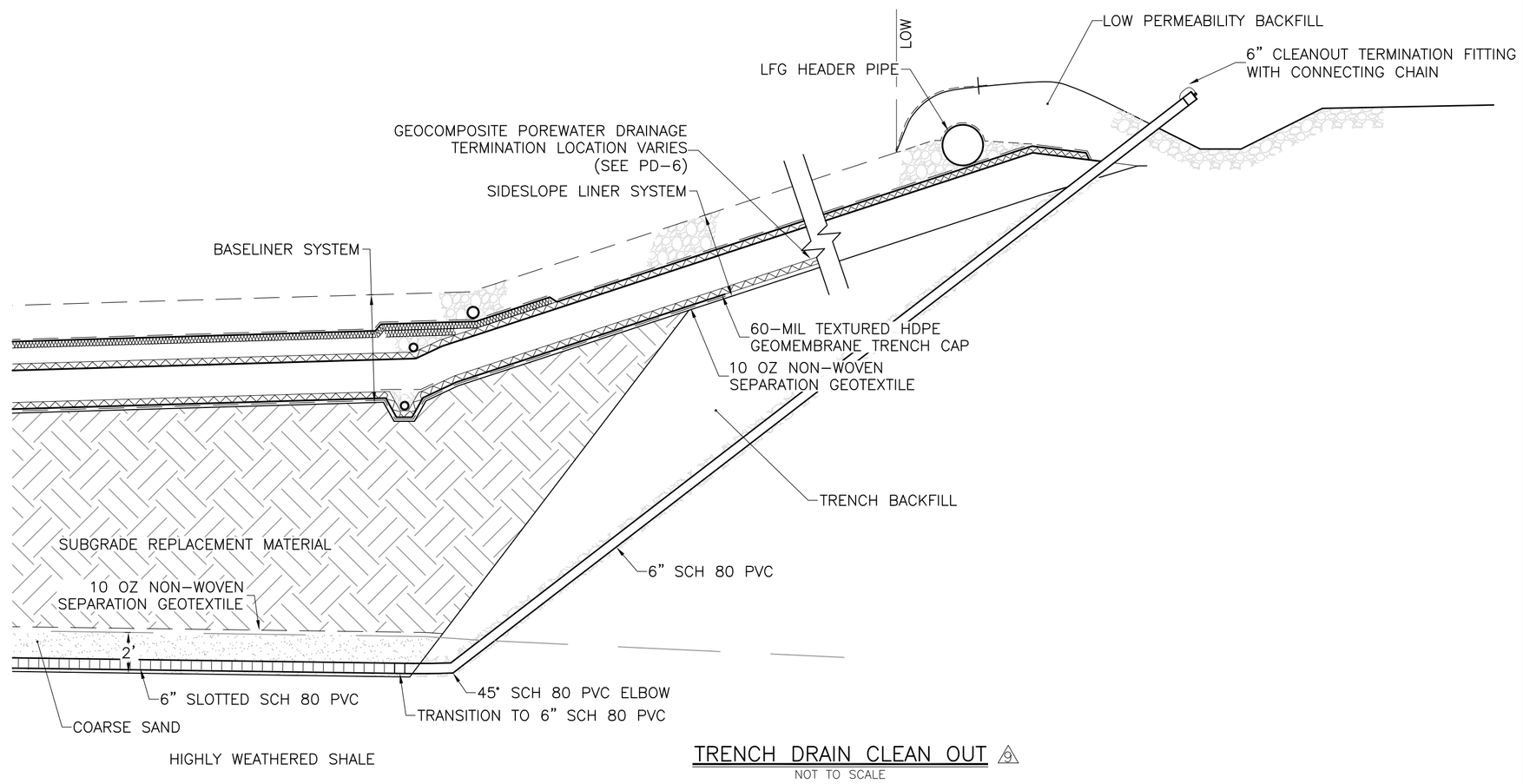
SECONDARY CLEANOUT RISER

NOT TO SCALE



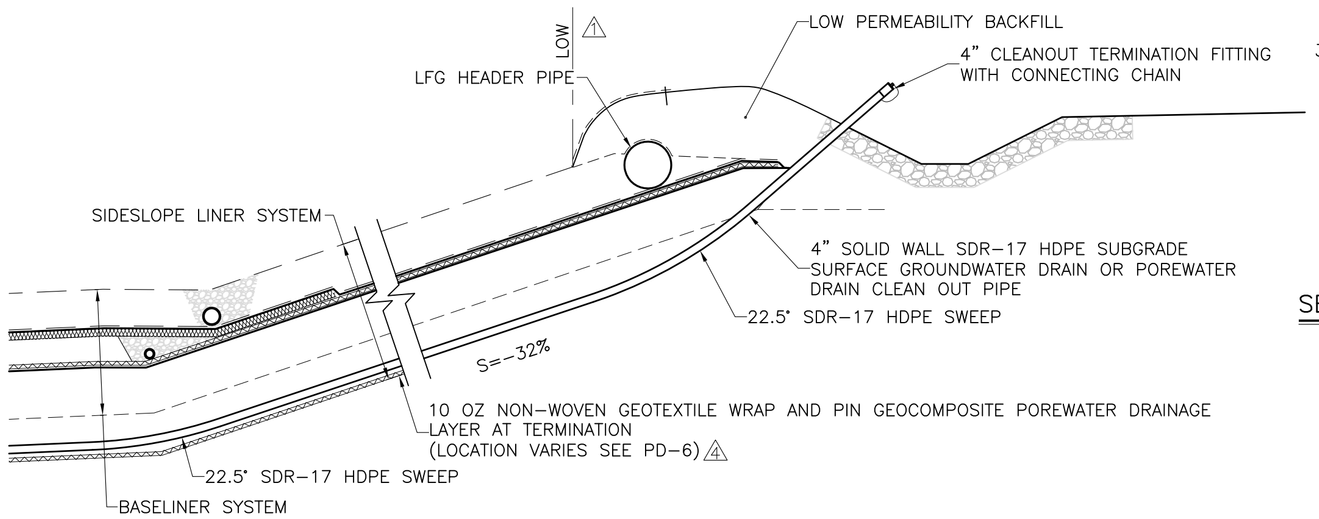
PRIMARY LEACHATE COLLECTION PIPE

NOT TO SCALE



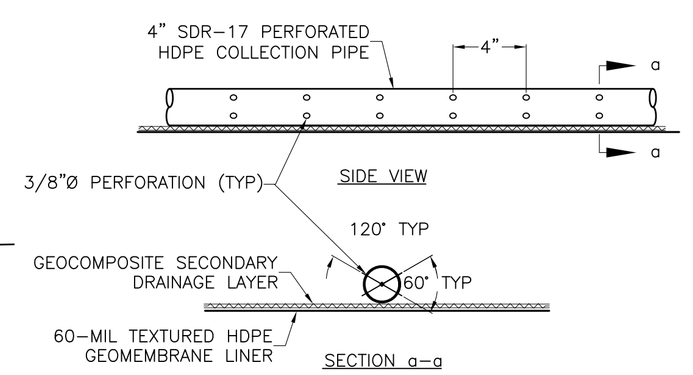
TRENCH DRAIN CLEAN OUT 4

NOT TO SCALE



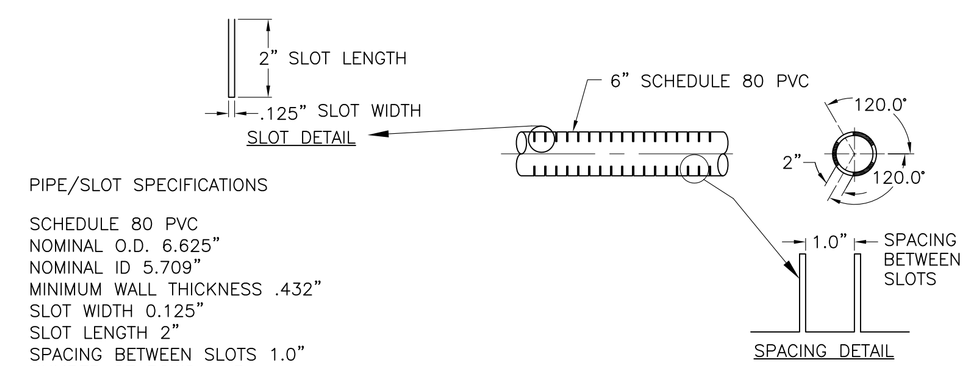
POREWATER DRAIN CLEAN OUT RISER

NOT TO SCALE



SECONDARY LEACHATE/POREWATER COLLECTION PIPE

NOT TO SCALE



PIPE/SLOT SPECIFICATIONS

SCHEDULE 80 PVC
NOMINAL O.D. 6.625"
NOMINAL ID 5.709"
MINIMUM WALL THICKNESS .432"
SLOT WIDTH 0.125"
SLOT LENGTH 2"
SPACING BETWEEN SLOTS 1.0"
NUMBER OF ROWS = 3
ENDS: BELL AND SPIGOT ENDED

TRENCH DRAIN PIPE 6

NOT TO SCALE

GENERAL NOTES:

1. PRIOR TO CONSTRUCTION, THE SHEAR STRENGTH OF ALL CRITICAL SOIL AND GEOSYNTHETIC INTERFACES MUST BE DETERMINED BY LABORATORY TESTING AS DESCRIBED IN SECTION 02597 OF THE TECHNICAL SPECIFICATIONS INCLUDED IN APPENDIX A OF THE CQA/CQC PLAN.
2. FOR SLOPES <5%, THE MINIMUM INTERFACE SHEAR STRENGTH SHALL BE NO LESS THAN IS DESCRIBED BY A FRICTION ANGLE OF 18°. FOR LINER SLOPES GREATER THAN 5% THE MINIMUM POST PEAK FRICTION ANGLE SHALL BE NO LESS THAN AS DESCRIBED BY TABLE 3-1 IN APPENDIX F OF THE ENGINEERING REPORT, OR AS DETERMINED BY THE STABILITY ANALYSIS TO BE COMPLETED FOR CELL SPECIFIC CONSTRUCTION DRAWINGS. REFER TO SECTION 3 OF THE STABILITY DEMONSTRATION INCLUDED AS APPENDIX F OF THE ENGINEERING REPORT FOR A COMPLETE DESCRIPTION OF THE SHEAR STRENGTH REQUIREMENTS FOR THIS LINER SYSTEM.

NO.	REVISION	BY	DATE
7	REVISED SHEET NUMBER	TPP	10/13/15
6	ADDED TRENCH DRAIN CLEAN-OUT DETAIL	TPP	3/6/15
5	ADDED TRENCH DRAIN PIPE INSTALLATION DETAIL	TPP	8/21/15
4	ADDED GEOTEXTILE PINNING NOTE TO DETAIL	TPP	8/21/15
3	ADDED 6" SLOTTED SCH 80 PVC DETAIL	TPP	8/21/15
2	MODIFIED POREWATER GCD TO ILLUSTRATE TERMINATION	TPP	2/05/15
1	ADDED SUBGRADE SURFACE GROUNDWATER DRAIN CLEAN OUT	TPP	6/04/14
2	ADDED SINGLE WALLED FORCEMAIN BURIAL DETAIL	TPP	6/04/14
1	ADDED LIMIT OF WASTE TO DETAILS	TPP	4/30/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E. NYSPE NO. 061689

DATE: March 2014

SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC

DES. BY: | DRW. BY: | CHK. BY:

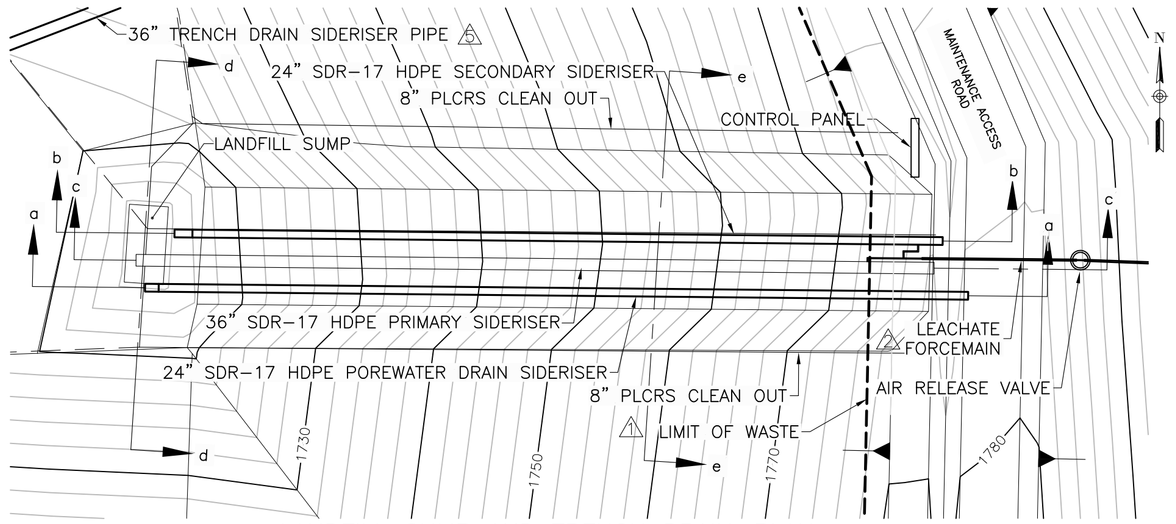
DWG. PD-15 LINER AND LEACHATE COLLECTION SYSTEM DETAILS.dwg

LINER AND LEACHATE COLLECTION SYSTEM DETAILS

CARROLL LANDFILL EXPANSION APPLICATION

TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

SHEET PD-19 7

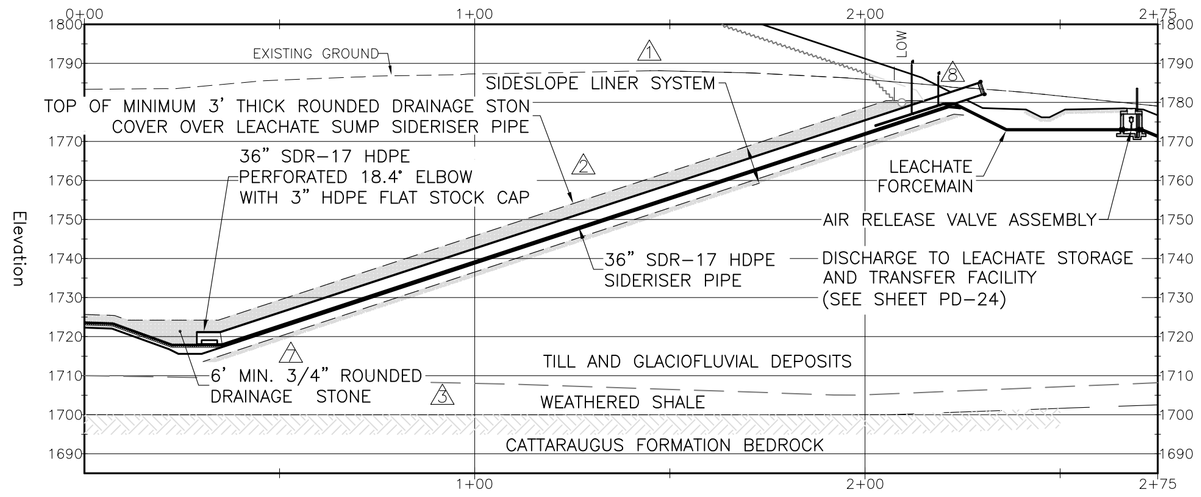


LANDFILL SUMP AND TRENCH DRAIN–PLAN

SCALE: 1"=30'

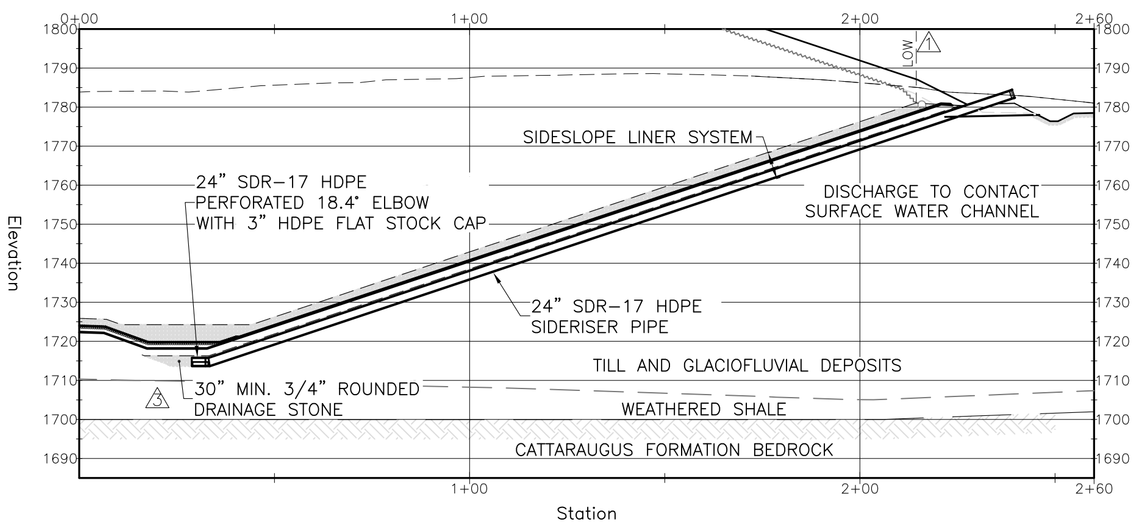
GENERAL NOTES:

1. ELECTRICAL SERVICE FOR BUILDINGS, CONTROL PANELS, METERING, AND PUMPS WILL BE WILL BE SUPPLIED FROM THE DODGE ROAD OVERHEAD SERVICE.
2. DE–BEAD INTERIOR OF BUTT FUSION WELDS FOR ALL SIDERISER PIPE.



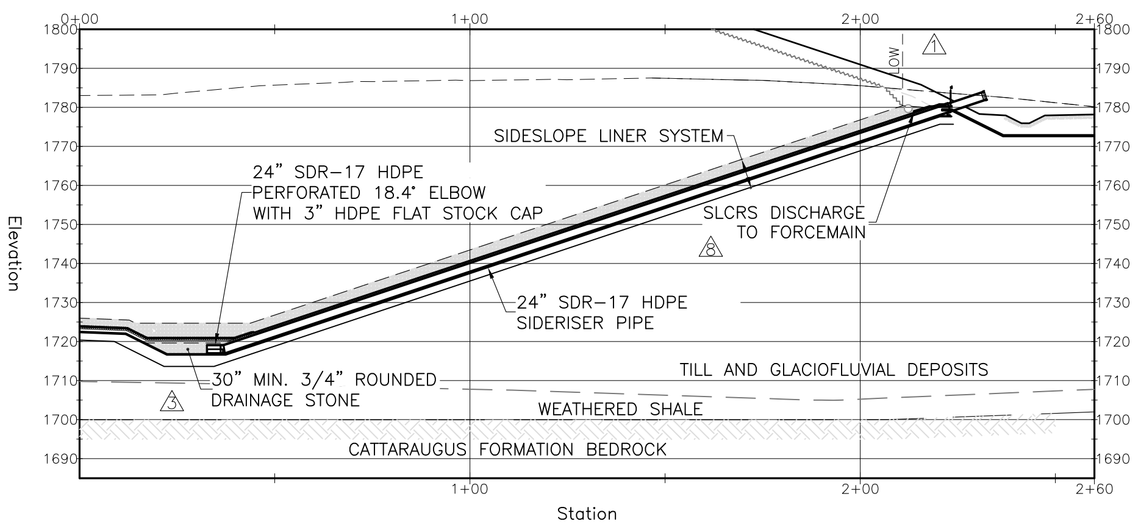
PRIMARY SIDERISER c–c

SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



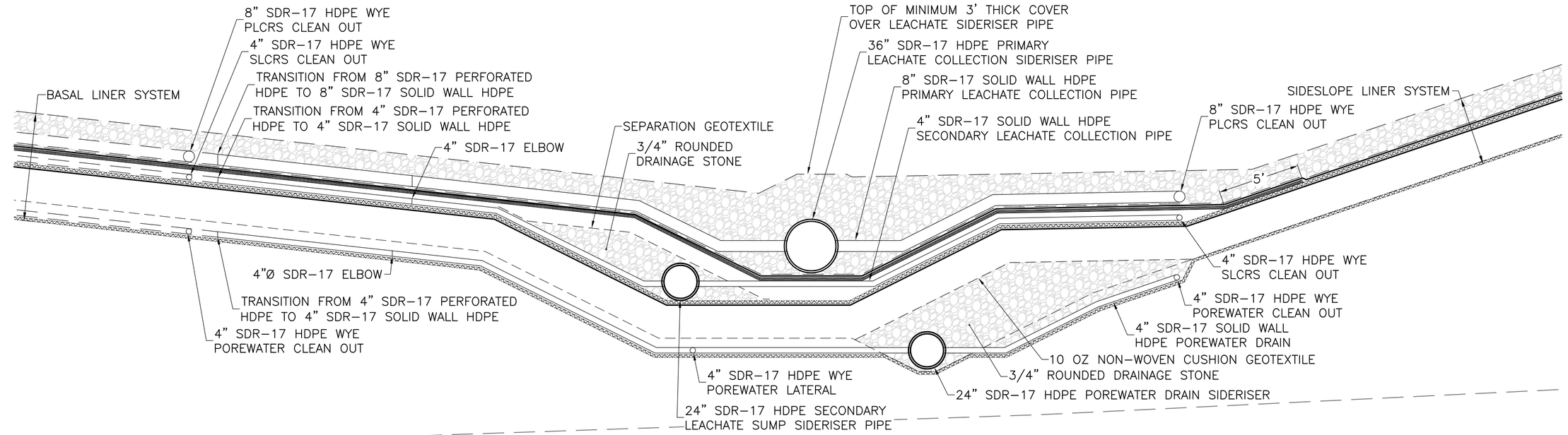
POREWATER SIDERISER a–a

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



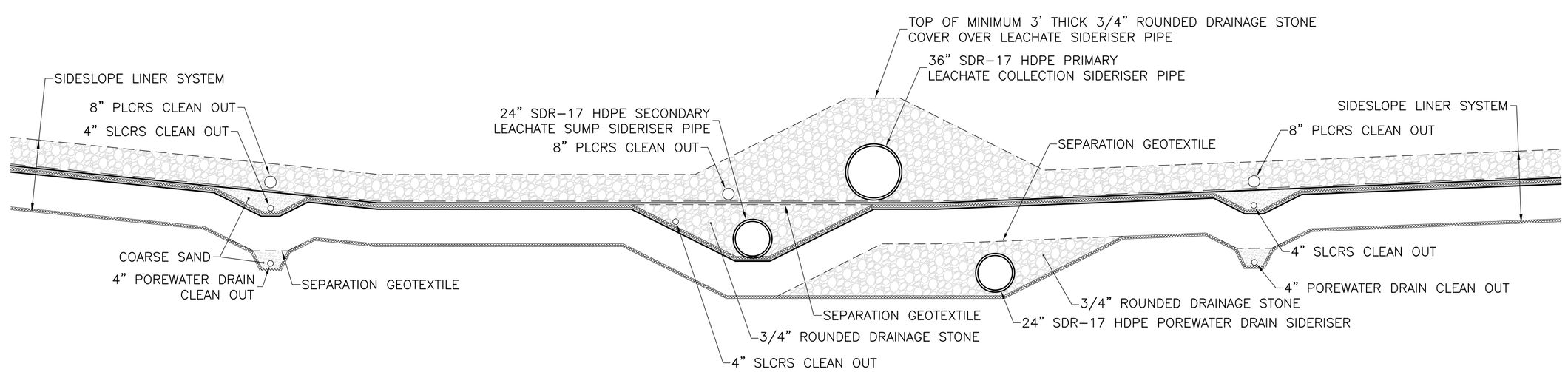
SECONDARY LINER SIDERISER b–b

SCALE: 1"=30' HORIZONTAL
1"=30' VERTICAL



LEACHATE COLLECTION SYSTEM SUMP DETAIL d–d

SCALE: 1"=5



LEACHATE COLLECTION SYSTEM SIDESLOPE DETAIL e–e

SCALE: 1"=5

NO.	REVISION	BY	DATE
6	ADDED SLCRS DISCHARGE TO LEACHATE FORCEMAIN	JAD	09/01/16
5	REMOVED SLCRS DISCHARGE TO PLCRS SUMP	JAD	09/01/16
4	REVISED SHEET NUMBER	TPP	10/12/15
3	TRENCH DRAIN SIDERISER LOCATION AND SECONDARY SIDERISER NOTE	TPP	10/12/15
2	ADDED GENERAL NOTES	TPP	5/05/14
1	ADDED SIZE AND DEPTH ON SUMP STONE	TPP	5/05/14
2	ADDED FORCEMAIN TO PLCRS SIDERISER DETAIL	TPP	5/05/14
1	ADDED LIMIT OF WASTE TO PLAN AND PROFILES	TPP	4/30/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX

JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: May 2014

SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC

DES. BY: | DRW. BY: | CHK. BY:

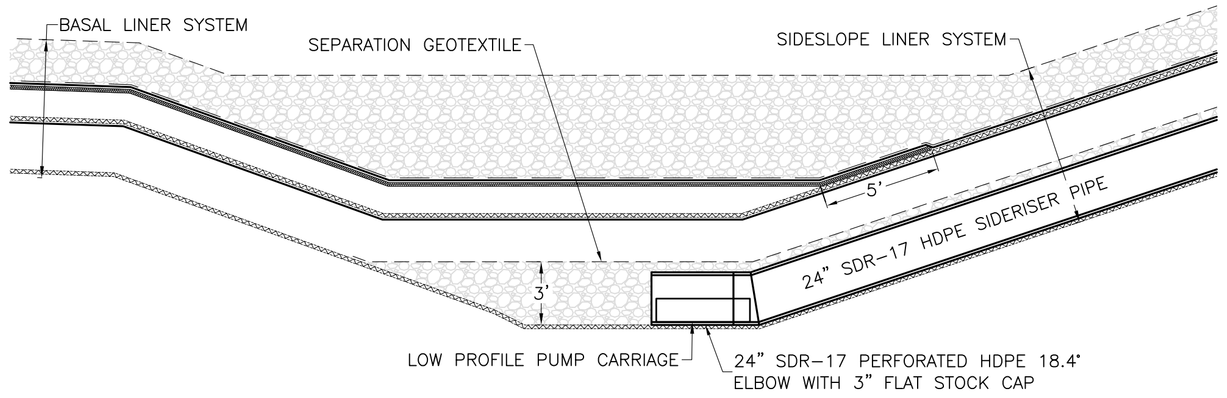
DWG. PD-20-21 SUMP PLAN TRENCH DRAIN DETAIL.dwg

SUMP PLAN, PROFILES & SECTIONS

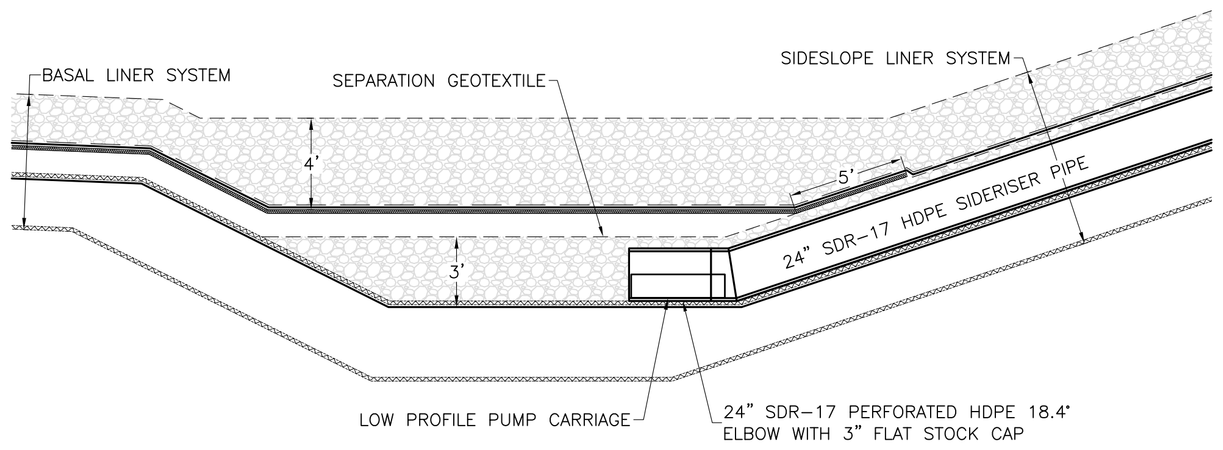
CARROLL LANDFILL PERMIT APPLICATION

TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

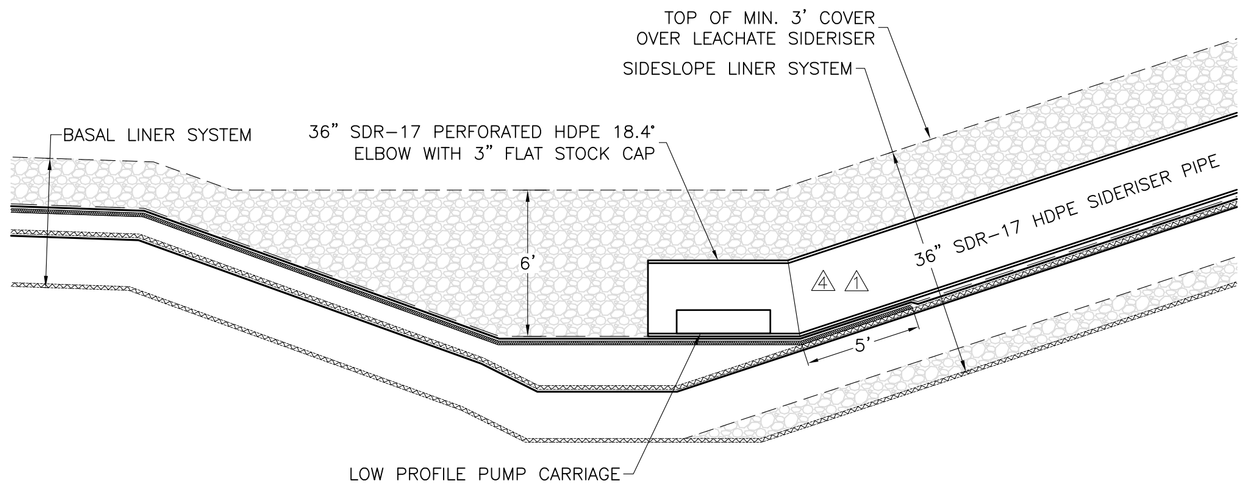
SHEET PD-20 6



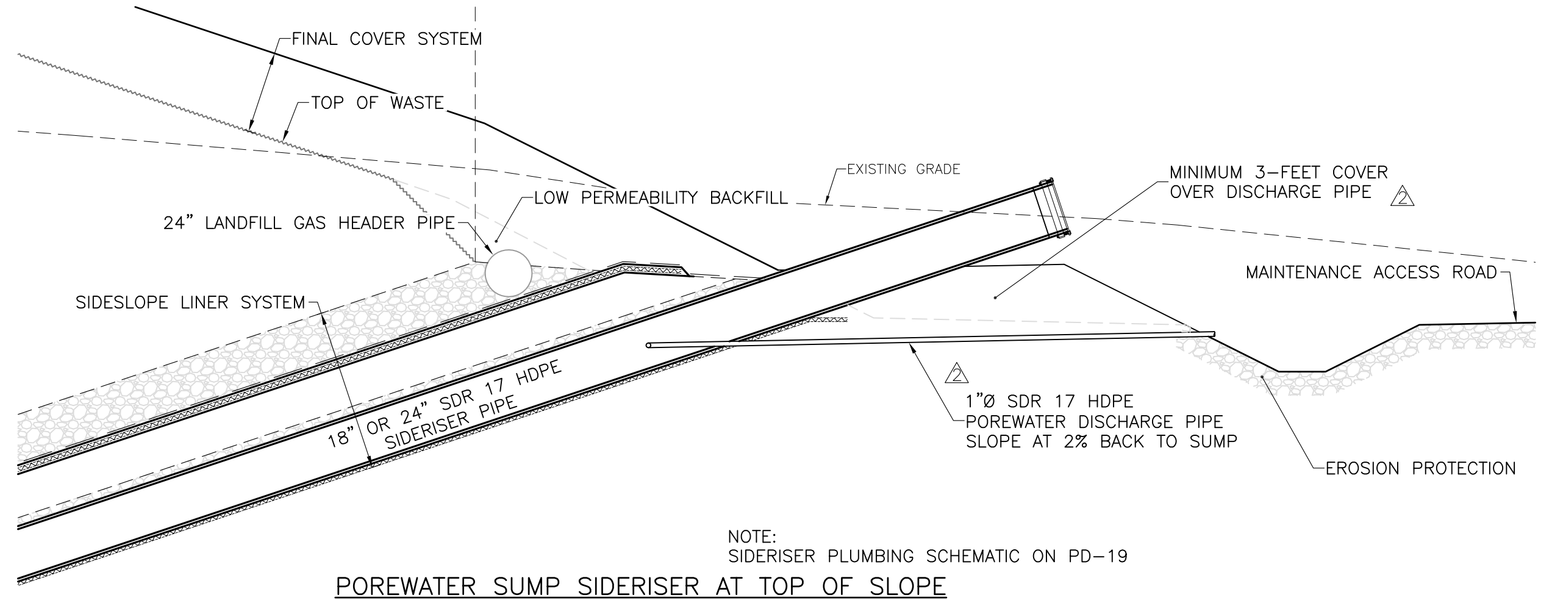
POREWATER DRAIN SUMP
SCALE: NTS



SECONDARY LEACHATE COLLECTION SYSTEM SUMP
SCALE: 1"=5

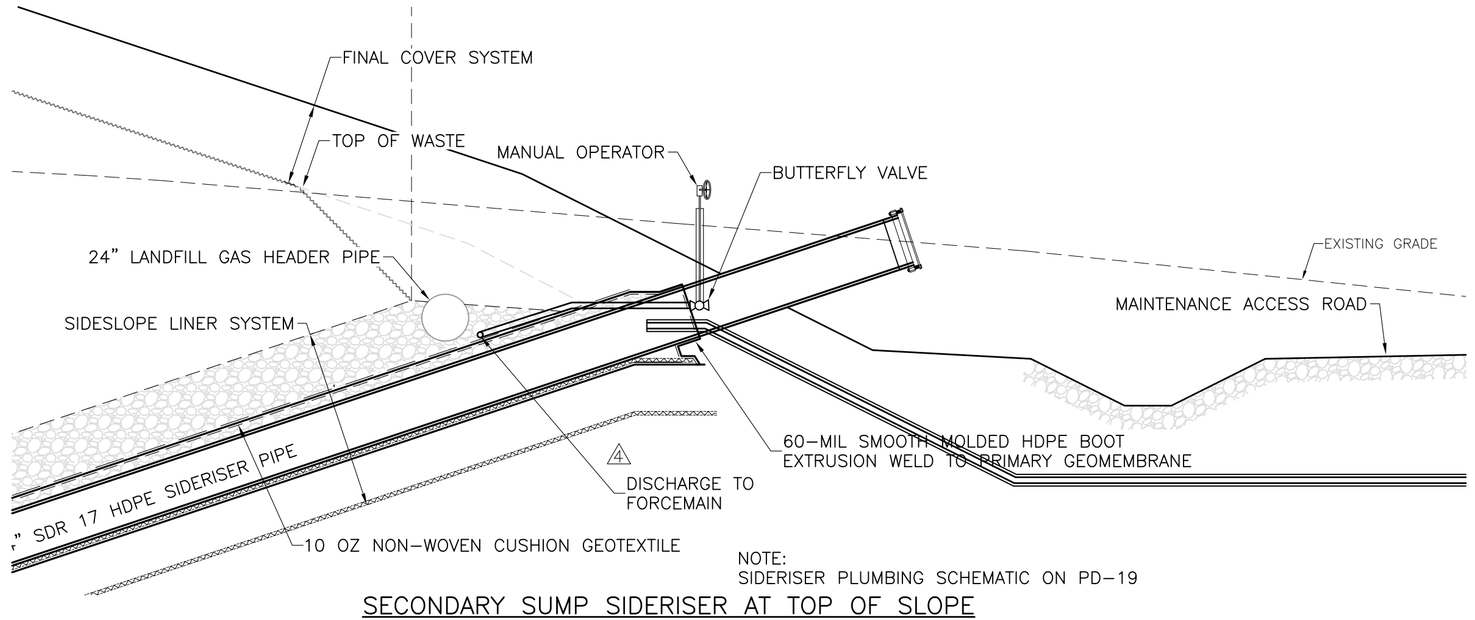


PRIMARY LEACHATE COLLECTION SYSTEM SUMP
SCALE: 1"=5



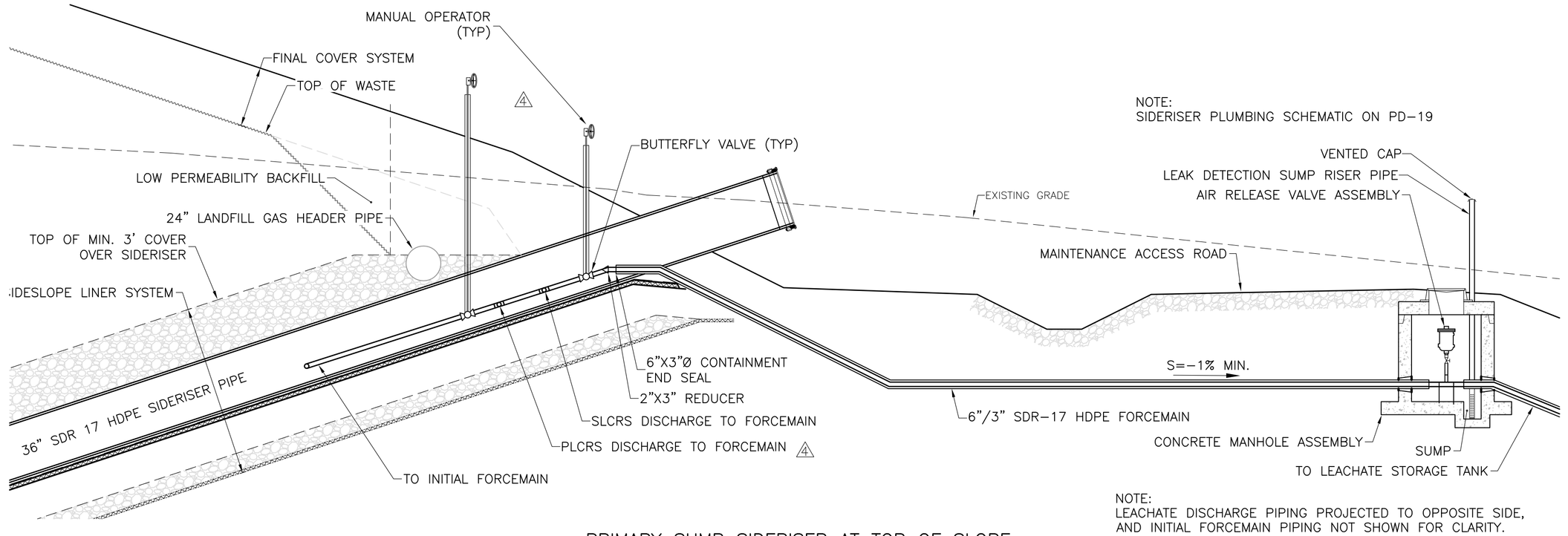
NOTE:
SIDERISER PLUMBING SCHEMATIC ON PD-19

POREWATER SUMP SIDERISER AT TOP OF SLOPE
NOT TO SCALE



NOTE:
SIDERISER PLUMBING SCHEMATIC ON PD-19

SECONDARY SUMP SIDERISER AT TOP OF SLOPE
NOT TO SCALE



NOTE:
SIDERISER PLUMBING SCHEMATIC ON PD-19

VENTED CAP
LEAK DETECTION SUMP RISER PIPE
AIR RELEASE VALVE ASSEMBLY

NOTE:
LEACHATE DISCHARGE PIPING PROJECTED TO OPPOSITE SIDE, AND INITIAL FORCEMAIN PIPING NOT SHOWN FOR CLARITY.

PRIMARY SUMP SIDERISER AT TOP OF SLOPE
NOT TO SCALE

GENERAL NOTES:
1. ELECTRICAL SERVICE FOR BUILDINGS, CONTROL PANELS, METERING, AND PUMPS WILL BE WILL BE SUPPLIED FROM THE DODGE ROAD OVERHEAD SERVICE.

NO.	REVISION	BY	DATE
4	ADD VALVES, ELIMINATE DISCHARGE TO SUMP, ADD DISCHARGE TO FORCEMAIN	JAD	09/01/16
3	REVISED SHEET NUMBER	TPP	10/12/15
2	ADDED POREWATER DISCHARGE PIPE AND COVER SOIL TO DETAIL	JAD	7/21/15
1	ADDED SLCRS DRAIN PIPE TO PLCRS SUMP	TPP	3/02/15

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CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: May 2014

SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC

DES. BY: | DRW. BY: | CHK. BY:

DWG. PD-20-21 SUMP PLAN TRENCH DRAIN DETAIL.dwg

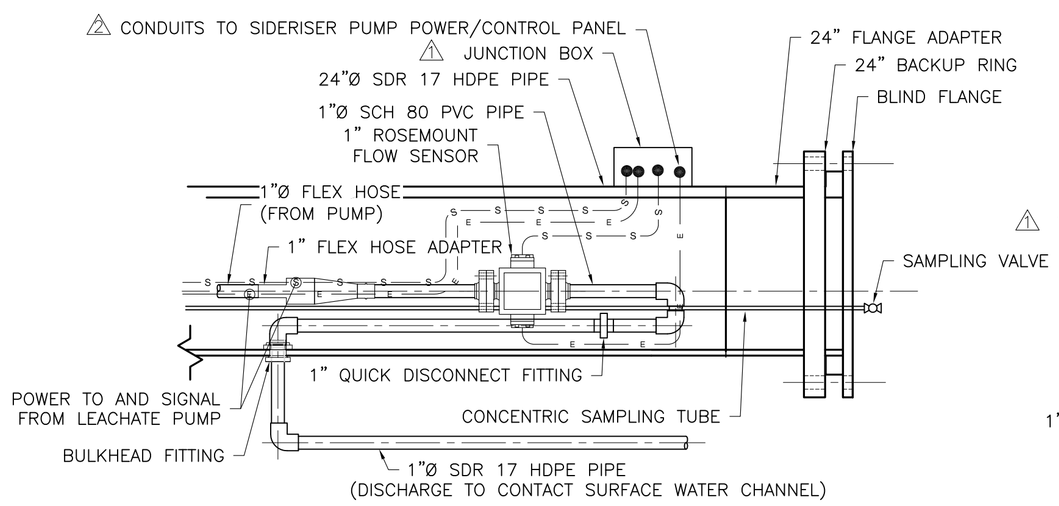
SUMP RISER DETAILS

CARROLL LANDFILL PERMIT APPLICATION

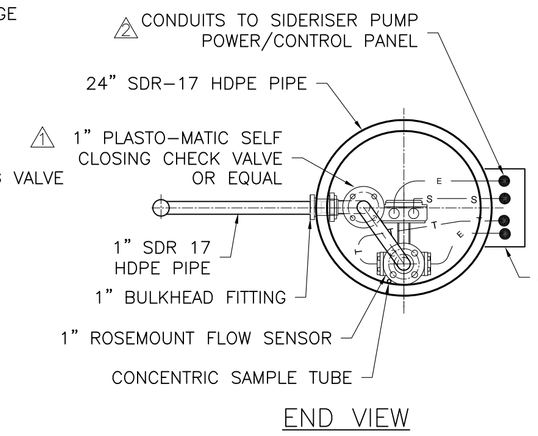
TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

SHEET PD-21 3

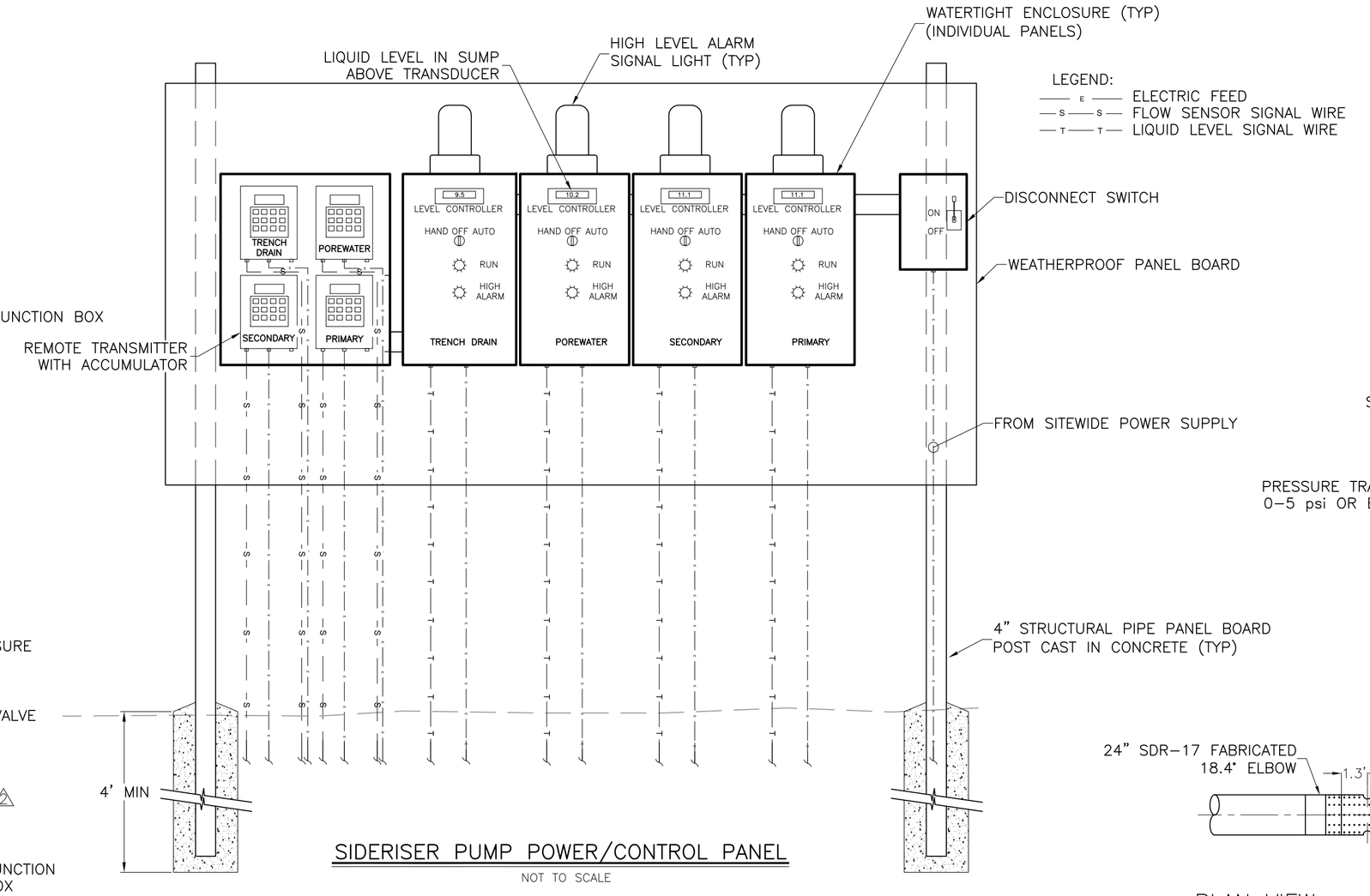
Q:\Sealand\02-0104 Carroll Landfill\Permit Drawings\2016 REVISIONS\PD-20-21 SUMP PLAN TRENCH DRAIN DETAIL.dwg 9/16/2016 3:44 PM



PLAN VIEW

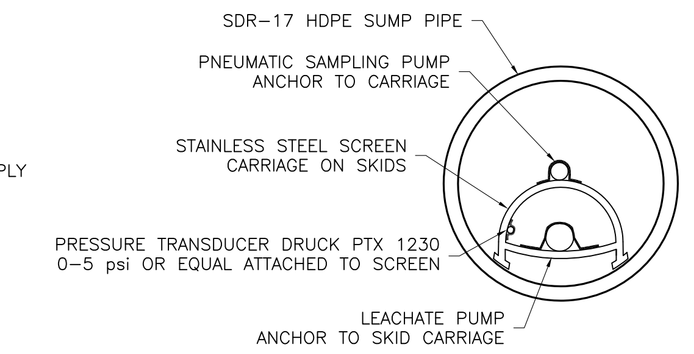


END VIEW



SIDERISER PUMP POWER/CONTROL PANEL

NOT TO SCALE

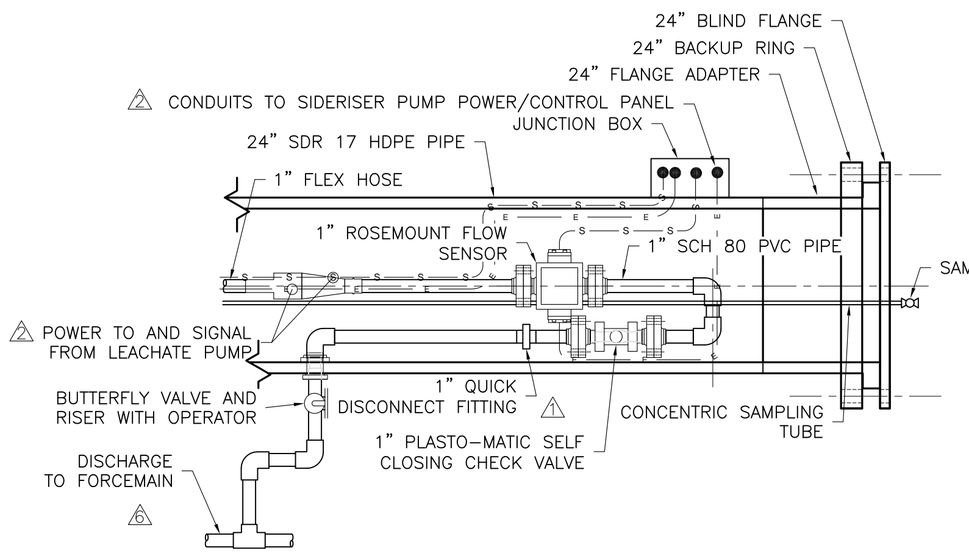


LOW PROFILE PUMP CARRIAGE

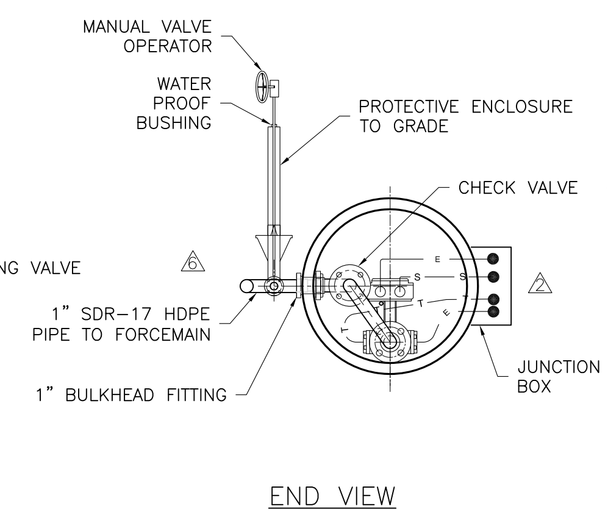
NOT TO SCALE

POREWATER METER/CONTROL DETAIL

SCALE: 1"=1'



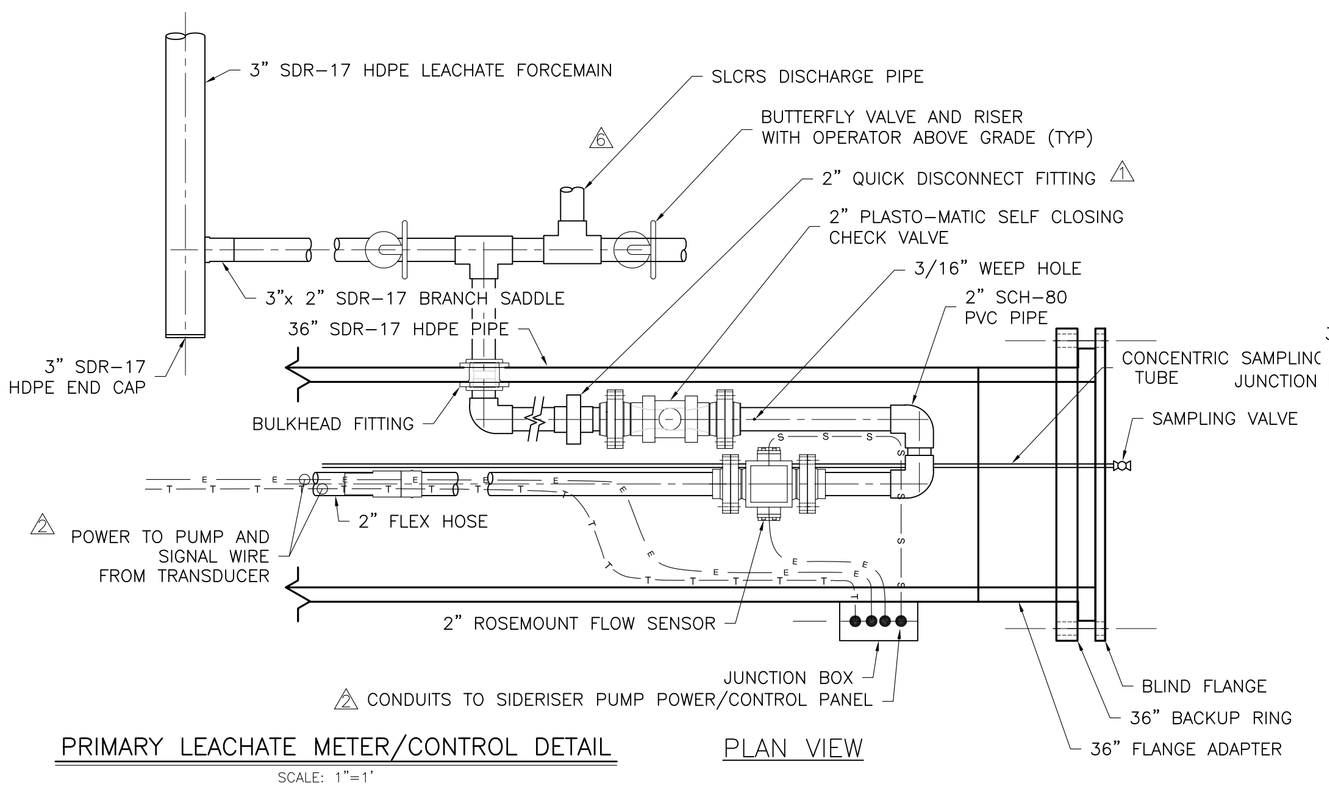
PLAN VIEW



END VIEW

SECONDARY LEACHATE METER/CONTROL

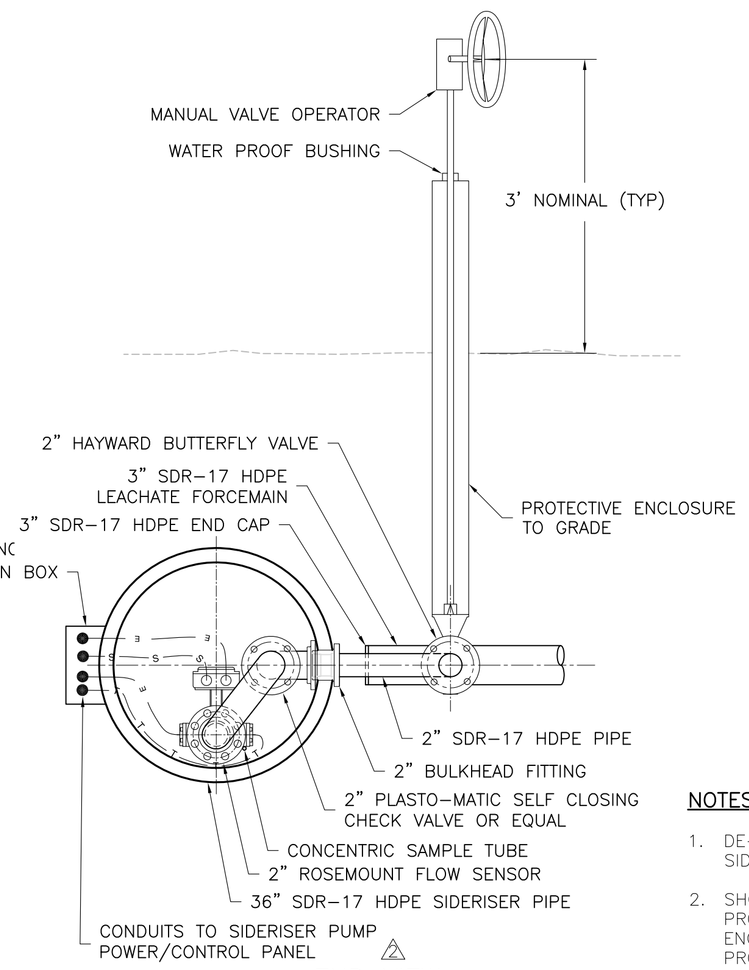
SCALE: 1"=1'



PRIMARY LEACHATE METER/CONTROL DETAIL

SCALE: 1"=1'

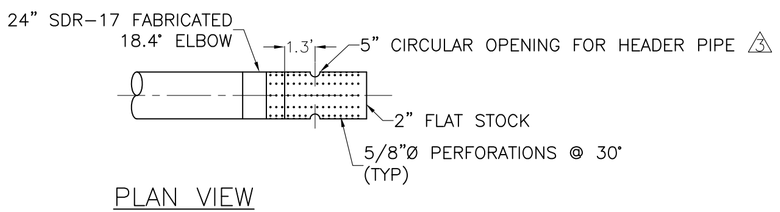
PLAN VIEW



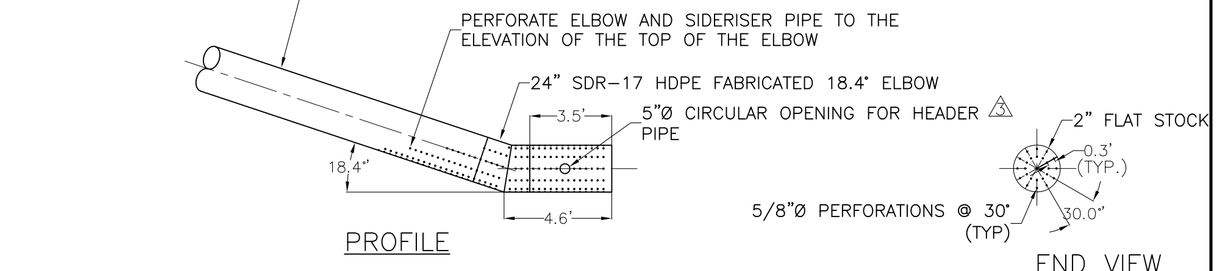
END VIEW

NOTES:

1. DE-BEAD INTERIOR OF BUTT FUSION WELDS FOR ALL SIDERISER PIPE.
2. SHOP DRAWINGS FOR SUMP CONSTRUCTION SHALL BE PROVIDED BY THE FABRICATOR AND APPROVED BY THE ENGINEER PRIOR TO FABRICATION. EXTRUSION WELDING PROCEDURES AND SPECIFICATIONS MUST BE PROVIDED.
3. ALL HDPE PIPE SHALL BE PE-3408



PLAN VIEW

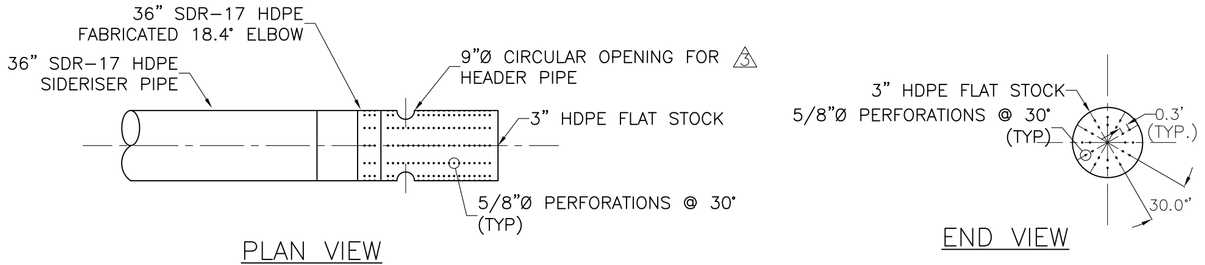


PROFILE

END VIEW

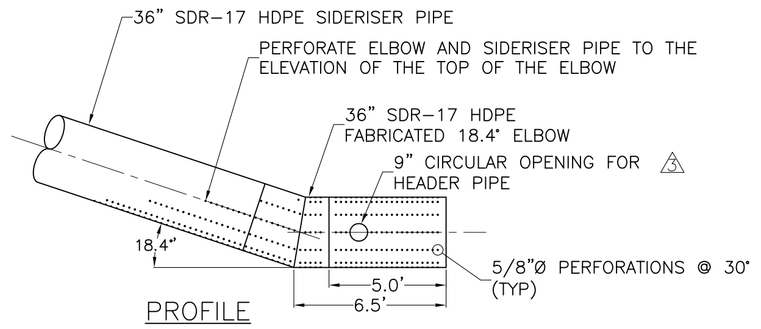
POREWATER AND SECONDARY LEACHATE SUMP DETAIL

NOT TO SCALE



PLAN VIEW

END VIEW



PROFILE

PRIMARY LEACHATE SUMP DETAIL

NOT TO SCALE

ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NO.	REVISION	BY	DATE
⚠6	REMOVE SLCRS DISCHARGE TO PLCRS SUMP, ADD SLCRS DISCHARGE TO FORCEMAIN	JAD	09/01/16
⚠5	REVISE SHEET NUMBER	TPP	10/12/15
⚠4	ADDED PROFILE VIEW TO SUMP PUMP ARRANGEMENT DETAIL	SJD	6/17/14
⚠3	ADDED CIRCULAR OPENINGS FOR HEADER PIPES	SJD	6/17/14
⚠2	ADDED POWER AND SIGNAL LINES TO LEACHATE METER AND CONTROL DETAILS	SJD	6/17/14
⚠1	ADD QUICK DISCONNECT TO CONTROL DETAILS	TPP	4/30/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX

JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: June 2014

SCALE: NOTED

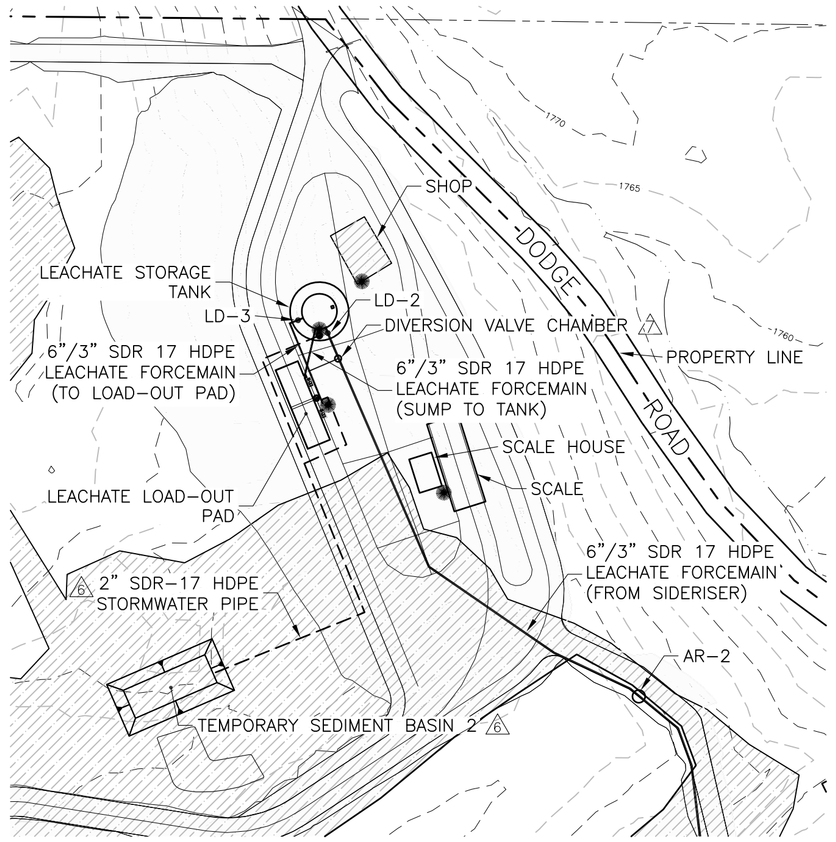
PREPARED FOR: SEALAND WASTE, L.L.C.			SIDERISER PIPE DETAILS
DES. BY:	DRW. BY:	CHK. BY:	CARROLL LANDFILL EXPANSION APPLICATION
DWG. PD-22 SIDERISER PIPE DETAILS.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK

SHEET PD-22 ⚠5

Q:\Sealand\02-0104 Carroll Landfill\Permit Drawings\2016 REVISIONS\PD-22 SIDERISER PIPE DETAILS.dwg 9/1/2016 3:43 PM

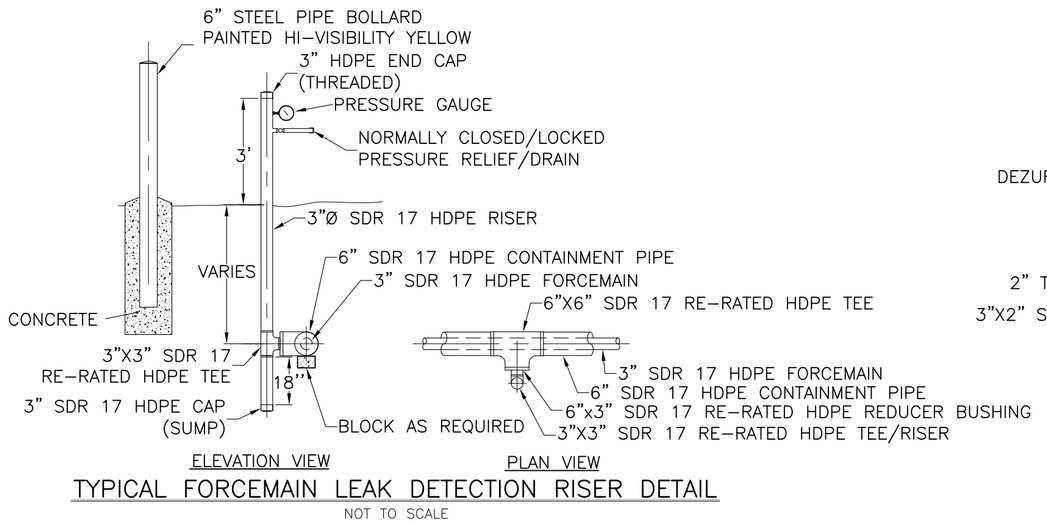
INITIAL CONSTRUCTION PLAN

SCALE 1"=300'



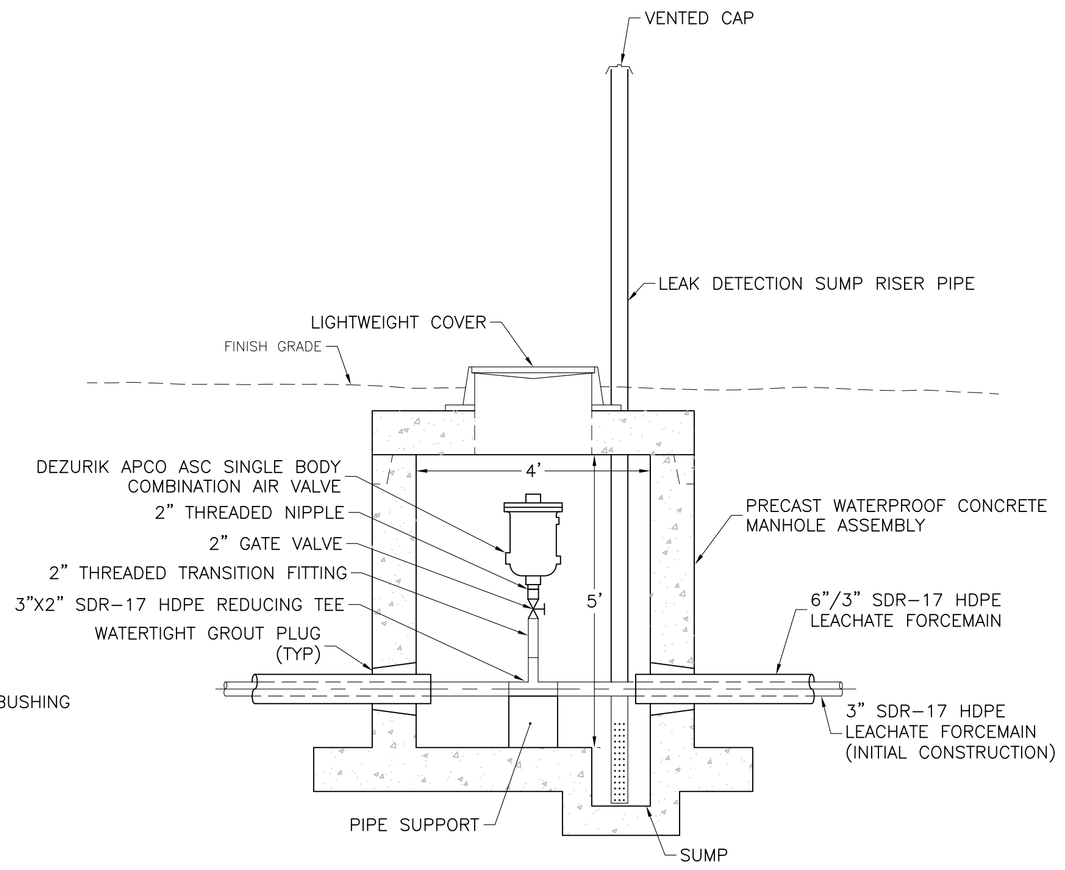
SITE PLAN

SCALE 1"=100'



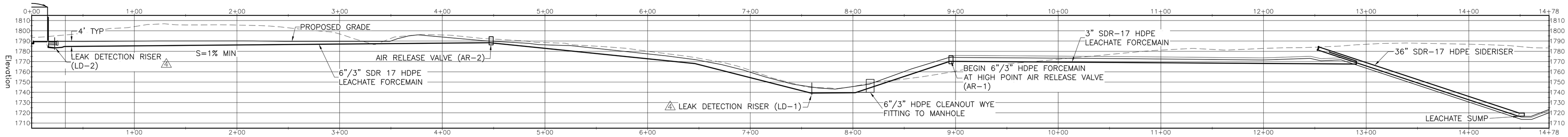
TYPICAL FORCEMAIN LEAK DETECTION RISER DETAIL

NOT TO SCALE



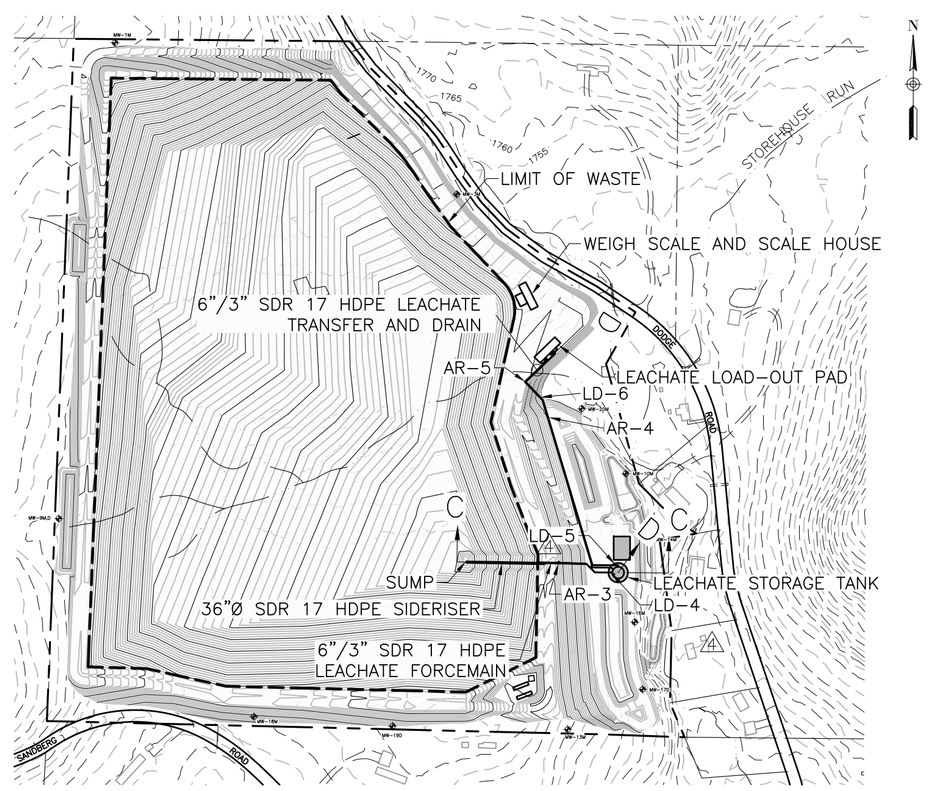
AIR VALVE CONTAINMENT SCHEMATIC

SCALE: 1"=2'



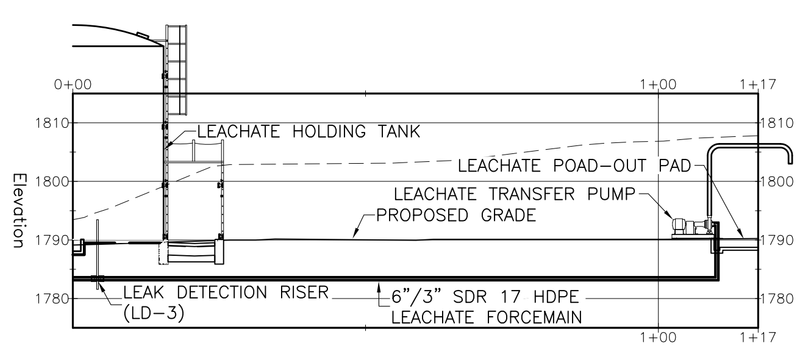
Profile View of INITIAL CONSTRUCTION FORCEMAIN A-A

SCALE: 1"=50' HORIZONTAL
1"=50' VERTICAL



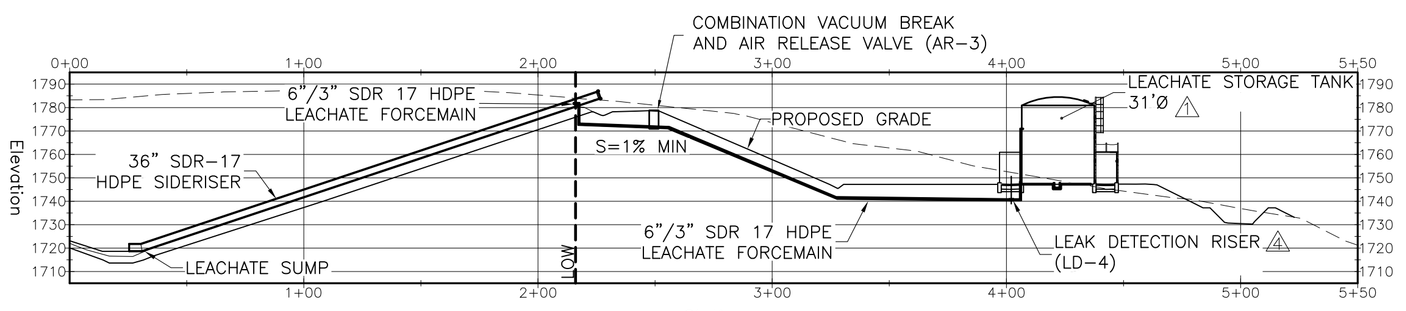
FINAL CONDITIONS PLAN

SCALE 1"=300'



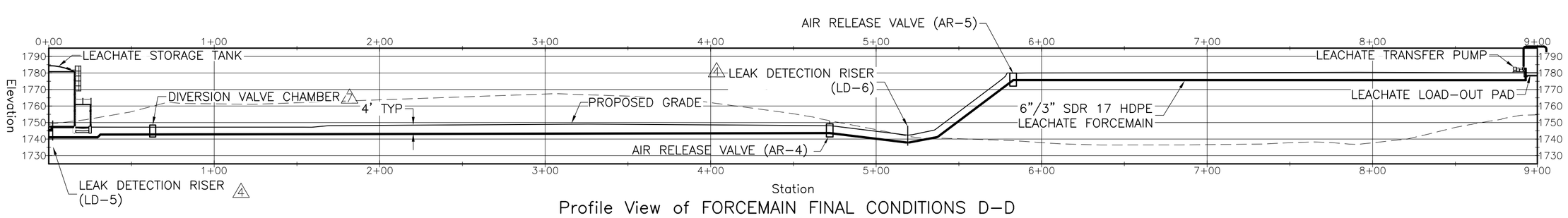
Profile View of INITIAL CONSTRUCTION FORCEMAIN B-B

SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



Profile View of FORCEMAIN FINAL CONDITIONS C-C

SCALE: 1"=50' HORIZONTAL
1"=50' VERTICAL



Profile View of FORCEMAIN FINAL CONDITIONS D-D

SCALE: 1"=50' HORIZONTAL
1"=50' VERTICAL

ALTERATION OF ANY SURVEY, DRAWING, DESIGN, SPECIFICATION OR REPORT MUST BE COMPLETED IN ACCORDANCE WITH SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NO.	REVISION	BY	DATE
6	REVISED SHEET NUMBER	TPP	10/12/15
5	ADDED DIVERSION VALVE CHAMBER AND TEMPORARY SEDIMENT BASIN 1	TPP	10/12/15
4	ADDED STORMWATER CONTROLS AT LOAD OUT PAD AND RESIDENTIAL DROP OFF AREA	TPP	3/02/15
3	ADDED BOTTOM OF LEACHATE TANK DETAIL	SJD	6/16/14
2	NUMBERED LEAK DETECTION POINTS	TPP	5/23/14
1	ADDED LEACHATE STORAGE TANK CONTROL NOTE	TPP	5/01/14
2	REVISED FORCEMAIN FROM 8"X4"Ø TO 6"X3"Ø	TPP	7/01/14
1	ADDED LEACHATE STORAGE TANK DIMENSIONS	TPP	5/01/14

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CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX

JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

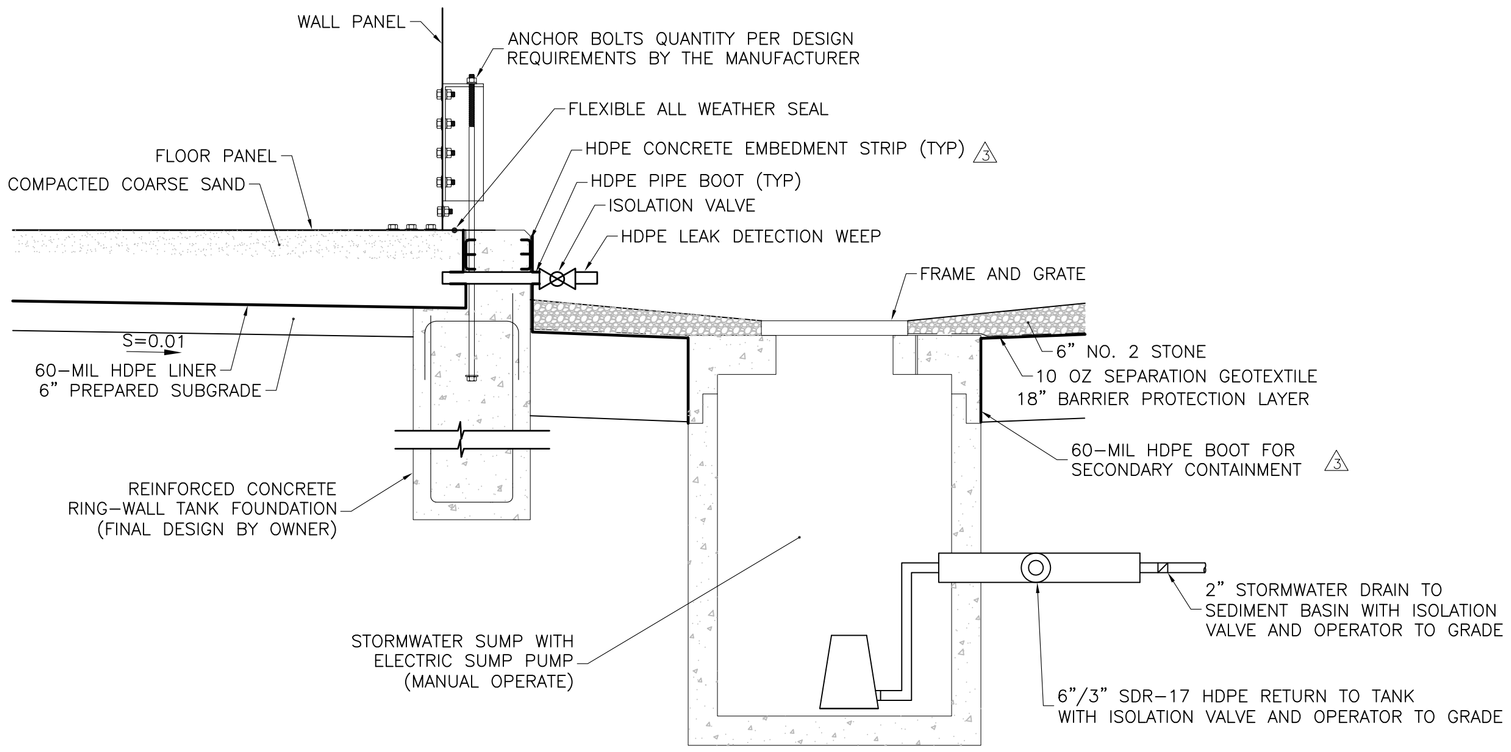
DATE: June 2014

SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC		
DES. BY:	DRW. BY:	CHK. BY:
DWG. PD-18 LEACHATE STORAGE AND TRANSFER FACILITY PLAN AND DETAILS.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY / STATE OF NEW YORK

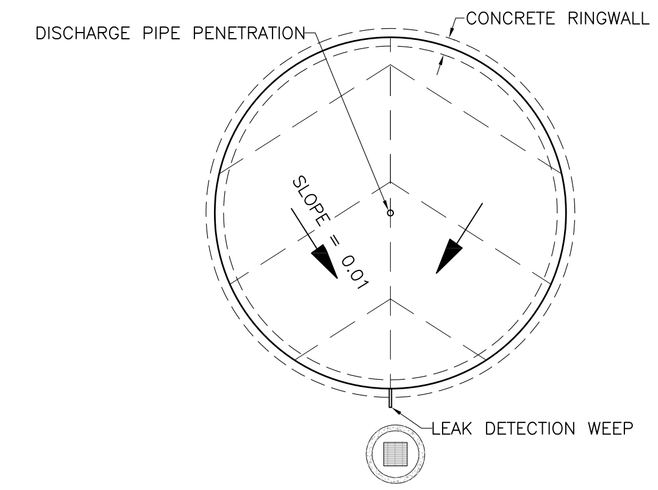
LEACHATE FORCEMAIN PLAN, PROFILES AND DETAILS
CARROLL LANDFILL EXPANSION APPLICATION

SHEET PD-23 6



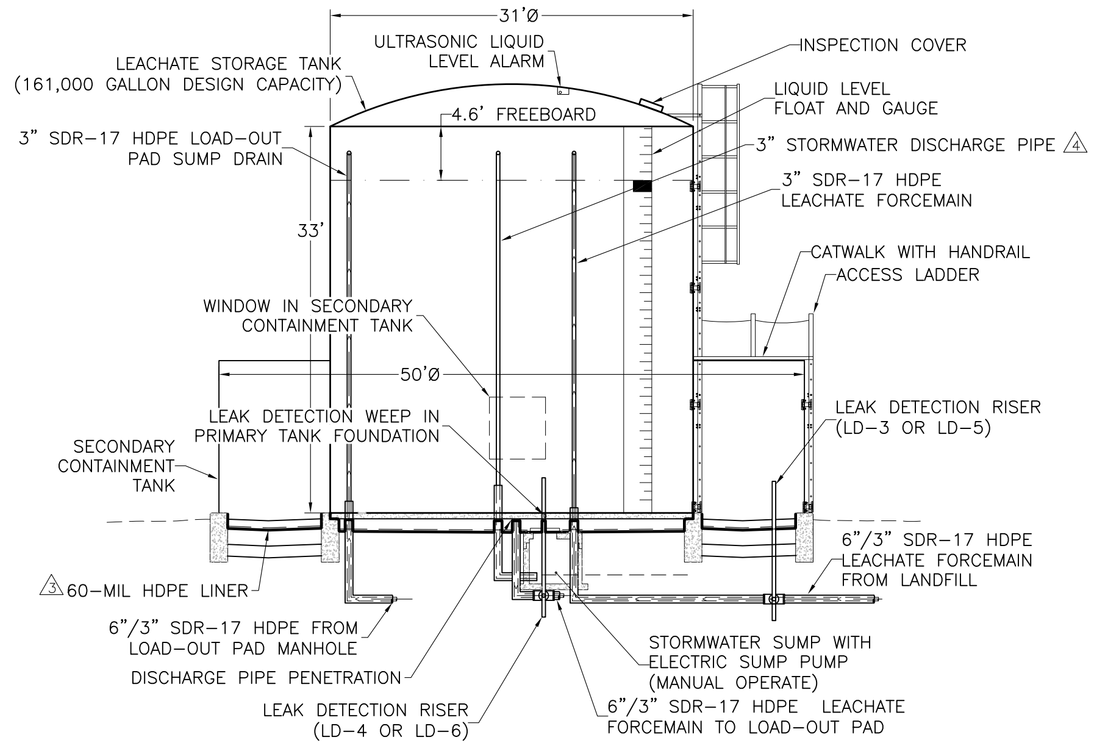
LEACHATE TANK FOUNDATION SCHEMATIC

NOT TO SCALE

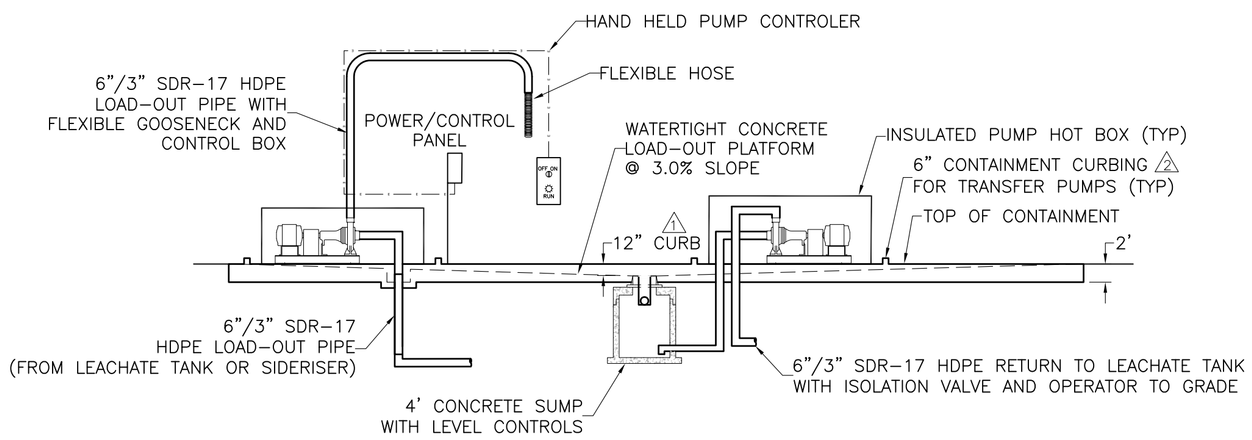


GEOMEMBRANE SUBGRADE GRADING SCHEME

NOT TO SCALE

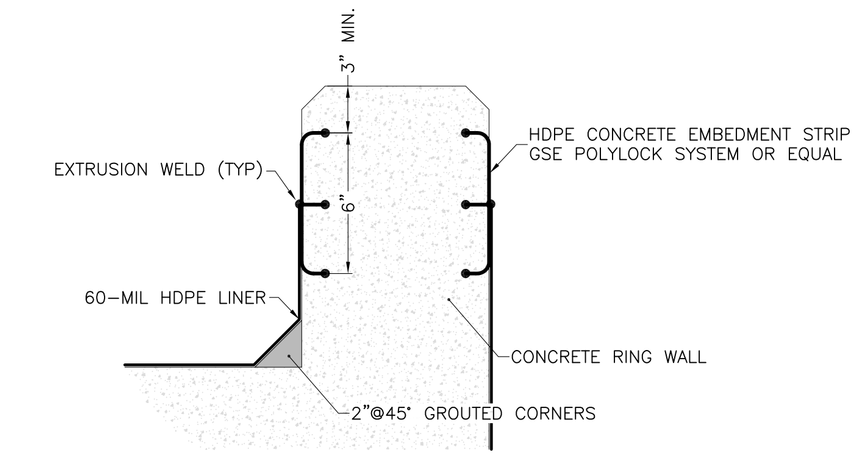


PROJECTED ELEVATION VIEW



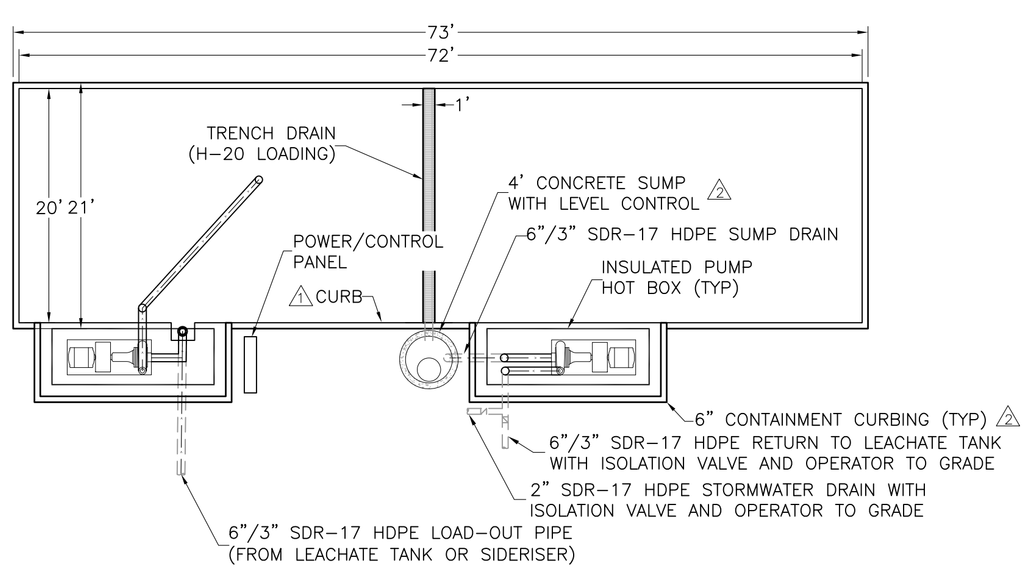
NOTE: FINAL CONDITIONS USE PUMP AT TANK LOCATION

ELEVATION VIEW



HDPE CONCRETE EMBEDMENT STRIP 3

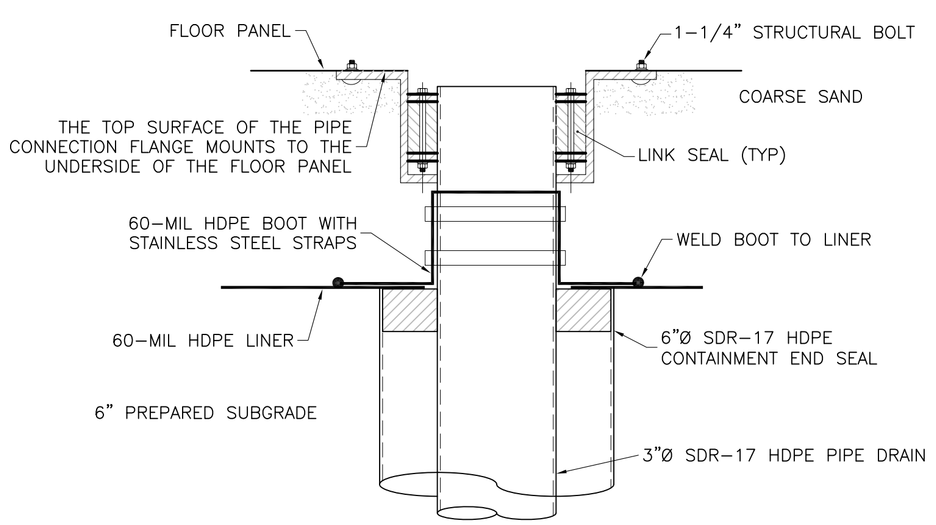
SCALE: NOT TO SCALE



PLAN VIEW

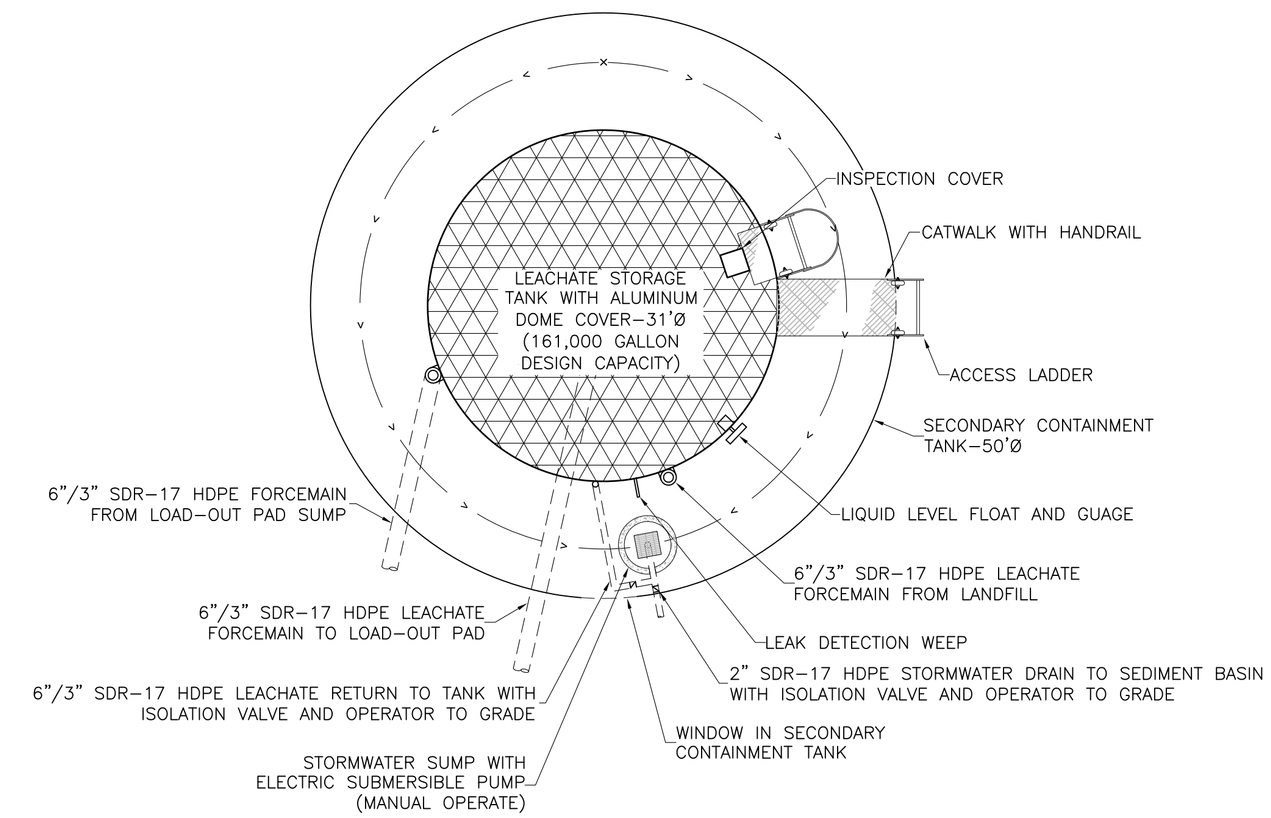
ILLUSTRATIVE LEACHATE LOAD-OUT PAD

SCALE: NOT TO SCALE



DISCHARGE PIPE PENETRATION

NOT TO SCALE



PLAN VIEW

ILLUSTRATIVE LEACHATE TANK

NOT TO SCALE

GENERAL NOTES:

1. LEACHATE CONTROL POWER SUPPLY WILL BE LOCATED IN THE SHOP. LEACHATE OPERATIONAL PUMP CONTROLS WILL BE LOCATED ADJACENT TO THE LEACHATE LOAD OUT PAD.

NO.	REVISION	BY	DATE
5	REVISED SHEET NUMBER	TPP	10/12/15
4	ADDED 3" STORMWATER DISCHARGE PIPE TO TANK DETAIL	TPP	10/12/15
3	ADDED HDPE CONCRETE EMBEDMENT STRIP AND LINED SECONDARY CONTAINMENT	TPP	2/06/15
2	ADDED TRANSFER PUMP 6" CONTAINMENT CURBING	TPP	2/05/15
1	ADDED LOADOUT PAD CURB	TPP	5/01/14

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GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 081689

DATE: March 2014

SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC

DES. BY: | DRW. BY: | CHK. BY:

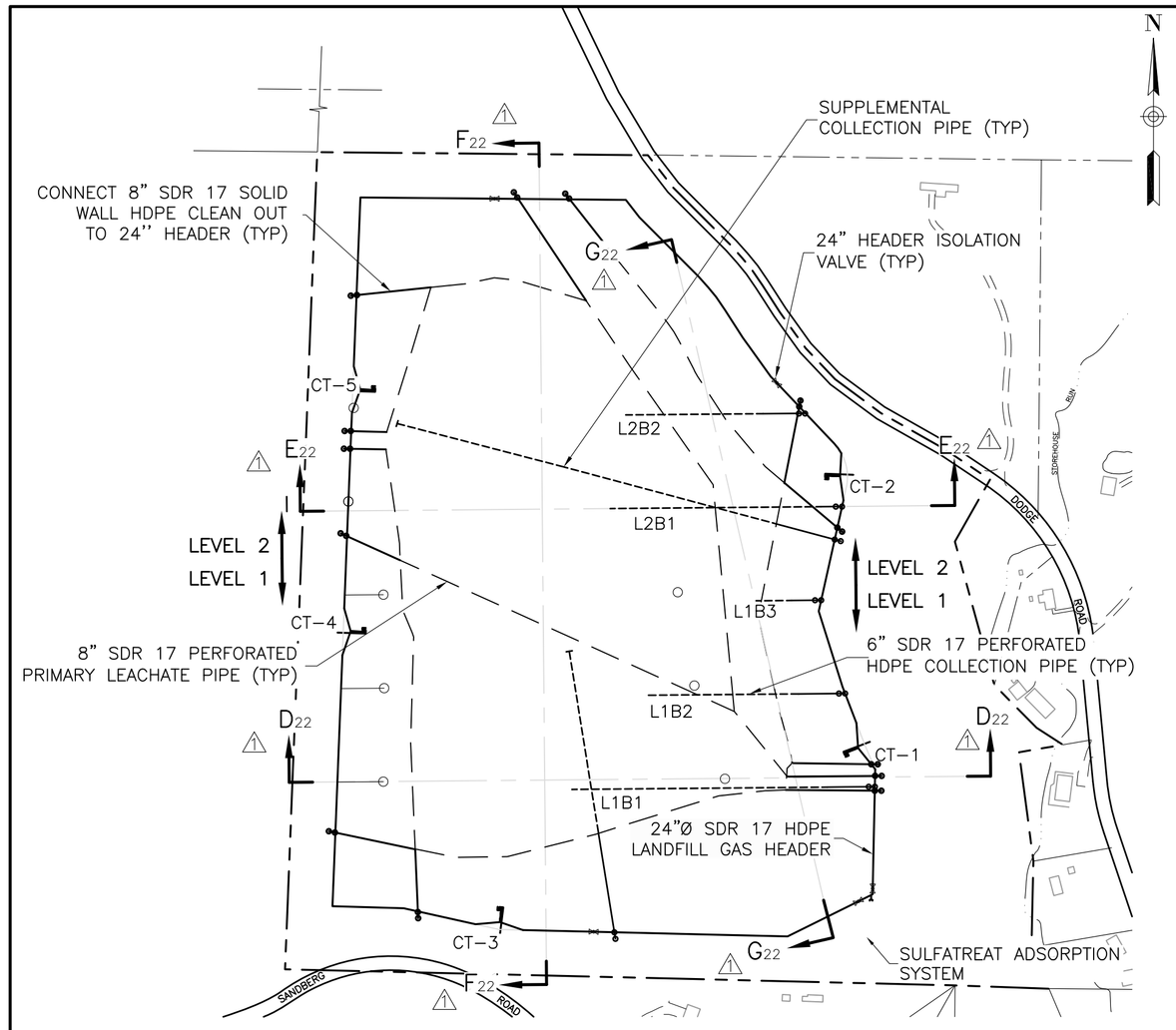
DWG. PD-24 LEACHATE STORAGE AND LOADOUT DETAILS.dwg

LEACHATE STORAGE AND LOADOUT DETAILS

CARROLL LANDFILL EXPANSION APPLICATION

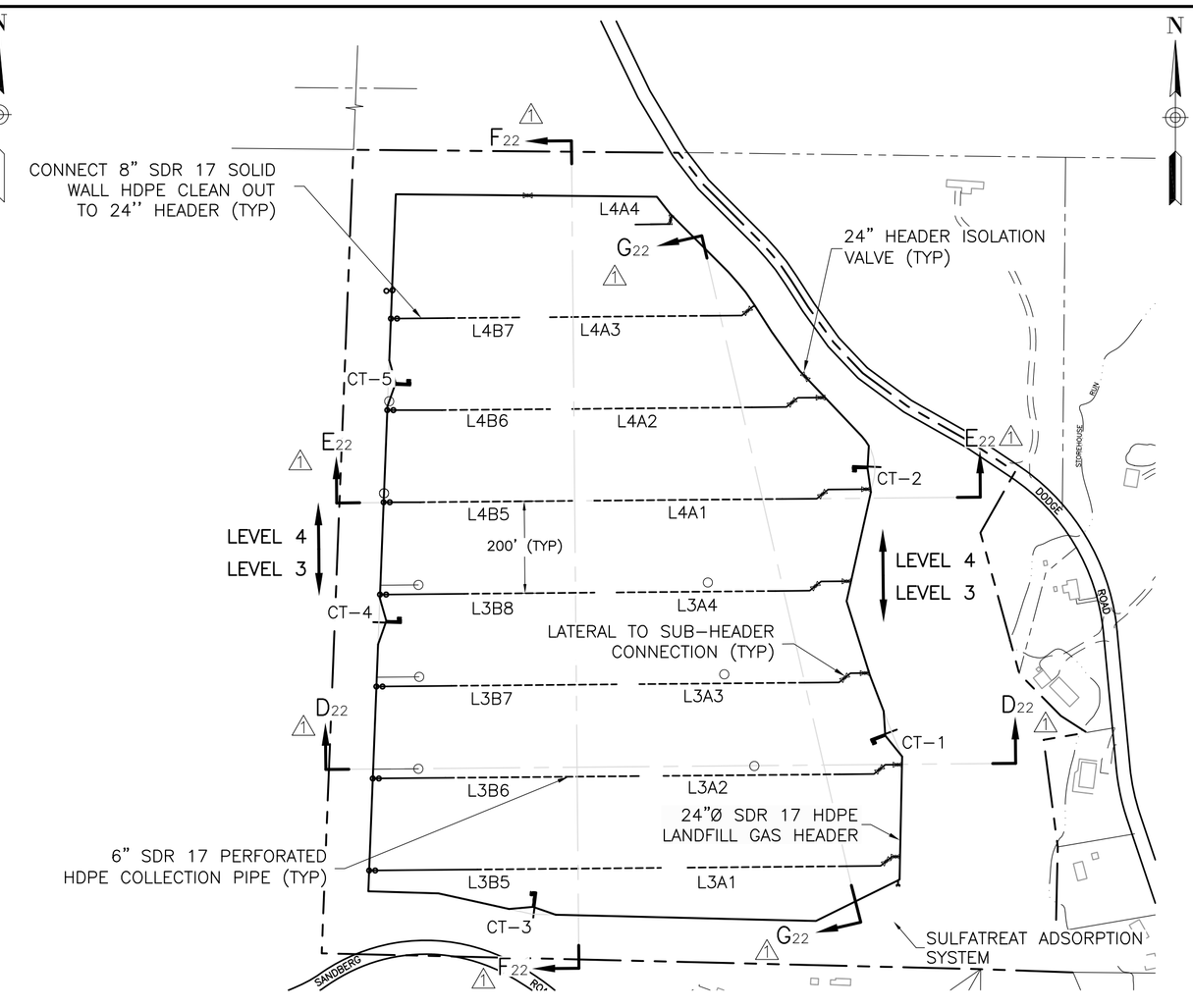
TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

SHEET PD-24 5



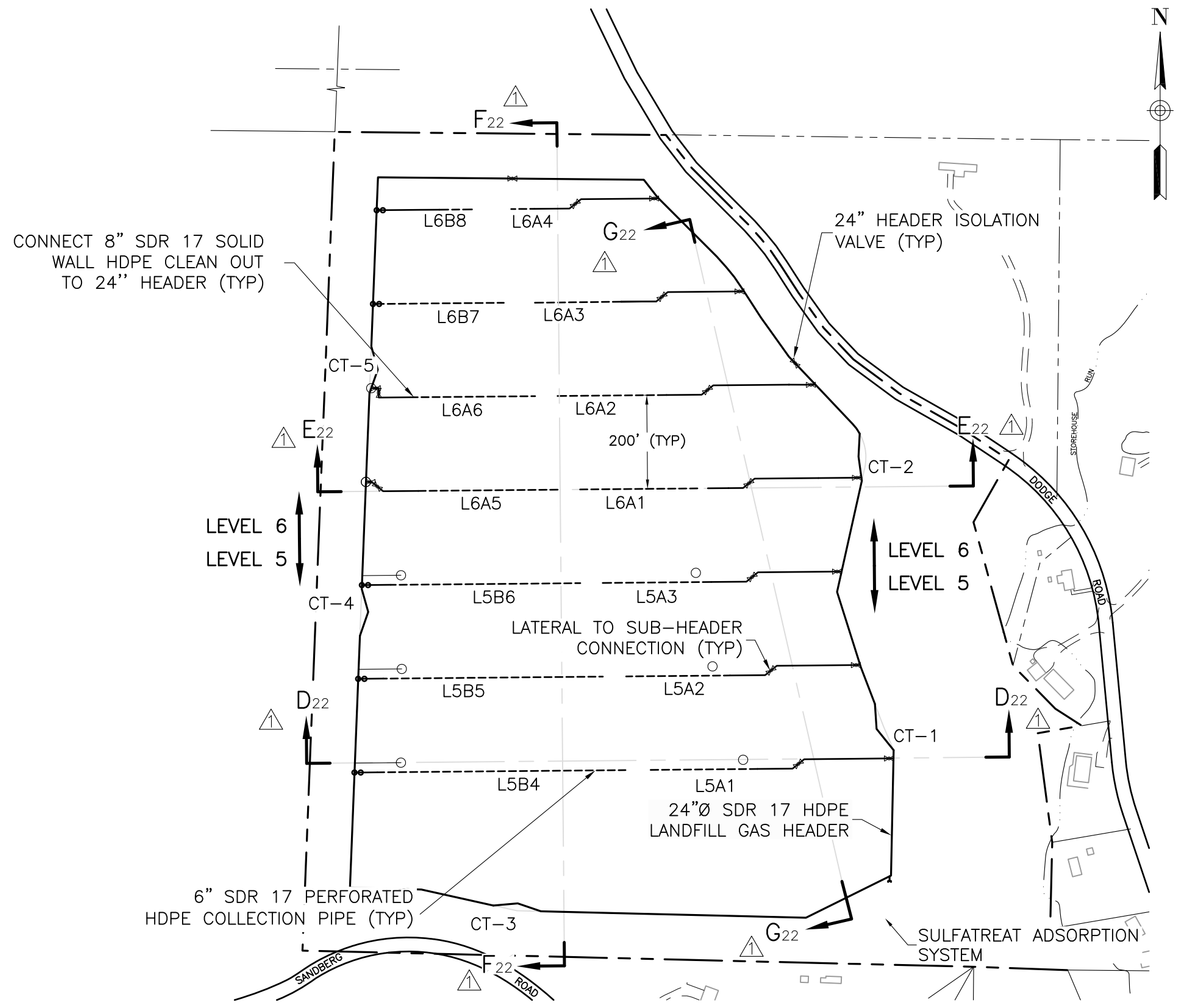
LANDFILL GAS COLLECTION PLAN–LEVEL 1 & 2

SCALE: 1"=250'



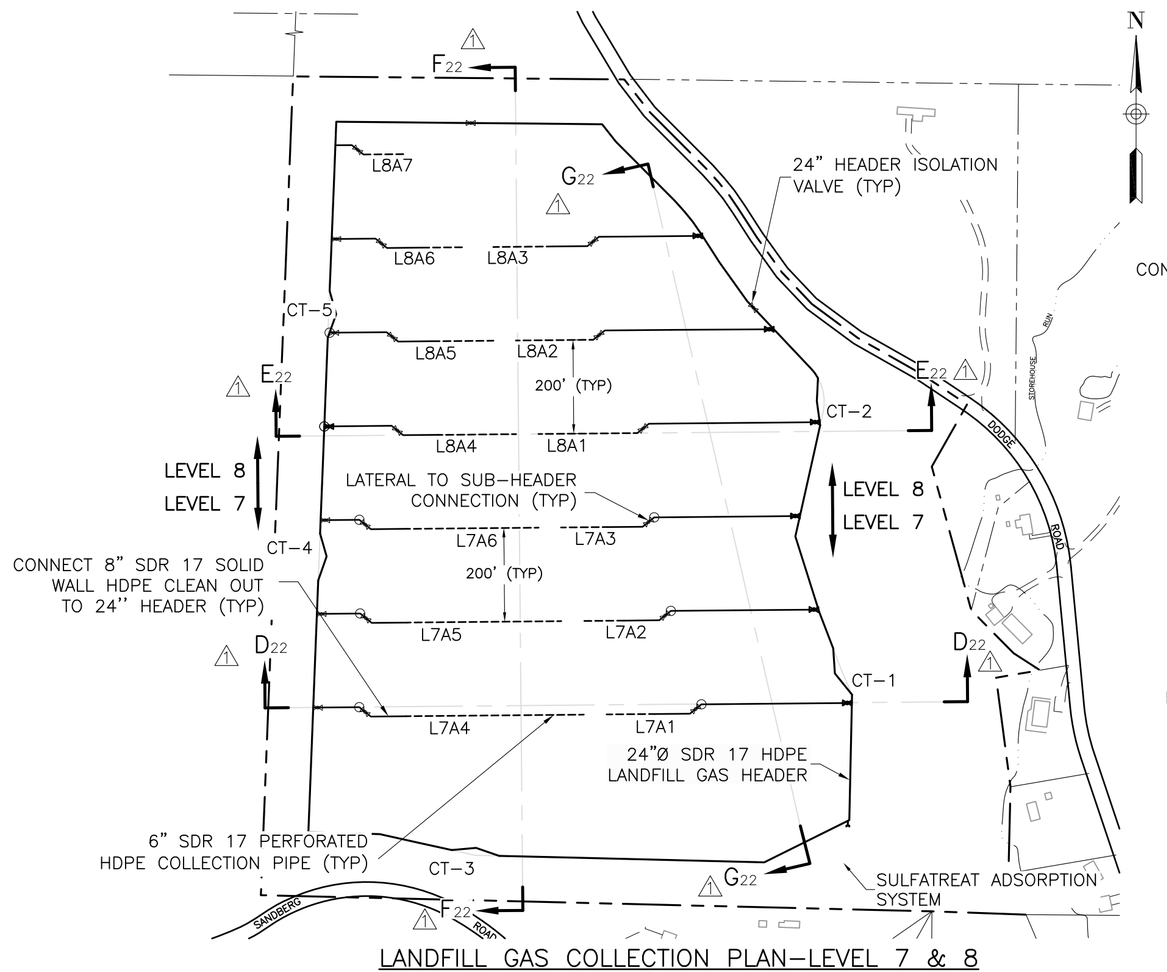
LANDFILL GAS COLLECTION PLAN–LEVEL 3 & 4

SCALE: 1"=250'



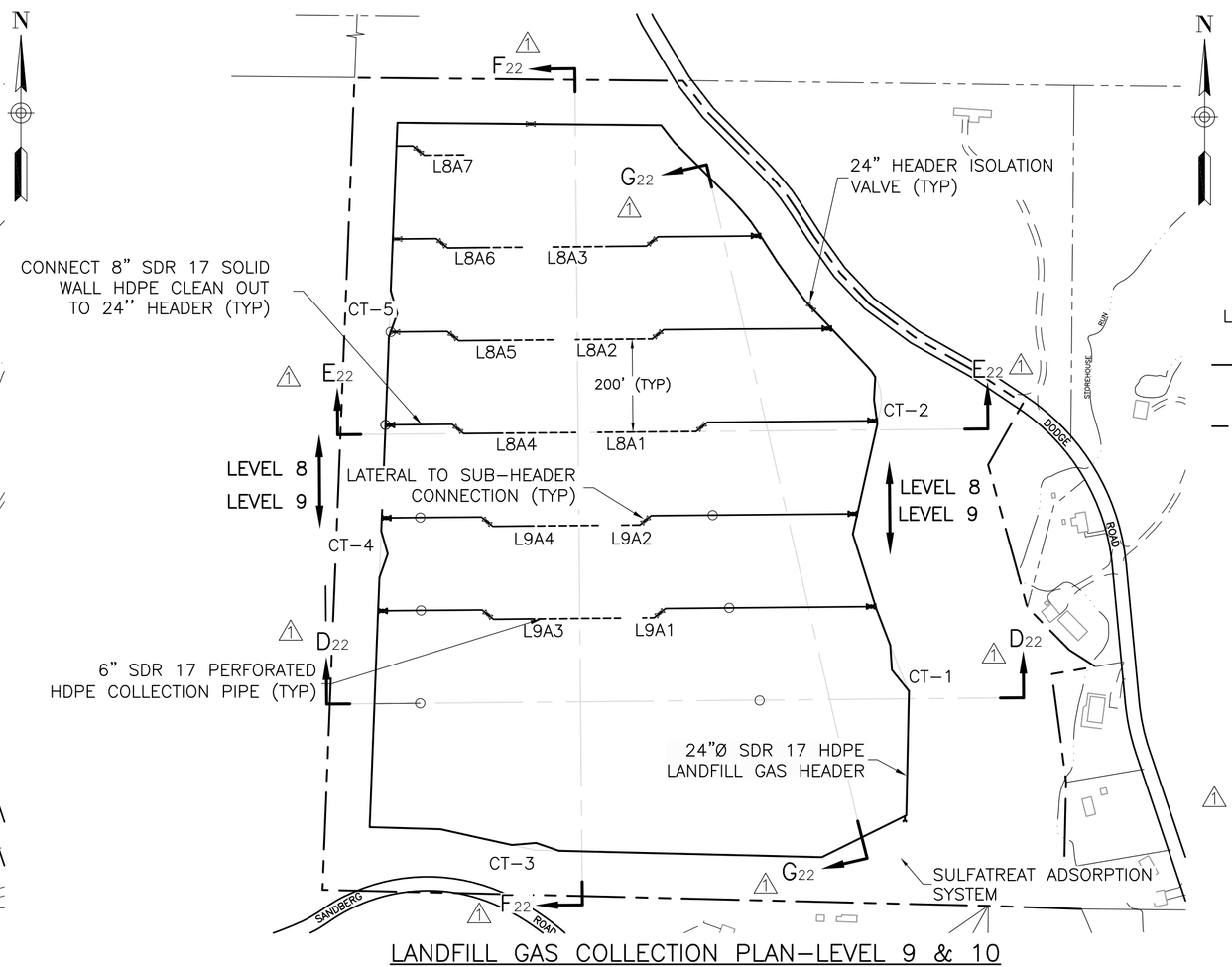
LANDFILL GAS COLLECTION PLAN–LEVEL 5 & 6

SCALE: 1"=250'



LANDFILL GAS COLLECTION PLAN–LEVEL 7 & 8

SCALE: 1"=250'

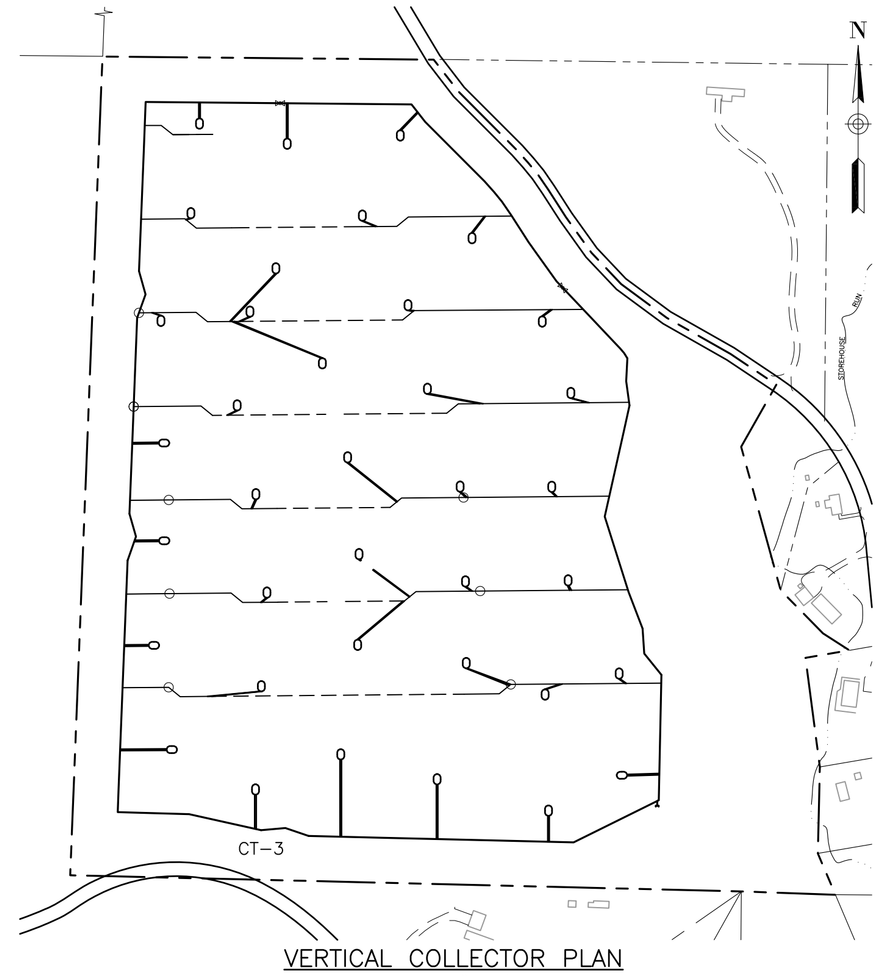


LANDFILL GAS COLLECTION PLAN–LEVEL 9 & 10

SCALE: 1"=250'

LEGEND

———	SDR 17 SOLID WALL HDPE HEADERS OR SUBHEADERS
- - -	SDR 17 PERFORATED HDPE WALL HORIZONTAL COLLECTOR
⋈	ISOLATION/CONTROL VALVE
CT–1	CONDENSATE TRAP
L1	COLLECTOR LEVEL IDENTIFIER
B1	BELOW BERM/LATERAL NUMBER
A1	ABOVE BERM/LATERAL NUMBER
⊖⊖	HEADER CONNECTION (B SERIES COLLECTORS)
⋈⊖	HEADER CONNECTION (A SERIES COLLECTORS)
	VERTICAL COLLECTOR AND LATERAL
△ D22	SECTION ID AND SHEET WHERE SECTION IS LOCATED



VERTICAL COLLECTOR PLAN

SCALE: 1"=250'

NO.	REVISION	BY	DATE
2	REVISED SHEET NUMBER	TPP	10/12/15
1	REVISED SECTION LABLES	TPP	4/30/14

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

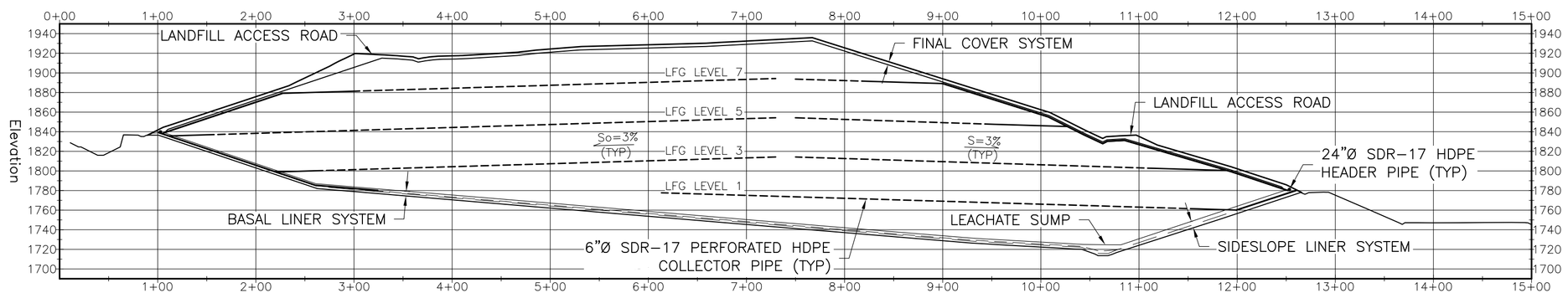
DATE: March 2014

SCALE: AS NOTED

PREPARED FOR: SEALAND WASTE, LLC.			LANDFILL GAS COLLECTION AND CONTROL SYSTEM PLAN
DES. BY:	DRW. BY:	CHK. BY:	CARROLL LANDFILL EXPANSION APPLICATION
DWG. PD-25 LFG COLLECTION SYSTEM PLAN.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK

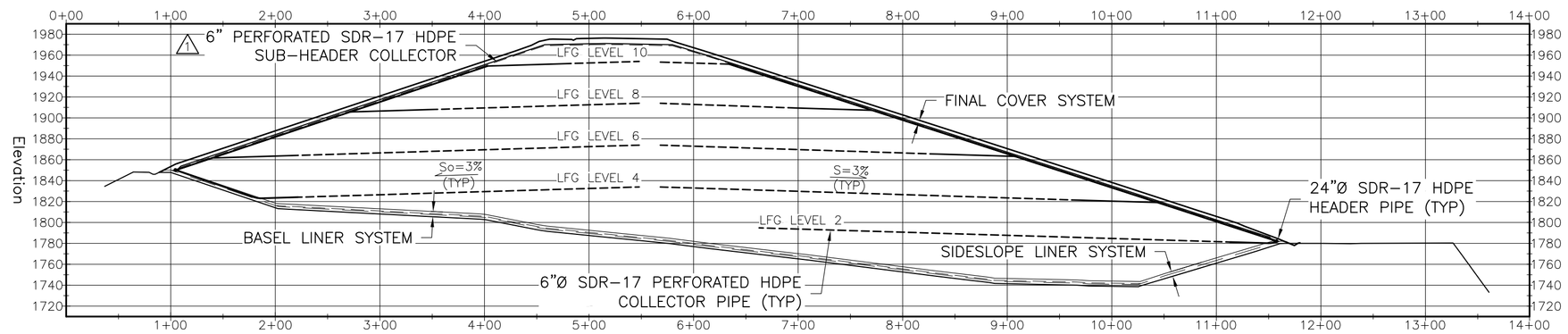
SHEET PD-25

Q:\Sealand\02-0104 Carroll Landfill\Permit Drawings\2016 REVISIONS\PD-25 LFG COLLECTION SYSTEM PLAN.dwg 9/16/2016 4:15 PM



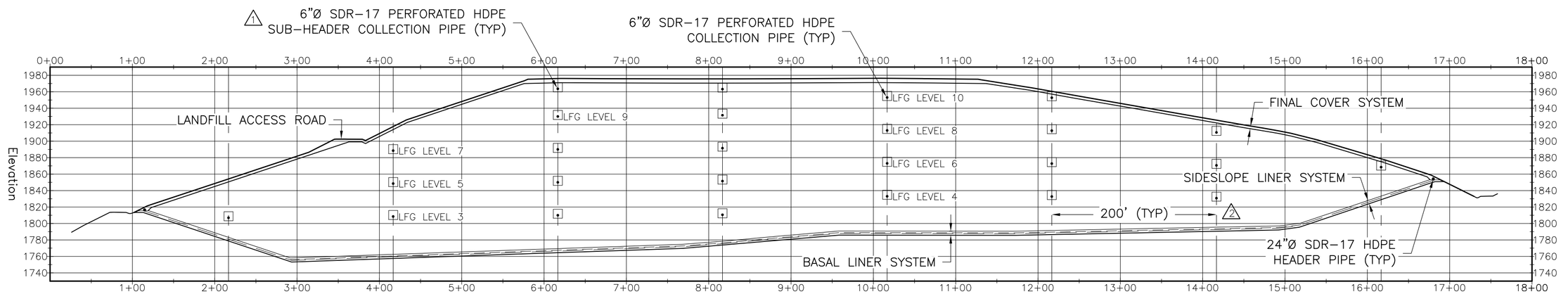
LANDFILL GAS COLLECTION SYSTEM SECTION D–D

SCALE: 1"=100' HORIZONTAL
1"=100' VERTICAL



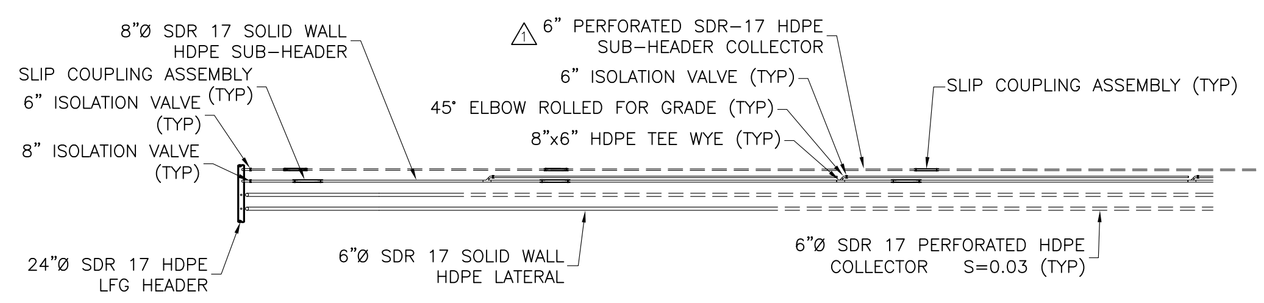
LANDFILL GAS COLLECTION SYSTEM SECTION E–E

SCALE: 1"=100' HORIZONTAL
1"=100' VERTICAL



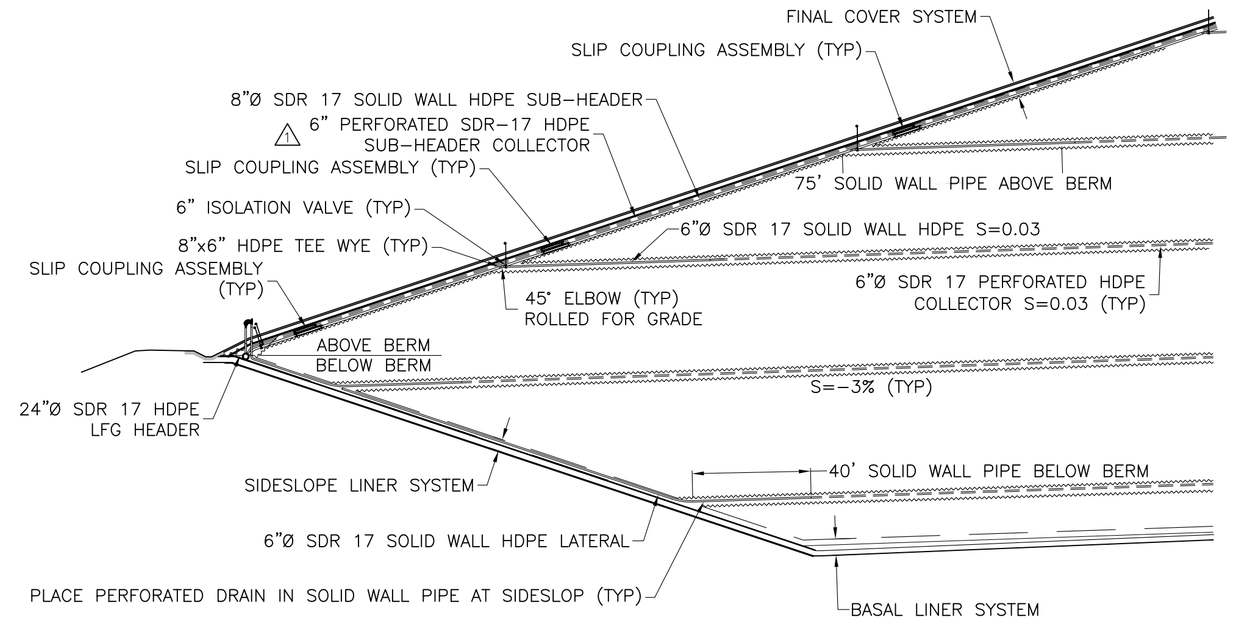
LANDFILL GAS COLLECTION SYSTEM SECTION F–F

SCALE: 1"=100' HORIZONTAL
1"=100' VERTICAL



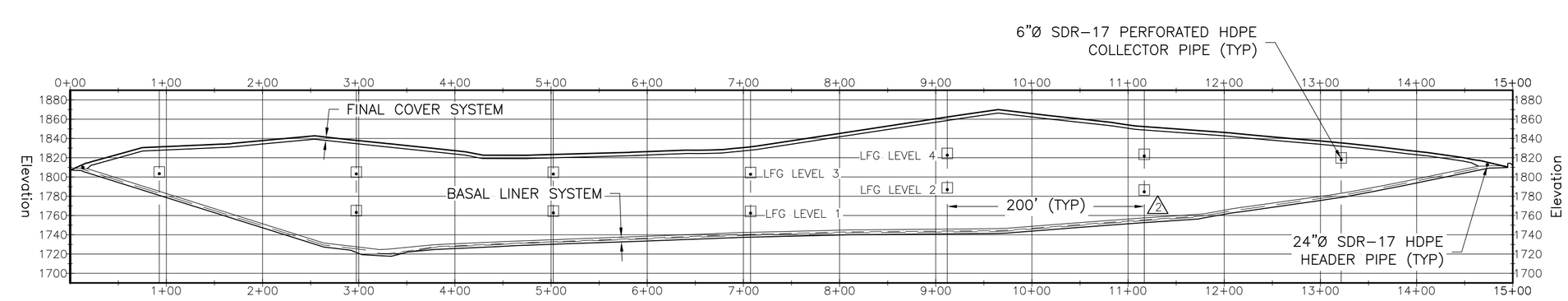
PLAN VIEW OF HORIZONTAL COLLECTOR GROUP

NOT TO SCALE



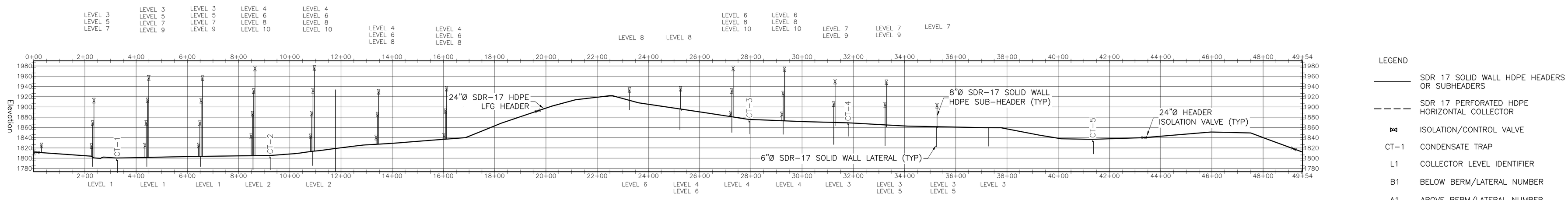
PROFILE OF HORIZONTAL COLLECTOR GROUP

NOT TO SCALE



LANDFILL GAS COLLECTION SYSTEM SECTION G–G

SCALE: 1"=100' HORIZONTAL
1"=100' VERTICAL



LANDFILL GAS HEADER PIPE PROFILE

SCALE 1"=200' HORIZONTAL
1"=100' VERTICAL

LEGEND

- SDR 17 SOLID WALL HDPE HEADERS OR SUBHEADERS
- SDR 17 PERFORATED HDPE HORIZONTAL COLLECTOR
- ISOLATION/CONTROL VALVE
- CT–1 CONDENSATE TRAP
- L1 COLLECTOR LEVEL IDENTIFIER
- B1 BELOW BERM/LATERAL NUMBER
- A1 ABOVE BERM/LATERAL NUMBER
- PERFORATED HDPE COLLECTION PIPE

NO.	REVISION	BY	DATE
3	REVISED SHEET NUMBER	TPP	10/12/15
2	ADDED DIMENSIONS	TPP	3/06/15
1	ADDED 6" SDR-17 PERFORATED HDPE SUB-HEADER COLLECTOR	TPP	3/06/15

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E. NYSPE NO. 061689

DATE: March 2014

SCALE: AS NOTED

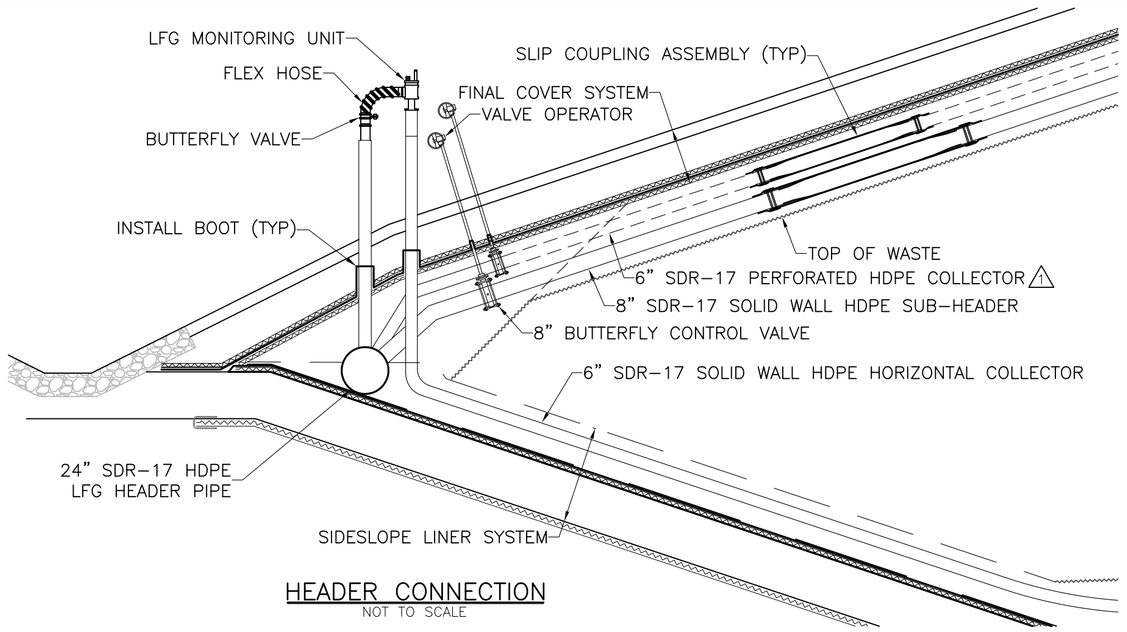
PREPARED FOR: SEALAND WASTE, LLC.
DES. BY: | DRW. BY: | CHK. BY:
DWG. PD-26 LFG COLLECTION SYSTEM PROFILE.dwg

LANDFILL GAS COLLECTION SYSTEM SECTIONS AND PROFILES

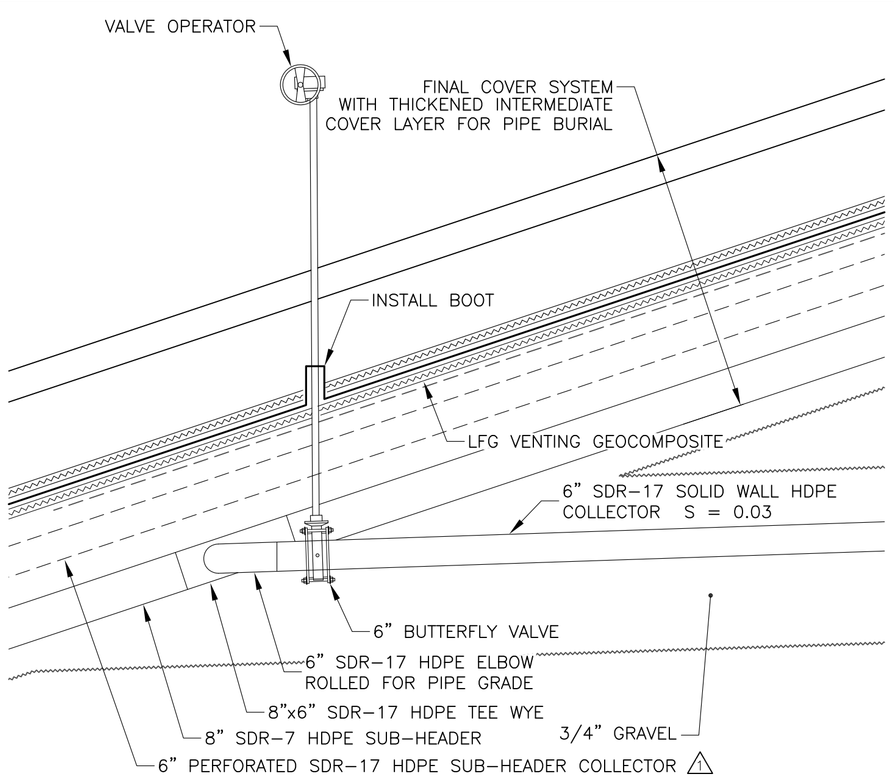
CARROLL LANDFILL EXPANSION APPLICATION

TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

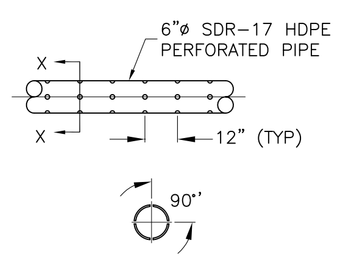
SHEET PD-26 3



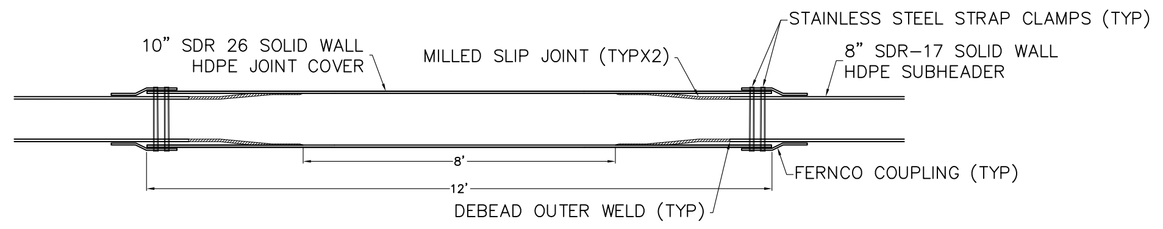
HEADER CONNECTION
NOT TO SCALE



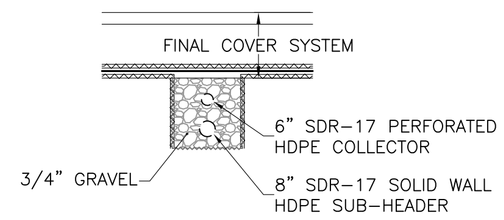
HORIZONTAL COLLECTOR TO SUB-HEADER CONNECTION
NOT TO SCALE



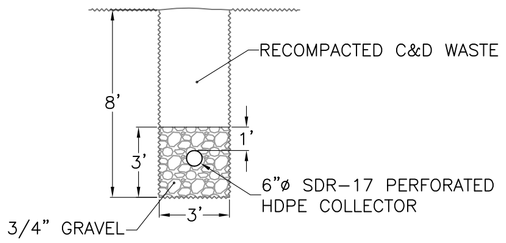
HORIZONTAL COLLECTOR PIPE PERFORATION
NOT TO SCALE



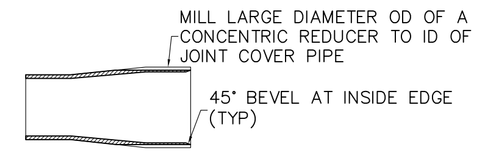
SLIP COUPLING ASSEMBLY
NOT TO SCALE



SUB-HEADER TRENCH DETAIL ⚠
NOT TO SCALE

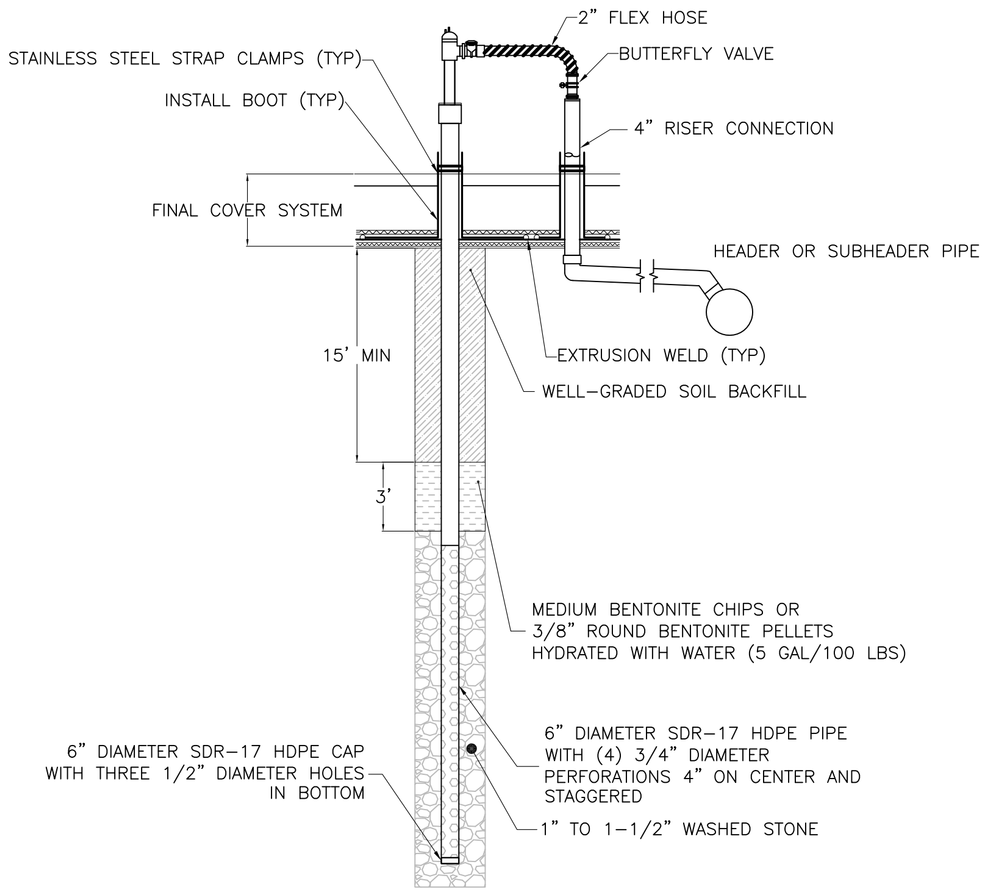


HORIZONTAL COLLECTOR TRENCH
NOT TO SCALE

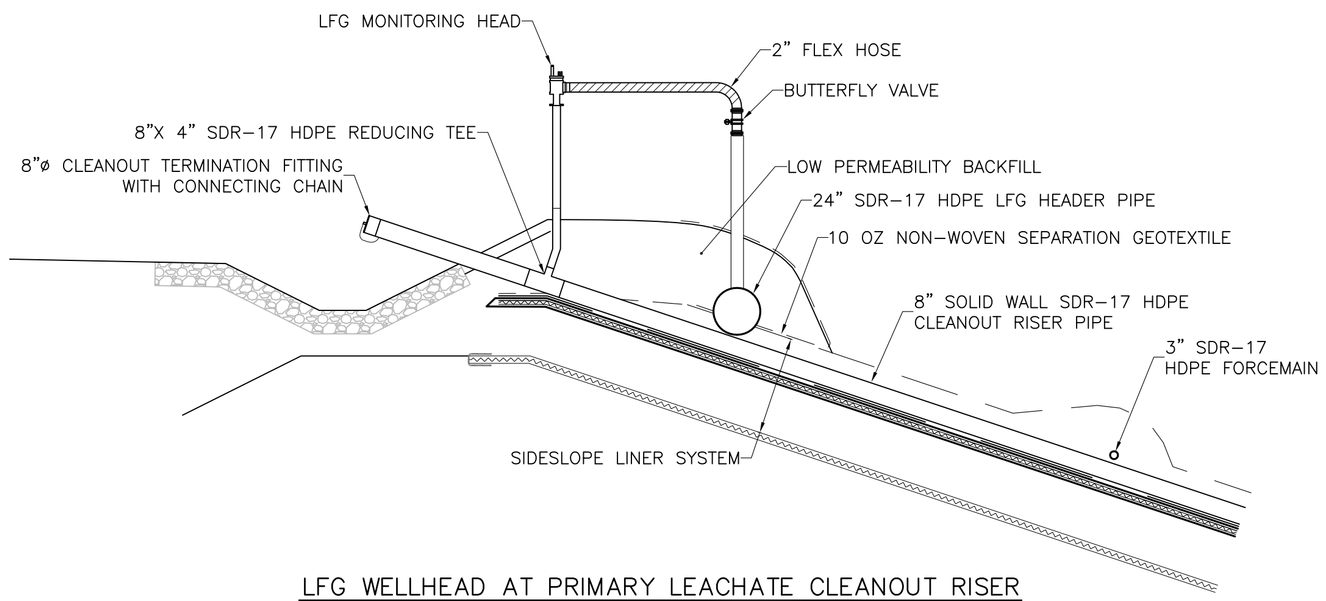


MILLED SLIP JOINT
NOT TO SCALE

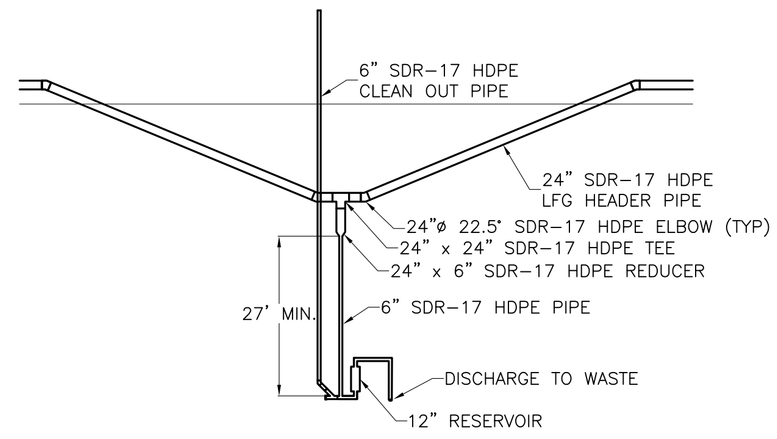
NOTE: PLACE SLIP COUPLING IN THE SUBHEADER UPSLOPE OF ALL SUBHEADER CONNECTION POINTS, AND AT A MINIMUM SPACING OF 100 FEET.



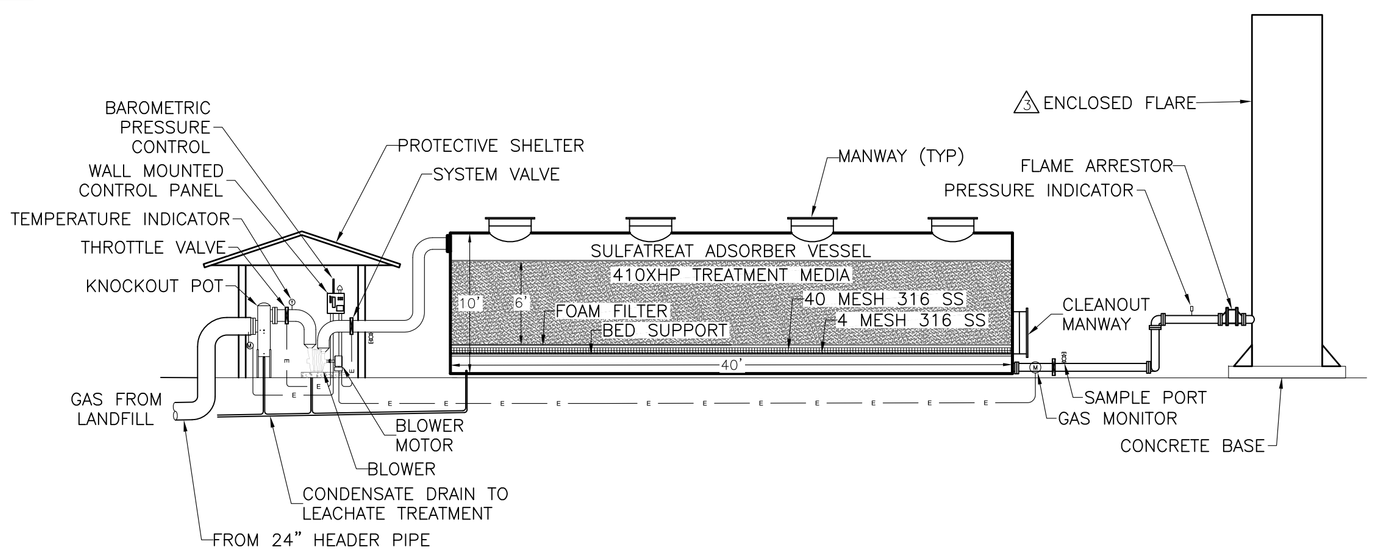
VERTICAL COLLECTOR
NOT TO SCALE



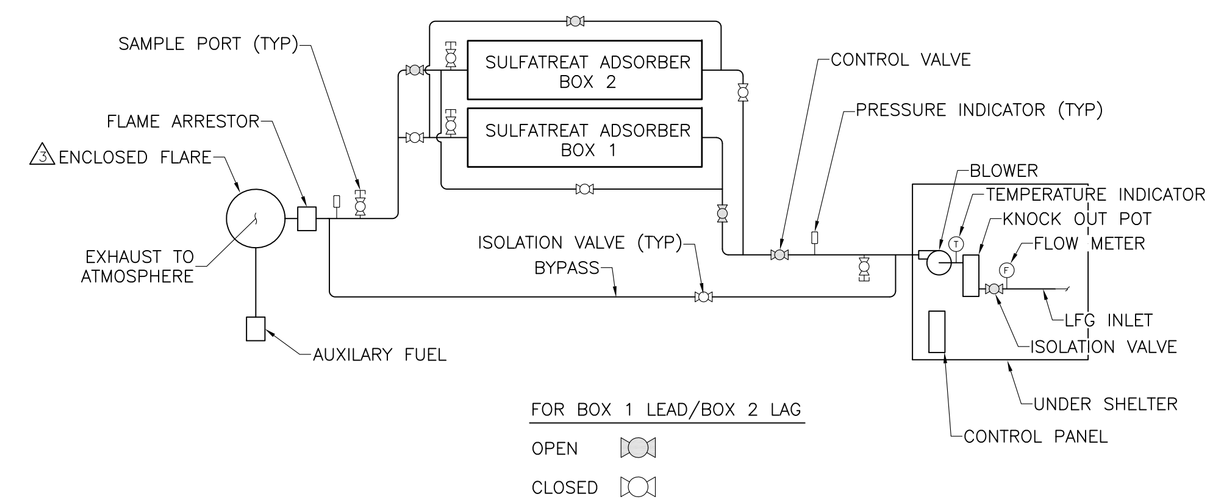
LFG WELLHEAD AT PRIMARY LEACHATE CLEANOUT RISER
NOT TO SCALE



LFG CONDENSATE TRAP (CT)
(INSTALLED ON LANDFILL SIDESLOPE)
NOT TO SCALE



LFG RECOVERY AND TREATMENT SYSTEM
NOT TO SCALE



⚠ LFG LEAD/LAG TREATMENT PIPING SCHEMATIC
NOT TO SCALE

NO.	REVISION	BY	DATE
4	REVISED SHEET NUMBER	TPP	9/30/15
3	ADDED ENCLOSED FLARE TO TREATMENT SYSTEM	TPP	9/30/15
2	ADDED LFG LEAD/LAG TREATMENT CONFIGURATION	TPP	6/30/15
1	ADDED 6" SDR-17 PERFORATED HDPE SUB-HEADER COLLECTOR	TPP	3/2/15

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E. NYSPE NO. 061689

DATE: March 2015

SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC			LANDFILL GAS COLLECTION AND CONTROL SYSTEM DETAILS CARROLL LANDFILL EXPANSION APPLICATION
DES. BY:	DRW. BY:	CHK. BY:	SHEET PD-27 ⚠4
DWG: PD-27 LANDFILL GAS COLLECTION AND CONTROL SYSTEM DETAILS.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK

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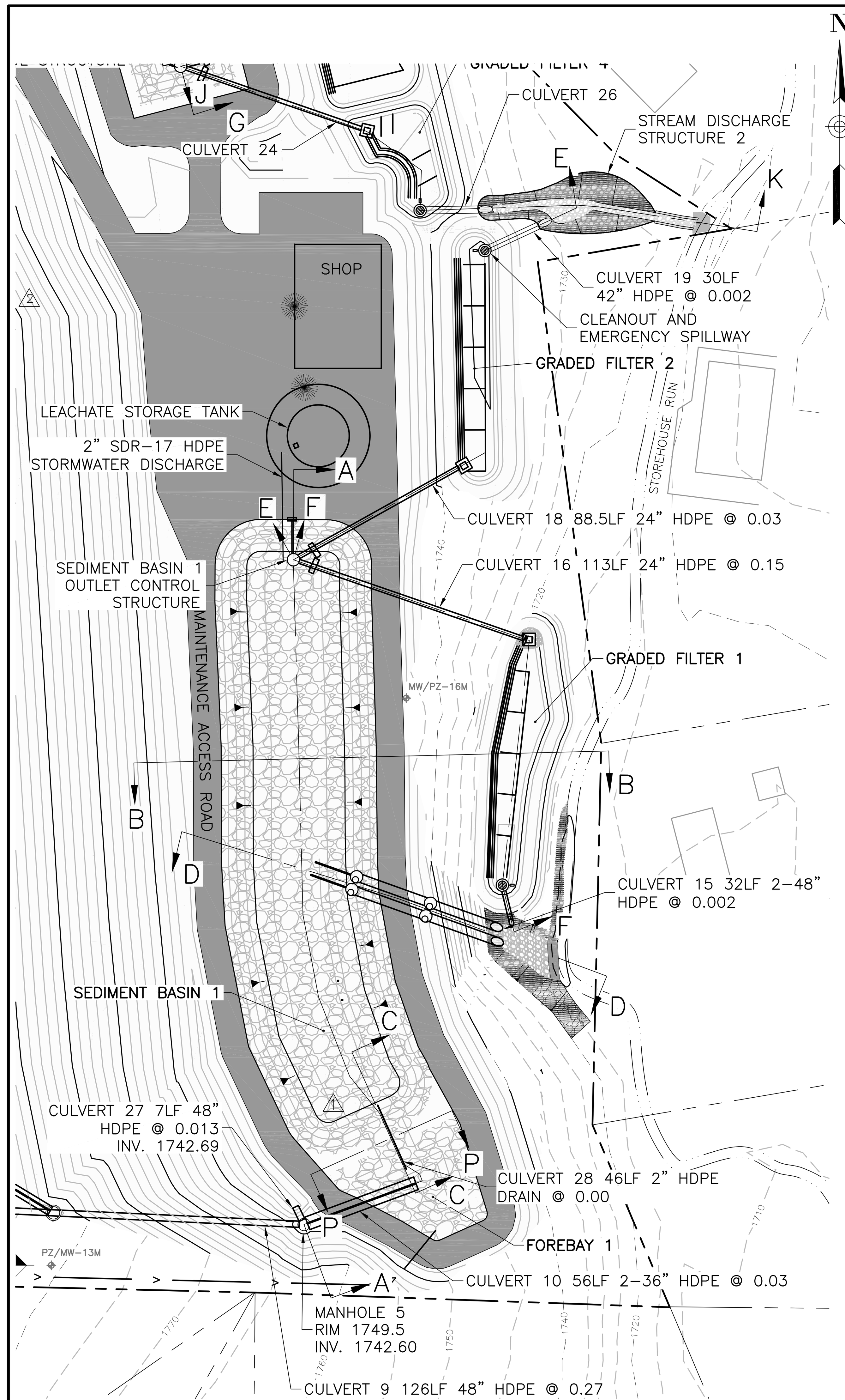
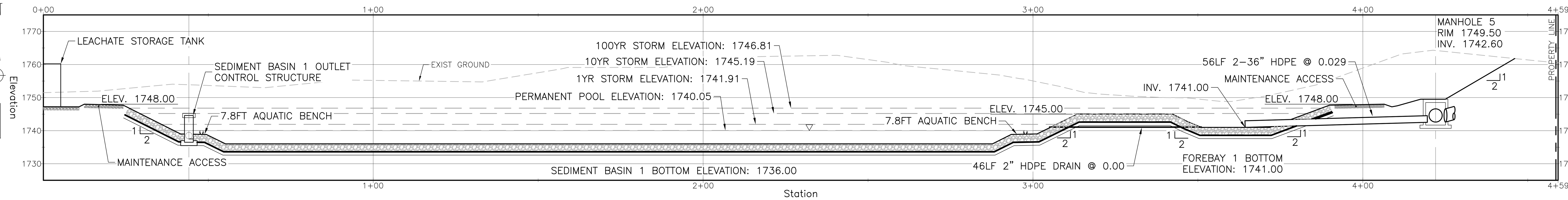
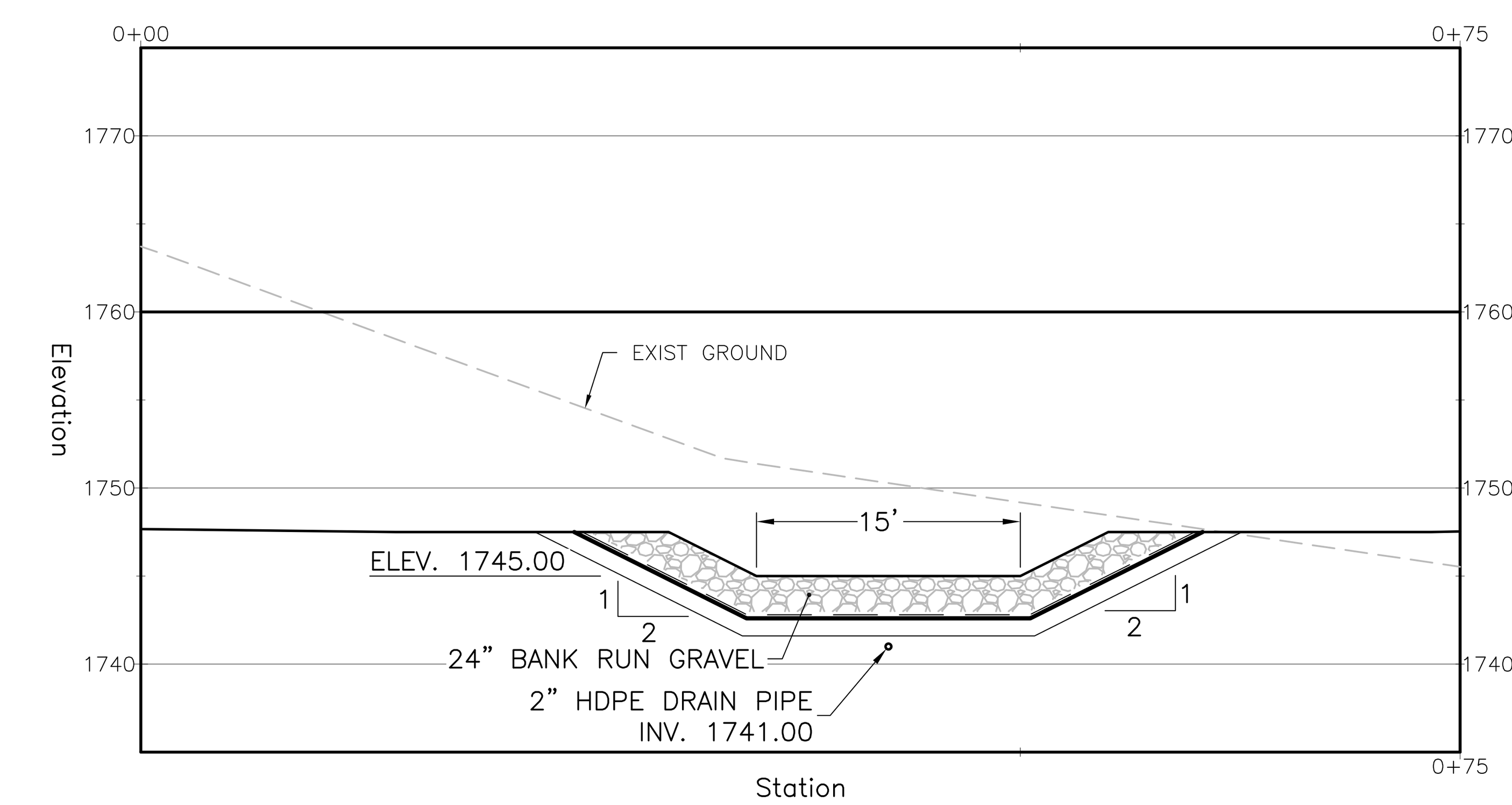


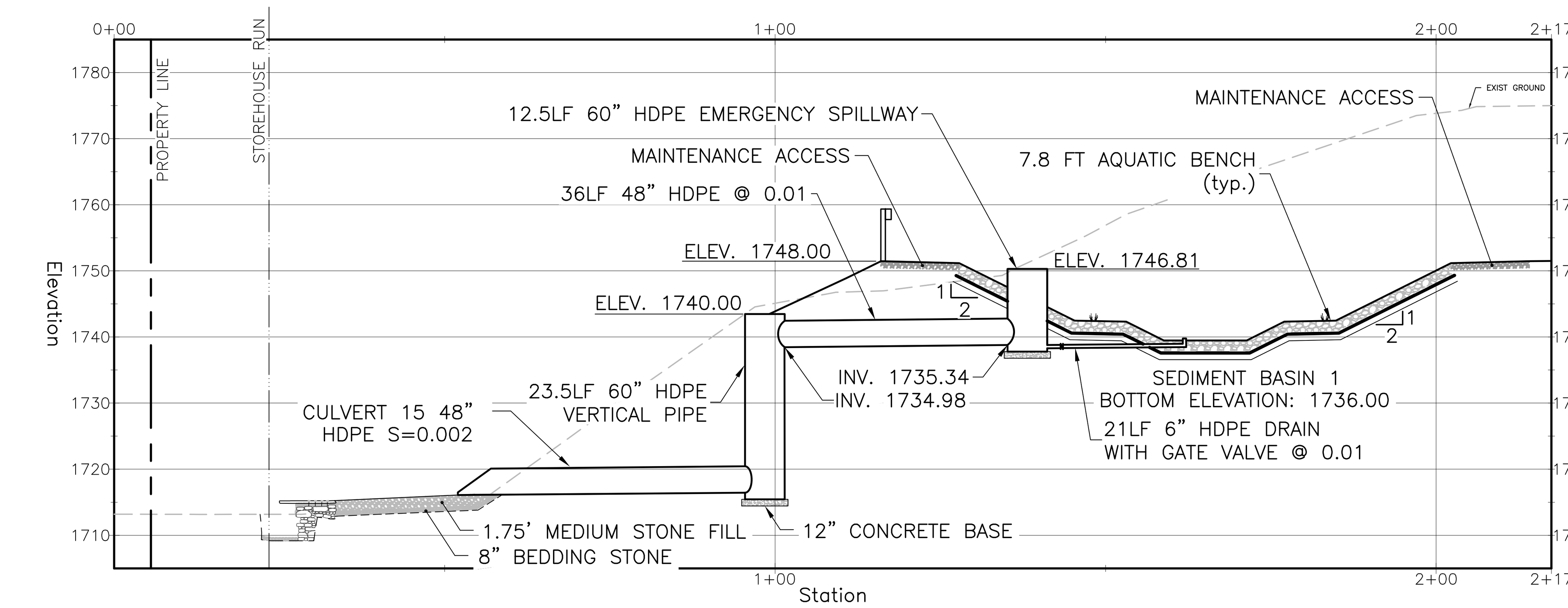
SEDIMENT BASIN 1 AND GRADED FILTER PLAN
SCALE: 1"=50'



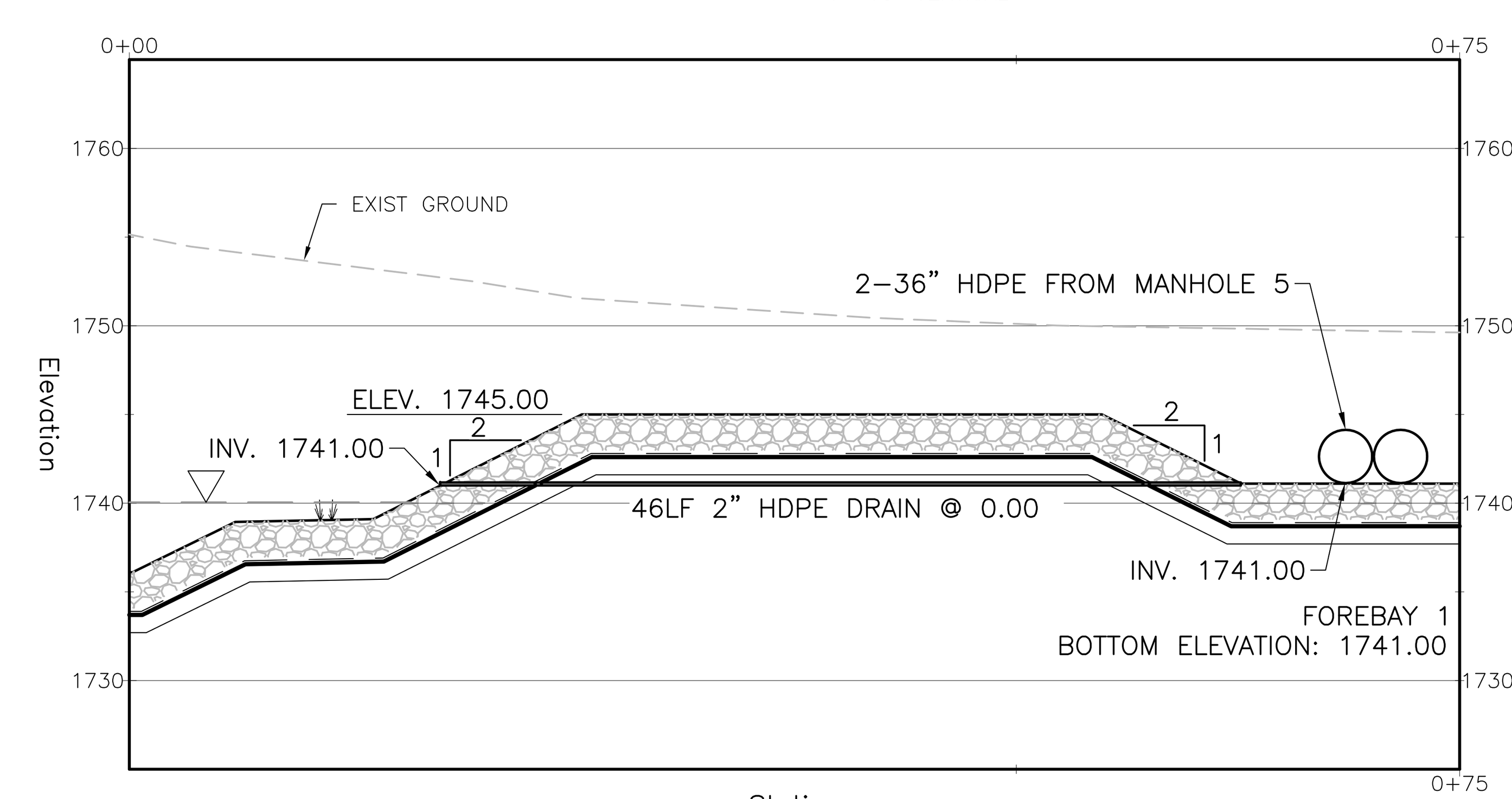
Profile View Of SEDIMENT BASIN 1 (A-A)
SCALE: 1"=20' HORIZONTAL 1"=20' VERTICAL



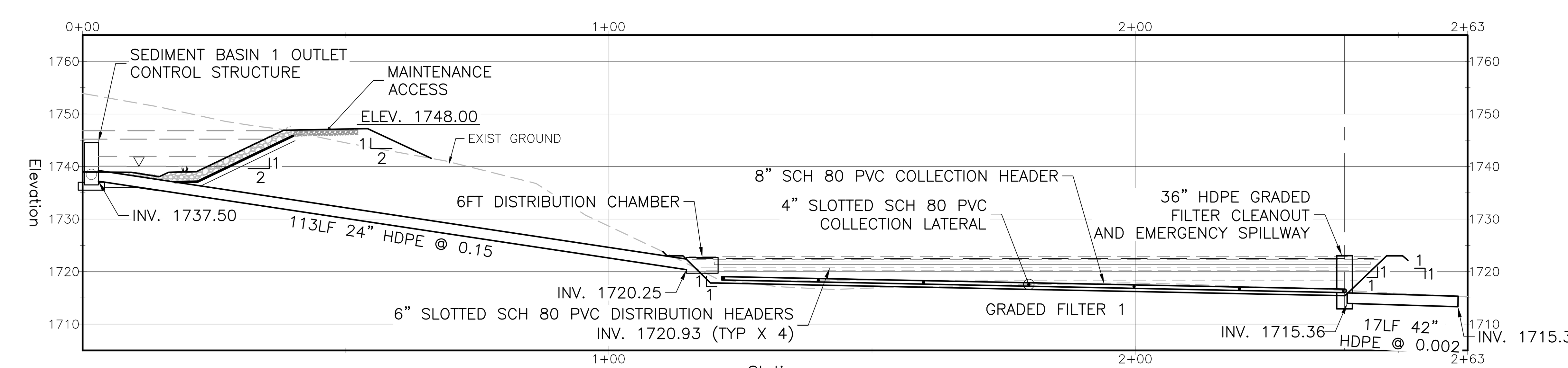
Profile View Of SEDIMENT BASIN 1 WEIR (P-P)
SCALE: 1"=10' HORIZONTAL 1"=10' VERTICAL



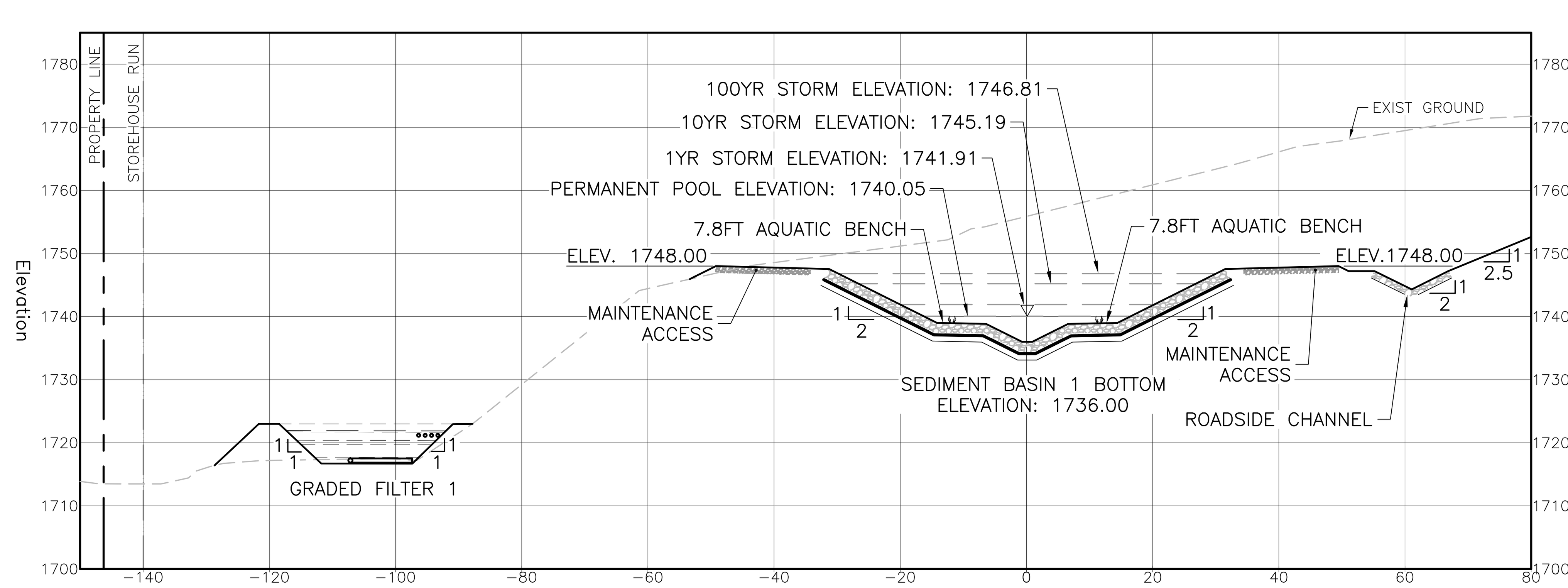
Profile View Of SEDIMENT BASIN 1 EMERGENCY SPILLWAY (D-D)



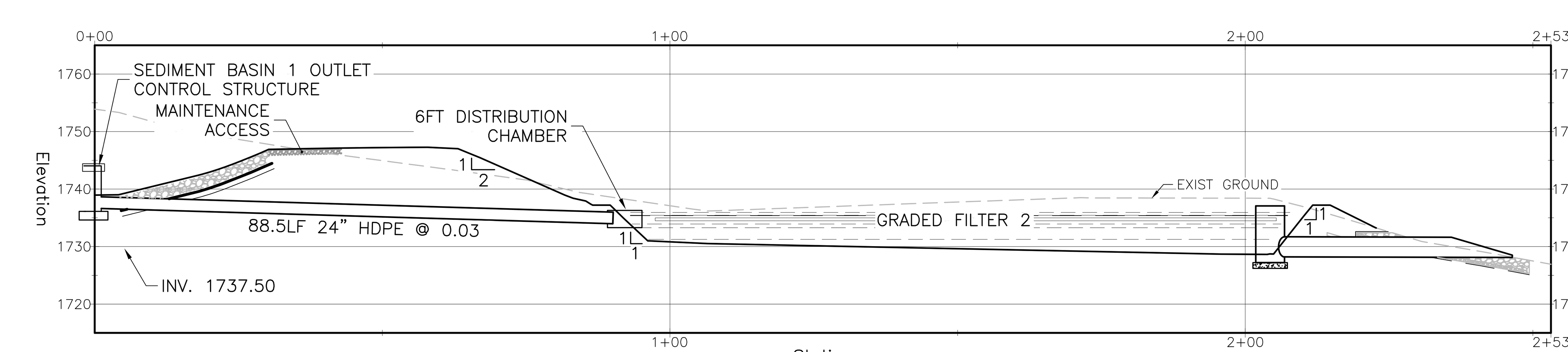
Profile View Of SEDIMENT BASIN 1 WEIR (C-C)
SCALE: 1"=10' HORIZONTAL 1"=10' VERTICAL



Profile View Of SEDIMENT BASIN 1 TO GRADED FILTER 1 (F-F)
SCALE: 1"=20' HORIZONTAL 1"=20' VERTICAL



SECTION OF SEDIMENT BASIN 1 AND GRADED FILTER 1 (B-B)
SCALE: 1"=20' HORIZONTAL 1"=20' VERTICAL



Profile View Of SEDIMENT BASIN 1 TO GRADED FILTER 2 (E-E)
SCALE: 1"=20' HORIZONTAL 1"=20' VERTICAL

GENERAL NOTES:
1. SEE SHEET PD-32 FOR TYPICAL LINER SYSTEM.
2. OUTLET CONTROL STRUCTURE CONCRETE BASE, TRASH RACK AND ANTI-VORTEX DEVICE ARE SIZED IN ACCORDANCE WITH NEW YORK STATE STANDARD AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (AUGUST 2005).

NO.	REVISION	BY	DATE
4	UPDATED PROFILES	SJD	9/16/16
3	REVISED SHEET NUMBER	TPP	10/13/15
2	STORMWATER DISCHARGE FROM HOLDING TANK PAD TO FOREBAY SB 1	TPP	3/06/15
1	ADDED SECTION P-P	TPP	6/25/14

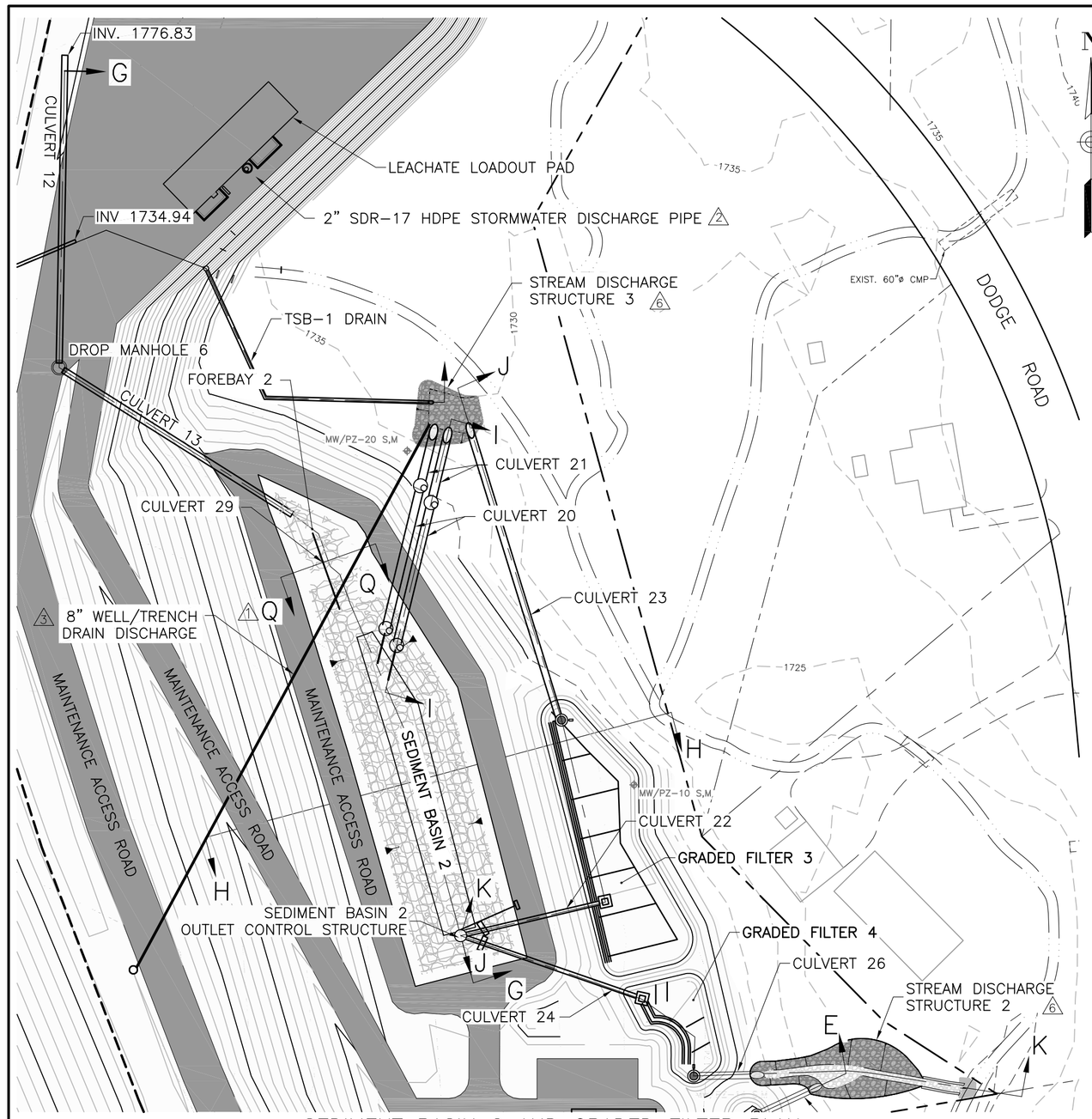
DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2014

SCALE: NOTED

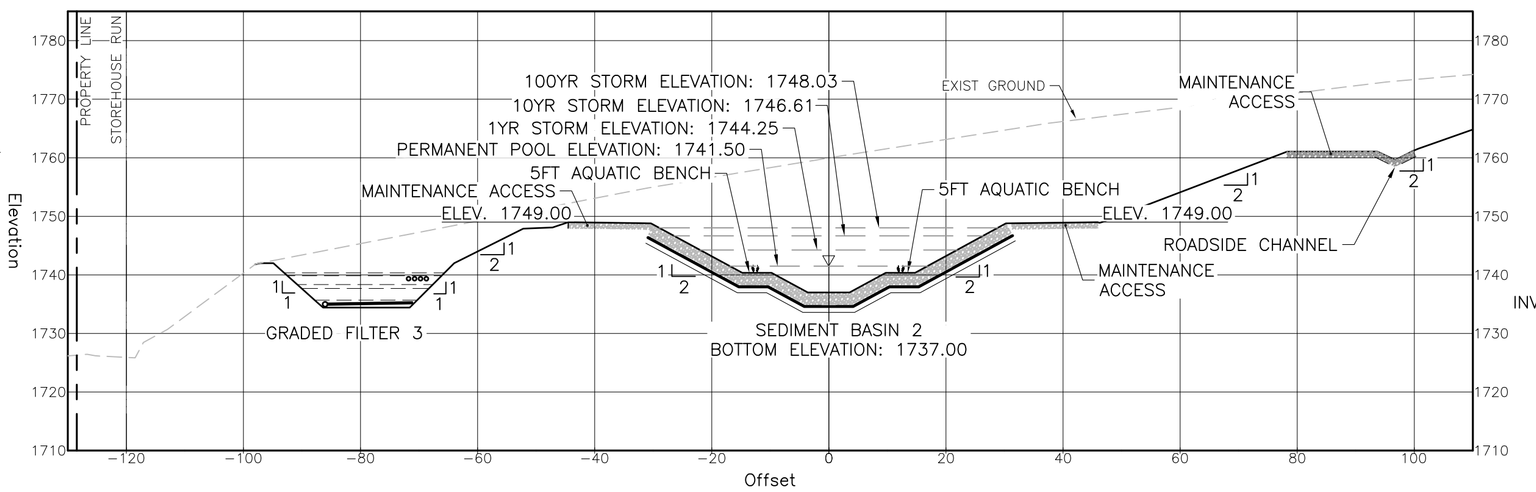
PREPARED FOR:	SEALAND WASTE, LLC		SEDIMENT BASIN 1 & GRADED FILTER PLAN AND PROFILES	SHEET
DES. BY:	DRW. BY:	CHK. BY:	CARROLL LANDFILL EXPANSION APPLICATION	PD-28
DWG.	PD-28-31 SEDIMENT BASIN PLAN AND PROFILE.dwg		TOWN OF CARROLL / CHAUTAUQUA COUNTY / STATE OF NEW YORK	

Q:\Sealand\02-0104 Carroll Landfill\Permit Drawings\2016 REVISIONS\PD-28-31 SEDIMENT BASIN PLAN AND PROFILE.dwg 9/16/2016 10:56 AM



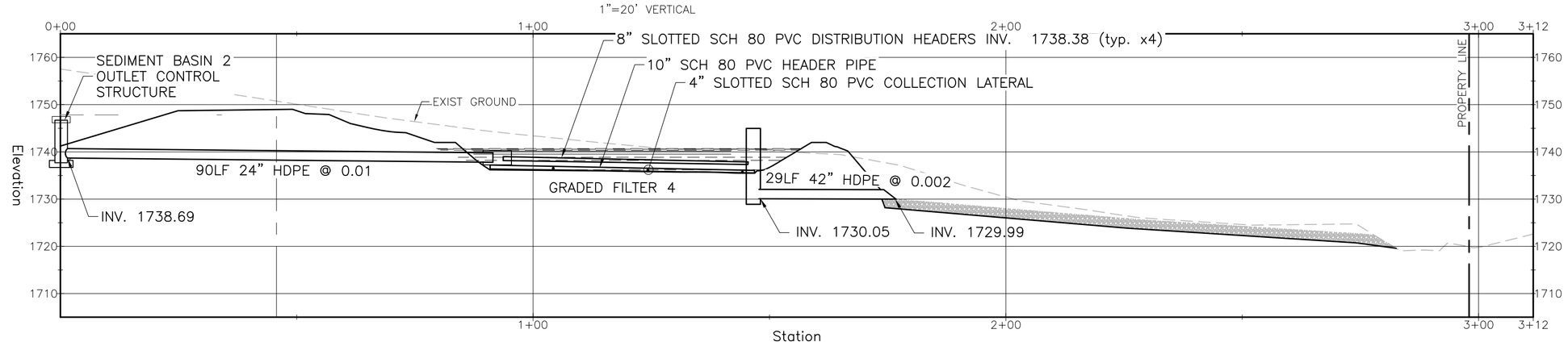
SEDIMENT BASIN 2 AND GRADED FILTER PLAN

SCALE: 1"=50'



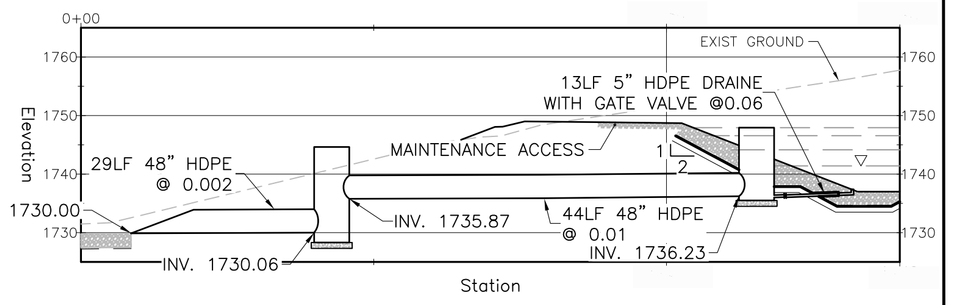
SECTION OF SEDIMENT BASIN 2 AND GRADED FILTER 3 (H–H) 4

SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



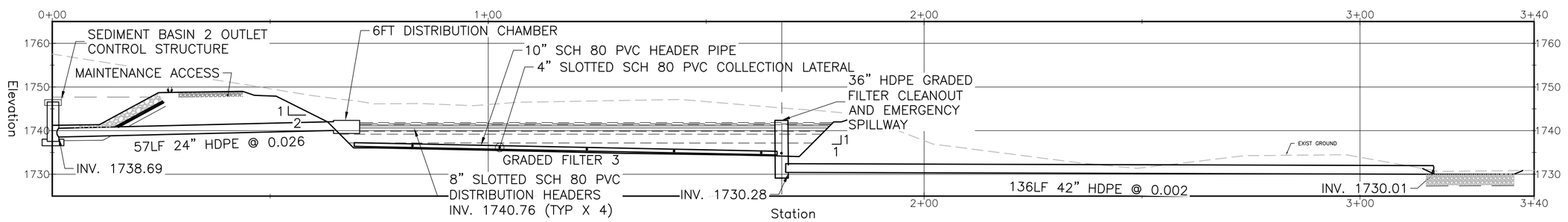
Profile View Of SEDIMENT BASIN 2 AND GRADED FILTER 4 (K–K) 4

SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



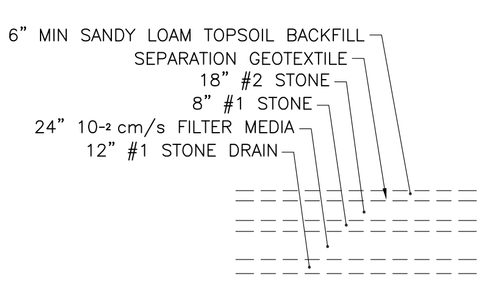
SECTION OF SEDIMENT BASIN 2 EMERGENCY SPILLWAY (I–I) 4

SCALE: NOT TO SCALE HORIZONTALY
1"=20' VERTICAL



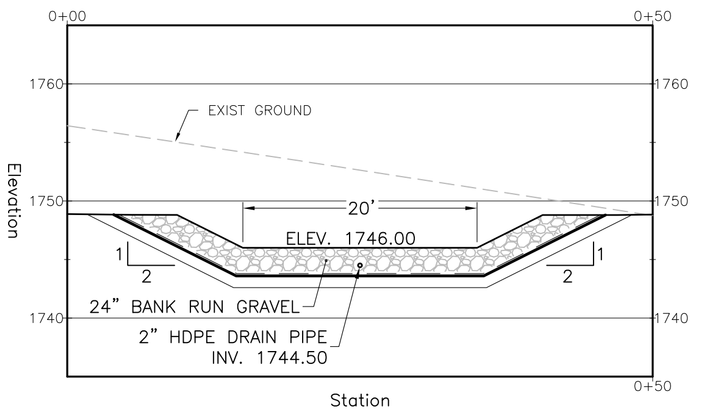
Profile View OF SEDIMENT BASIN 2 AND GRADED FILTER 3 (J–J) 4

SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



GRADED FILTER MEDIA LAYER DETAIL

SCALE: NOT TO SCALE

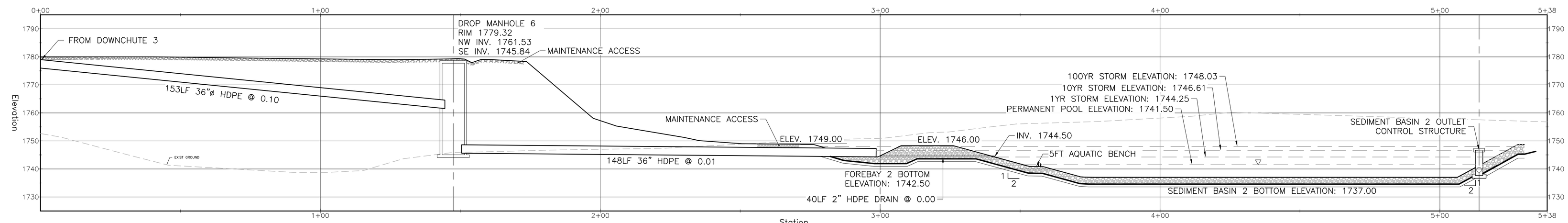


Profile View Of SEDIMENT BASIN 2 WIER (Q–Q)

SCALE: 1"=10' HORIZONTAL
1"=10' VERTICAL

GENERAL NOTES:

1. SEE SHEET PD-32 FOR TYPICAL LINER SYSTEM.
2. OUTLET CONTROL STRUCTURE CONCRETE BASE, TRASH RACK AND ANTI-VORTEX DEVICE ARE SIZED IN ACCORDANCE WITH NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (AUGUST 2005).



Profile View OF SEDIMENT BASIN 2 (G–G)

SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL

NO.	REVISION	BY	DATE
6	ADDED STREAM DISCHARGE STRUCTURES	SJD	9/16/16
5	REVISED PROFILE VIEWS	SJD	9/16/16
4	REVISED SHEET NUMBER	TPP	10/13/15
3	ADDED GROUNDWATER DRAIN DISCHARGE	TPP	9/29/15
2	STORMWATER DISCHARGE FROM LOADOUT PAD TO FOREBAY SB 2	TPP	3/06/15
1	ADDED SECTION Q–Q	TPP	6/25/14

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CIVIL & GEO-ENVIRONMENTAL ENGINEERING
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GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2014

SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC

DES. BY: | DRW. BY: | CHK. BY:

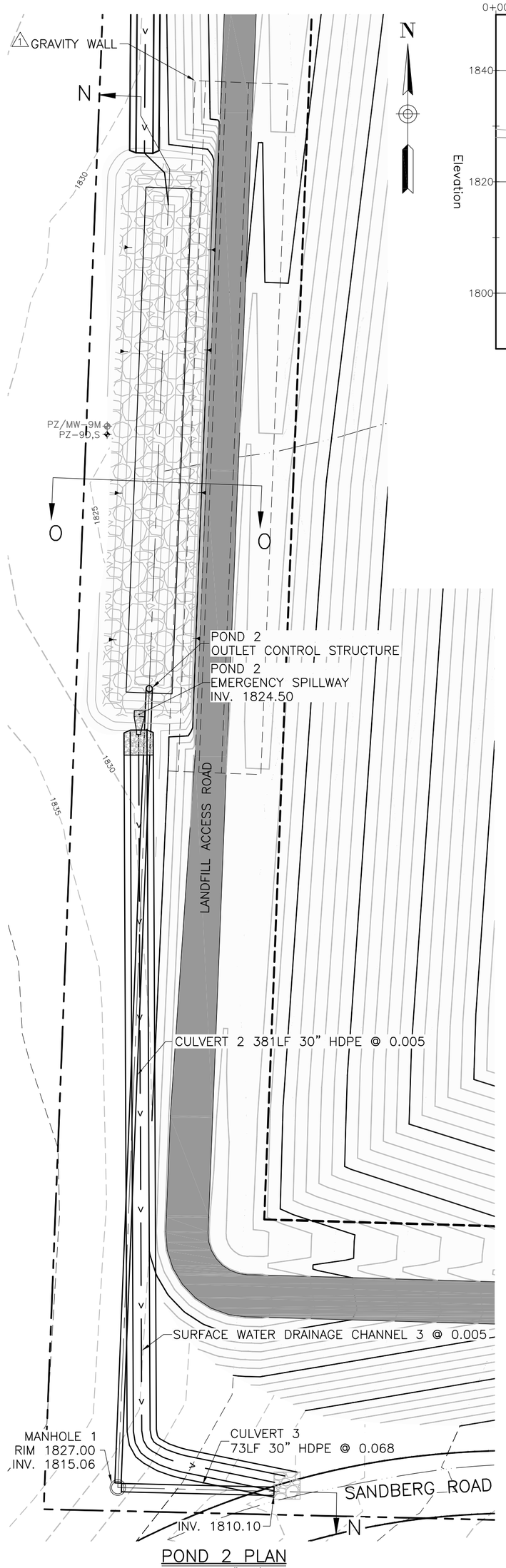
DWG. PD-28-31 SEDIMENT BASIN PLAN AND PROFILE.dwg

SEDIMENT BASIN 2 & GRADED FILTER PLAN AND PROFILES

CARROLL LANDFILL EXPANSION APPLICATION

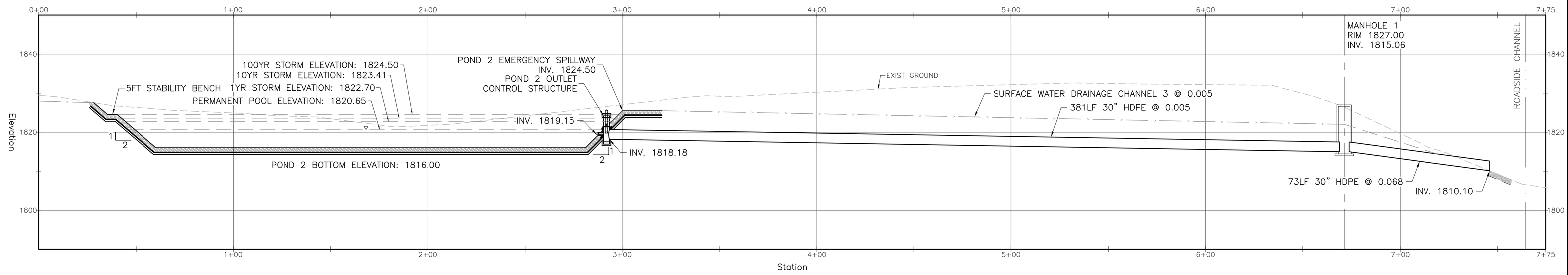
TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

SHEET PD-29 4



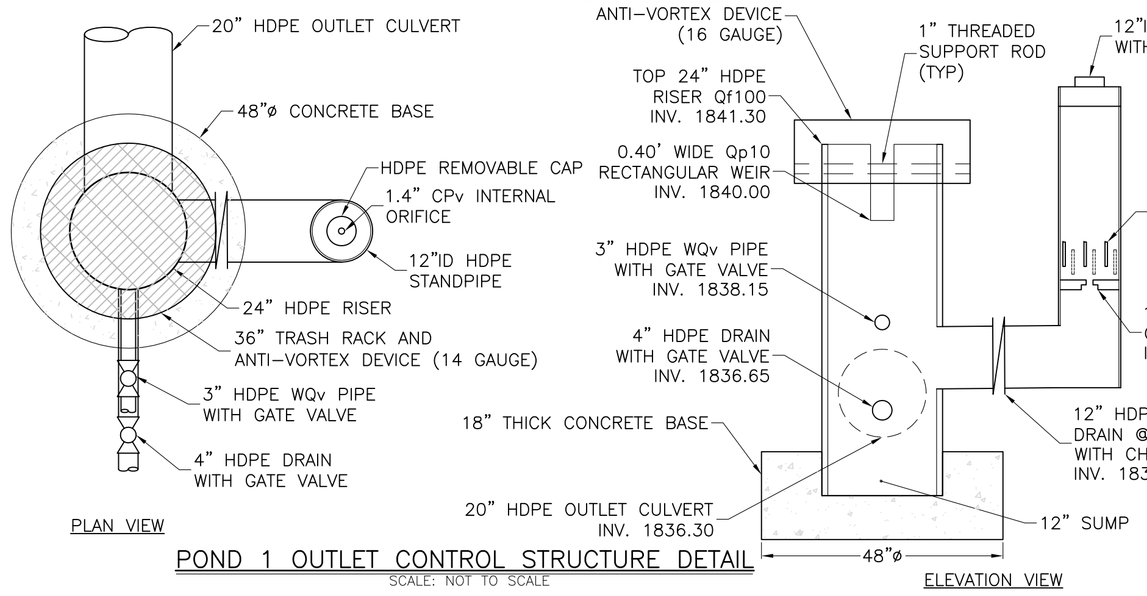
POND 2 PLAN

SCALE: 1"=40'



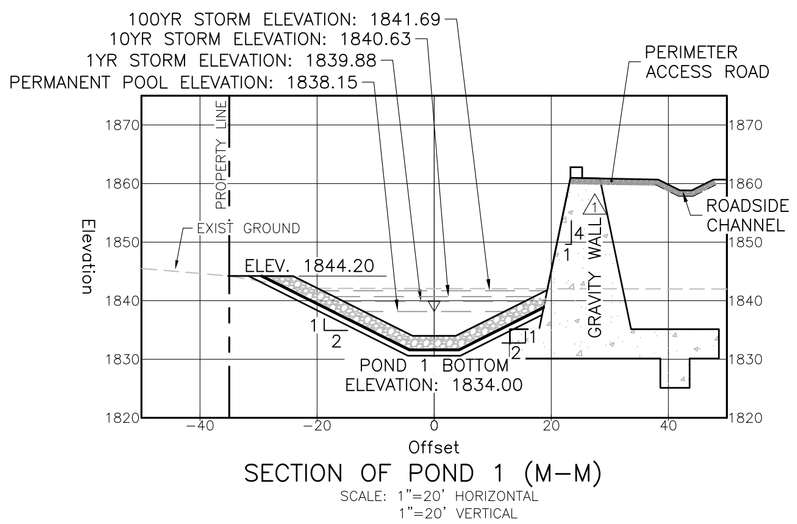
Profile View of POND 2 (N–N)

SCALE: 1"=30' HORIZONTAL
1"=15' VERTICAL



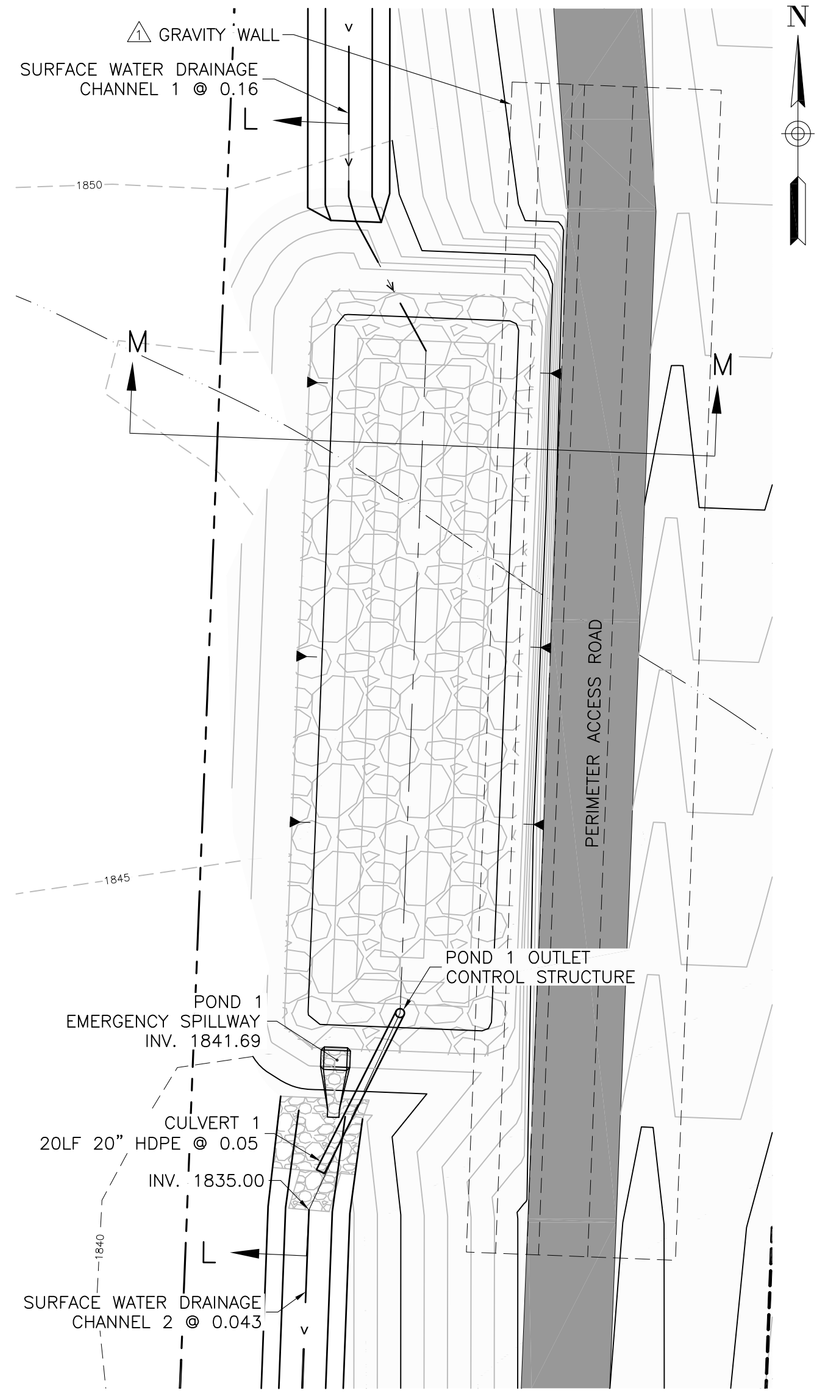
POND 1 OUTLET CONTROL STRUCTURE DETAIL

SCALE: NOT TO SCALE



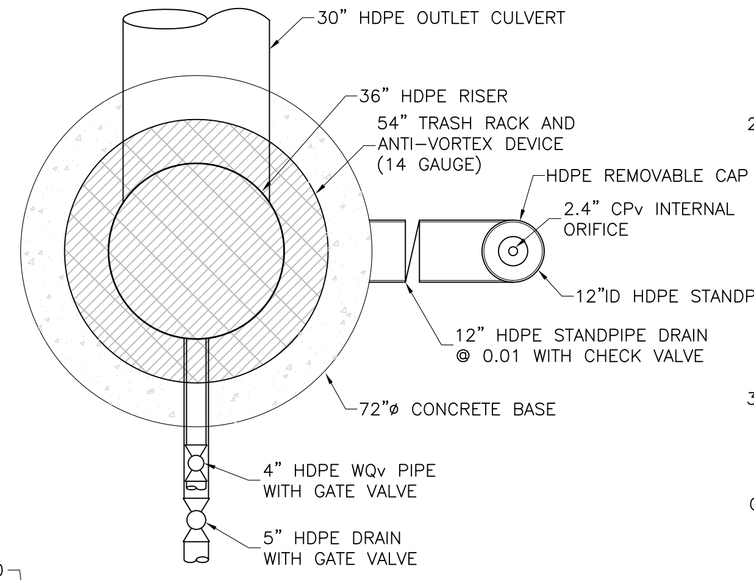
SECTION OF POND 1 (M–M)

SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



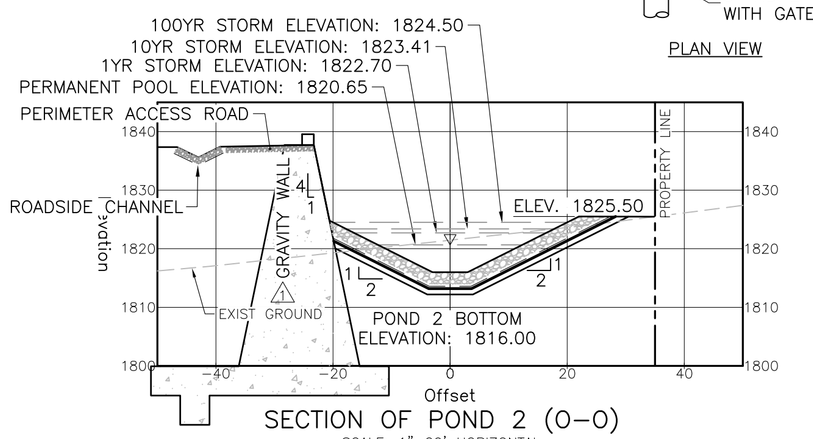
POND 1 PLAN

SCALE: 1"=20'



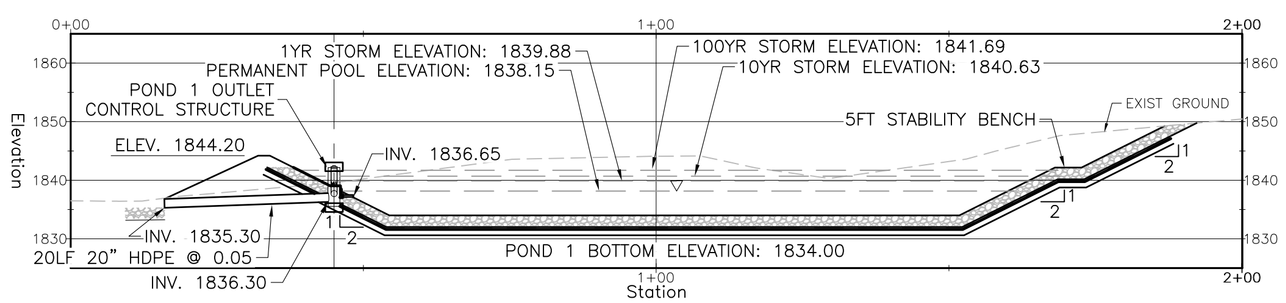
POND 2 OUTLET CONTROL STRUCTURE DETAIL

SCALE: NOT TO SCALE



SECTION OF POND 2 (O–O)

SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



Profile View Of POND 1 (L–L)

SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL

GENERAL NOTES:

1. SEE SHEET PD–32 FOR TYPICAL LINER SYSTEM.
2. OUTLET CONTROL STRUCTURE CONCRETE BASE, TRASH RACK AND ANTI–VORTEX DEVICE ARE SIZED IN ACCORDANCE WITH NEW YORK STATE STANDARD AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (AUGUST 2005).

NO.	REVISION	BY	DATE
2	REVISED SHEET NUMBER	TPP	10/13/15
1	ADDED GRAVITY WALL TO POND 1 AND 2 PLAN AND SECTION	TPP	3/11/15

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD, (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2014

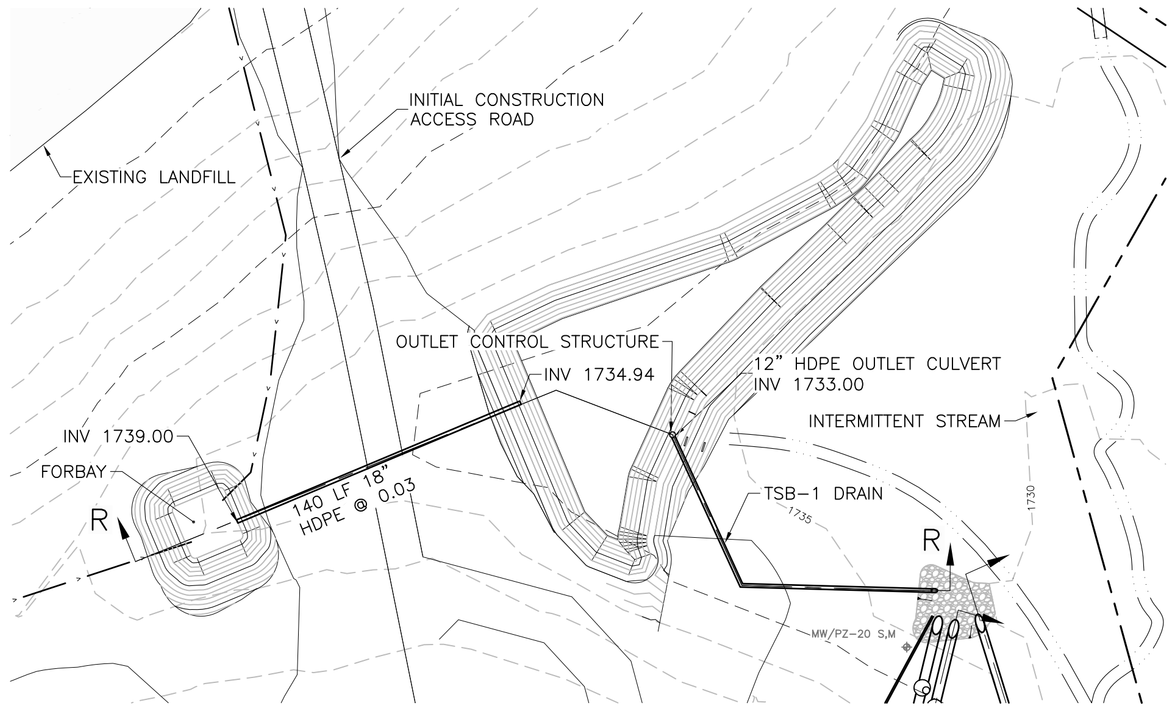
SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC		
DES. BY:	DRW. BY:	CHK. BY:
DWG. PD-28-31 SEDIMENT BASIN PLAN AND PROFILE.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY / STATE OF NEW YORK

POND 1 & POND 2 PLANS, PROFILES, SECTIONS AND DETAILS

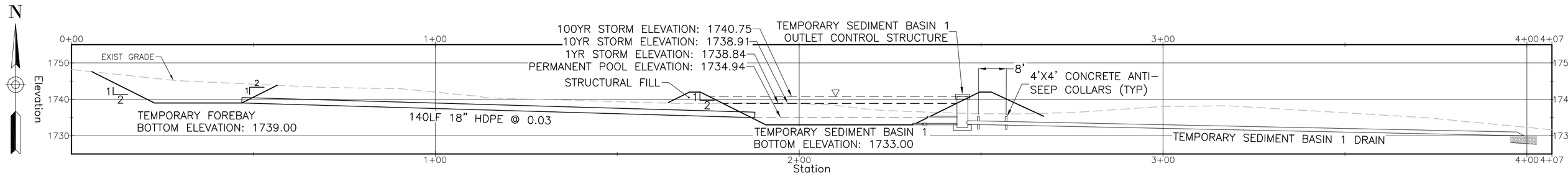
CARROLL LANDFILL EXPANSION APPLICATION

SHEET PD-30 2



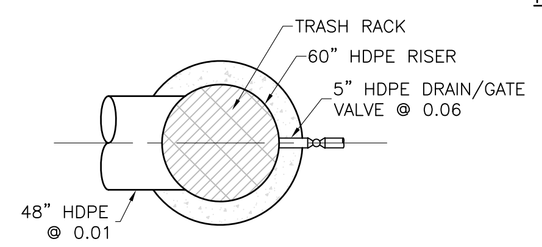
TEMPORARY SEDIMENT BASIN 1 FOR INITIAL CONSTRUCTION PLAN △2 △4

SCALE: 1"=50'

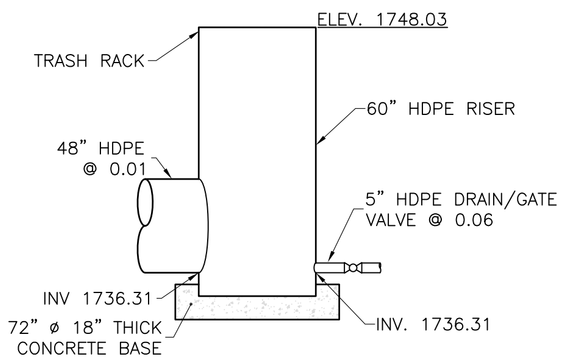


Profile View Of TEMPORARY SEDIMENT BASIN 1 FOR INITIAL CONSTRUCTION (R-R) △2 △4

SCALE: 1"=20' HORIZONTAL
1"=20' VERTICAL



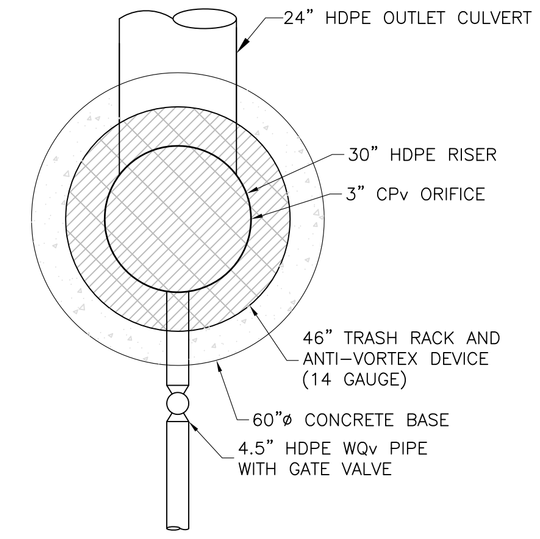
PLAN VIEW



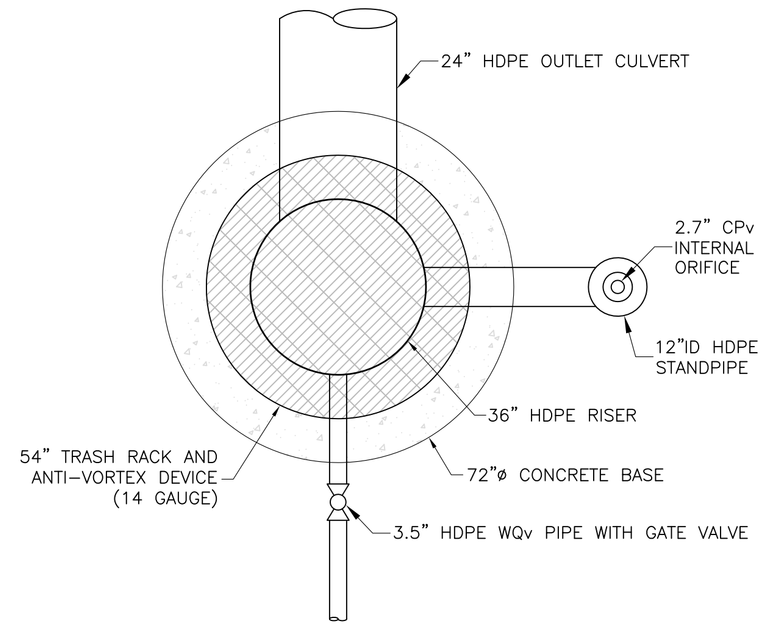
ELEVATION VIEW

SEDIMENT BASIN 2 EMERGENCY SPILLWAY DETAIL

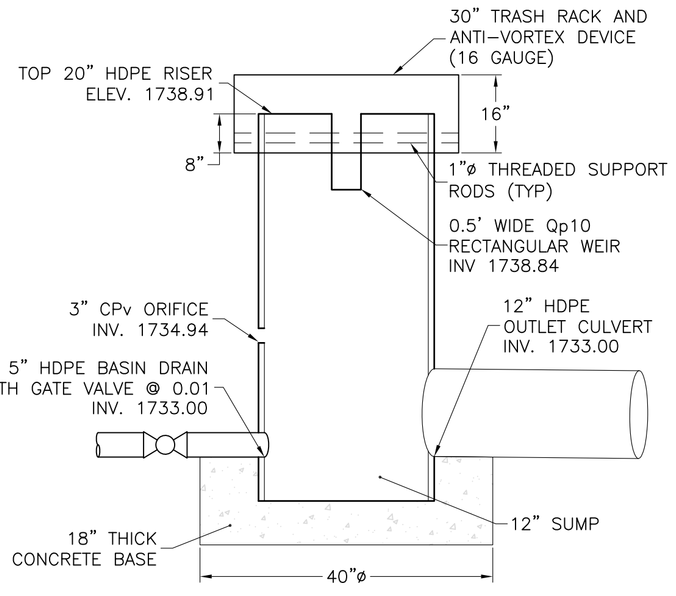
SCALE: NOT TO SCALE



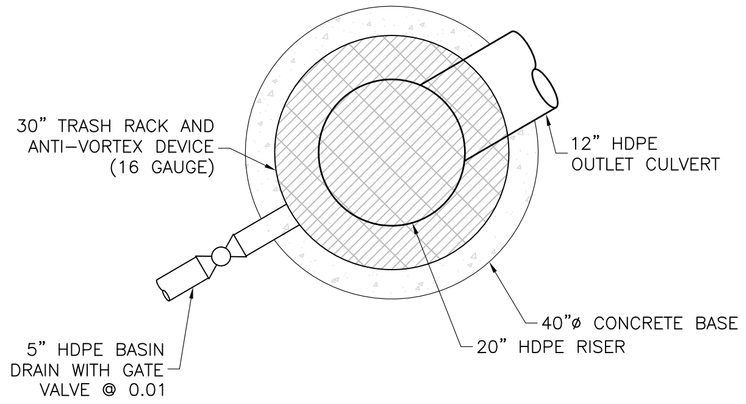
PLAN VIEW



PLAN VIEW



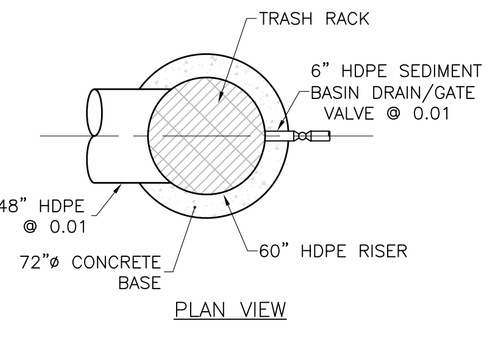
ELEVATION VIEW



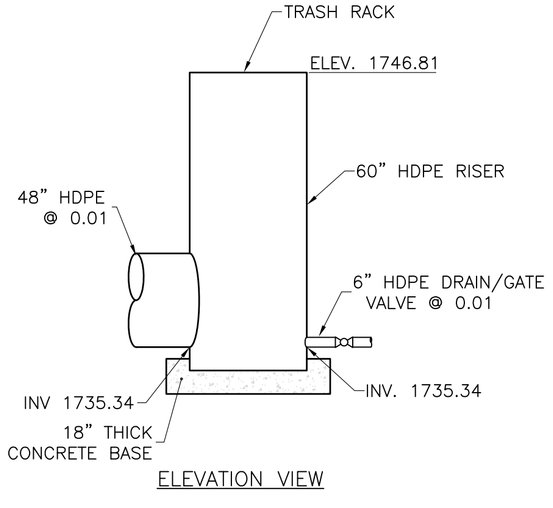
PLAN VIEW

TEMPORARY SEDIMENT BASIN 1 OUTLET CONTROL STRUCTURE DETAIL △2

SCALE: NOT TO SCALE



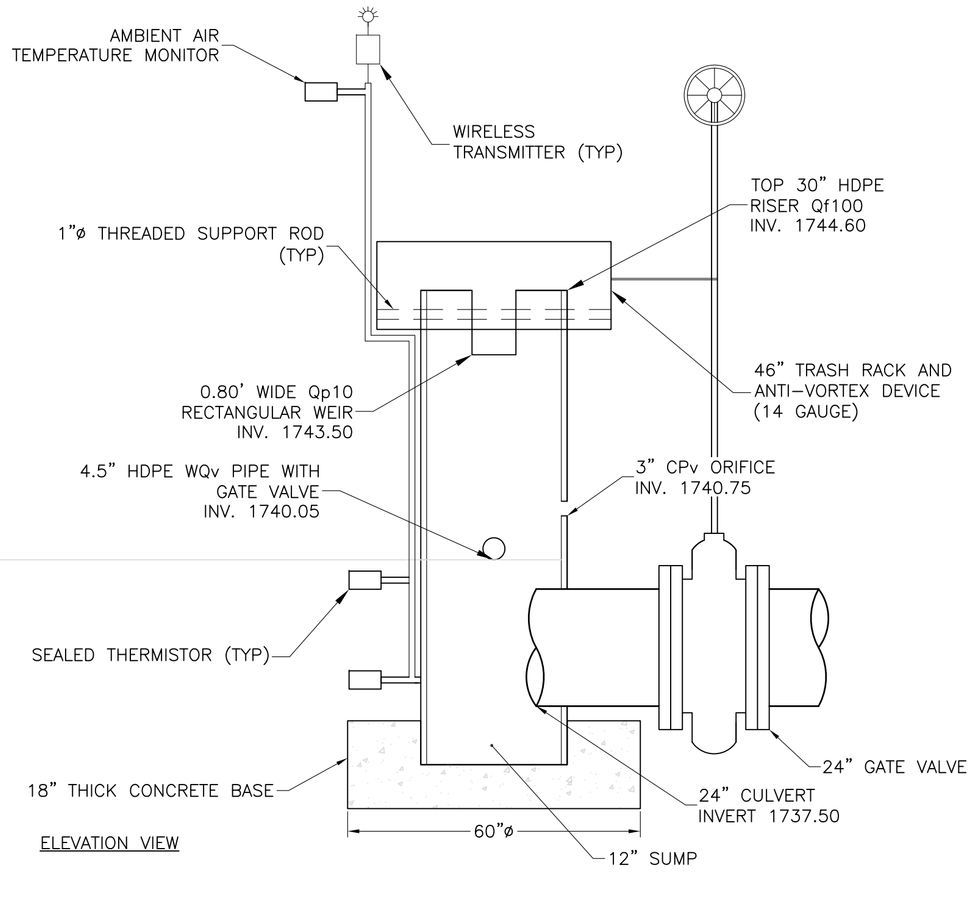
PLAN VIEW



ELEVATION VIEW

SEDIMENT BASIN 1 EMERGENCY SPILLWAY DETAIL △1

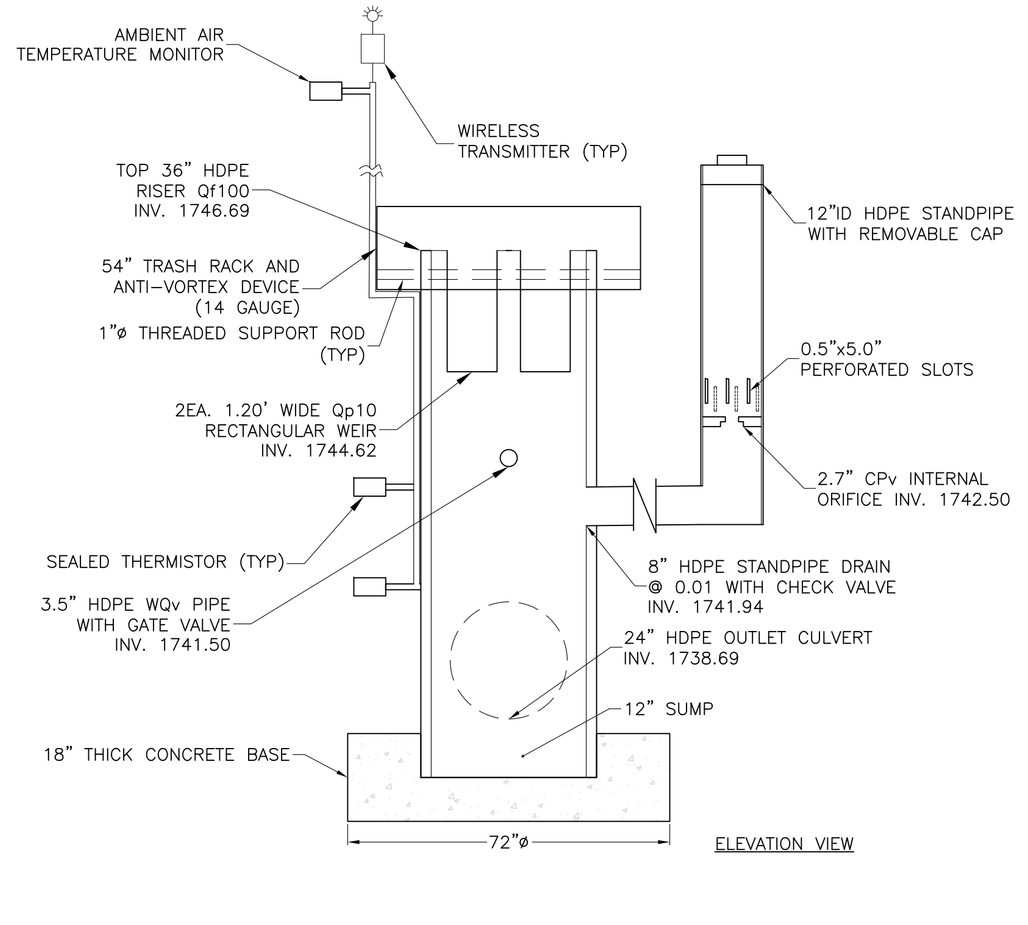
SCALE: NOT TO SCALE



ELEVATION VIEW

SEDIMENT BASIN 1 OUTLET CONTROL STRUCTURE DETAIL

SCALE: NOT TO SCALE



PLAN VIEW

ELEVATION VIEW

SEDIMENT BASIN 2 OUTLET CONTROL STRUCTURE DETAIL △1

SCALE: NOT TO SCALE

NO.	REVISION	BY	DATE
4	REVISED TEMPORARY SEDIMENT BASIN 1 PLAN AND PROFILE	SJD	9/17/16
3	REVISED SHEET NUMBER	TPP	10/13/15
2	REVISED TEMPORARY SEDIMENT BASIN 1 PLAN, PROFILE AND DETAIL	TPP	10/13/15
1	ADDED SEDIMENT BASIN AND SEDIMENT BASIN 2 EMERGENCY SPILLWAY DETAILS	TPP	3/04/15

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E. NYSPE NO. 061689

DATE: August 2014

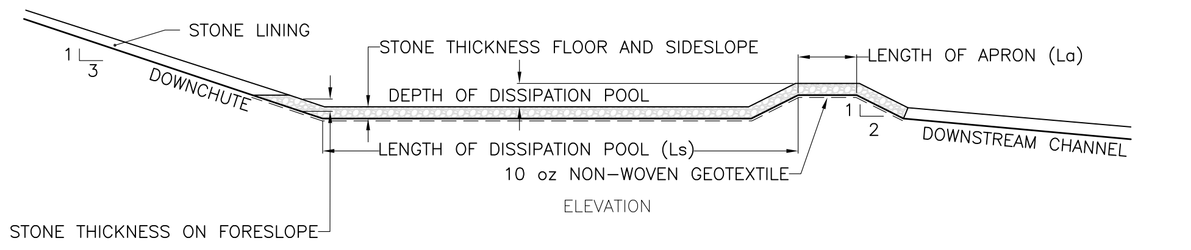
SCALE: NOTED

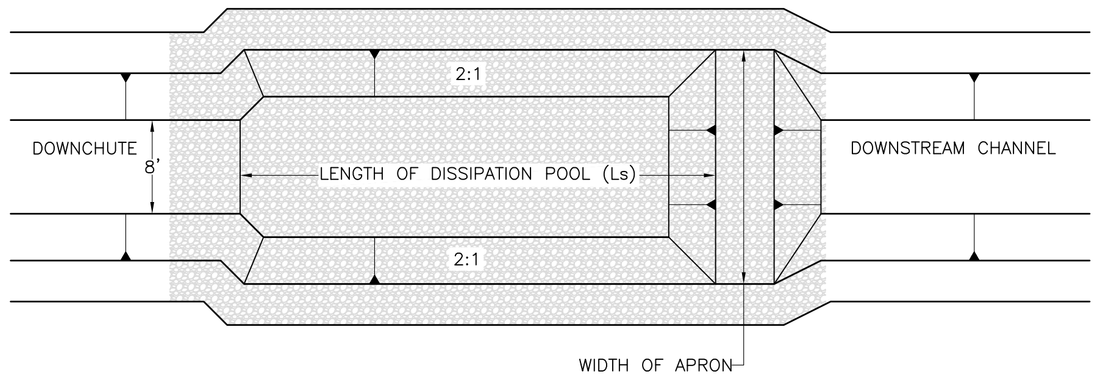
PREPARED FOR: SEALAND WASTE, LLC		
DES. BY:	DRW. BY:	CHK. BY:
DWG. PD-28-31 SEDIMENT BASIN PLAN AND PROFILE.dwg		

TEMPORARY SEDIMENT BASIN 1 PLAN, PROFILE AND DETAILS AND SEDIMENT BASIN 1 & 2 WEIR SECTIONS & SPILLWAY DETAILS
CARROLL LANDFILL EXPANSION APPLICATION

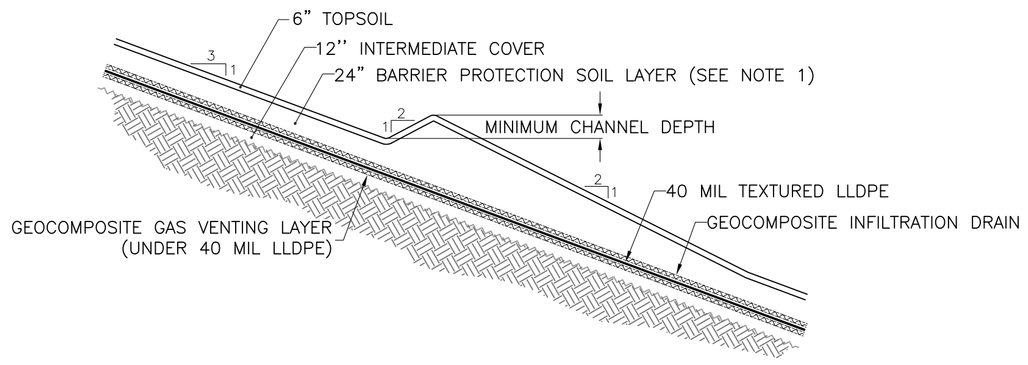
TOWN OF CARROLL | CHAUTAUQUA COUNTY | STATE OF NEW YORK

SHEET PD-31

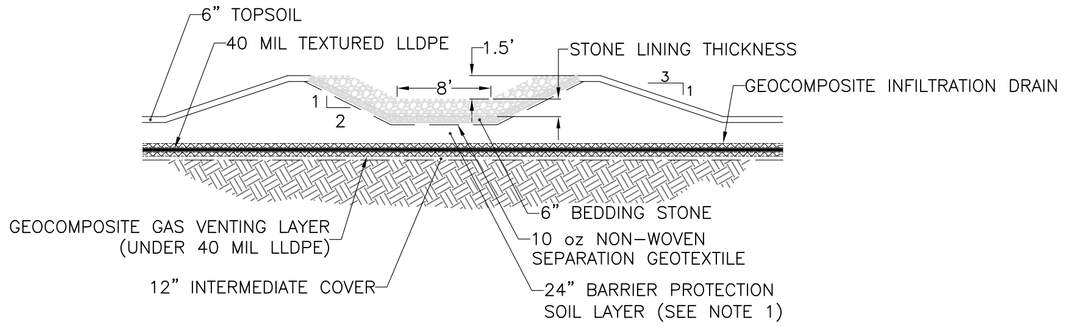




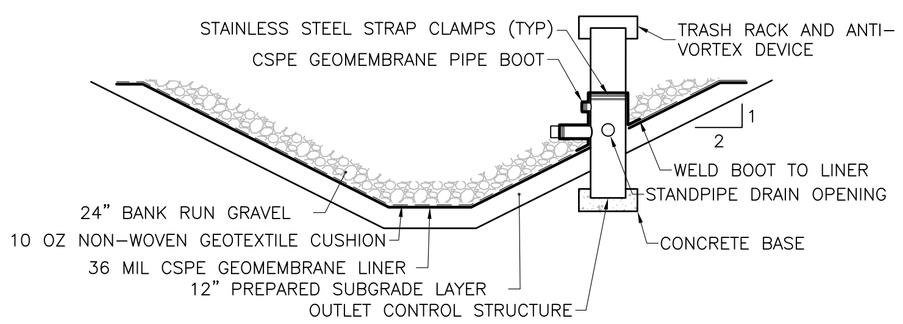
TYPICAL STILLING BASIN DETAIL
(SEE STILLING BASIN SUMMARY TABLE)
NOT TO SCALE



TYPICAL SIDESWALE DETAIL
(SEE DRAINAGE CHANNEL PROTECTION SUMMARY TABLE)
NOT TO SCALE



TYPICAL DOWNCHUTE SECTION
(SEE DRAINAGE CHANNEL PROTECTION SUMMARY TABLE)
NOT TO SCALE



TYPICAL SEDIMENT BASIN AND POND LINER SYSTEM
SCALE: NO TO SCALE

⚠ DRAINAGE CHANNEL PROTECTION SUMMARY TABLE

CHANNEL ID	DESIGN SHAPE	MINIMUM CHANNEL DEPTH (FT)	DESIGN BOTTOM WIDTH (FT)	DESIGN SIDE SLOPES	AVERAGE CHANNEL SLOPE (FT/FT)	LINING TYPE	DESIGN D50 STONE SIZE (FT)	STONE THICKNESS (FT)
DOWNCHUTE 1	TRAPEZOIDAL	1.5	8.0	2:1	0.21	REACH 1: MEDIUM STONE FILLING TYPE III	1.10	2.48
						REACH 2: 1.50 FOOT THICK GABIONS FILLED WITH LIGHT STONE FILLING TYPE I	1.00	–
DOWNCHUTE 2	TRAPEZOIDAL	1.5	8.0	2:1	0.33	REACH 1: MEDIUM STONE FILLING TYPE III	1.10	2.48
						REACH 2: 0.75 FOOT THICK GABIONS FILLED WITH LIGHT STONE FILLING TYPE I	0.50	–
DOWNCHUTE 3	TRAPEZOIDAL	1.5	8.0	2:1	0.33	REACH 1: MEDIUM STONE FILLING TYPE III	1.00	2.25
						REACH 2: 1.50 FOOT THICK GABIONS FILLED WITH MEDIUM STONE FILLING TYPE III	1.00	–
ROADSIDE CHANNEL 7	TRIANGULAR	1.3	–	2:1 / 3:1	0.10	LIGHT STONE FILLING TYPE I	0.80	1.80
ROADSIDE CHANNEL 10	TRIANGULAR	1.4	–	2:1 / 3:1	0.10	LIGHT STONE FILLING TYPE I	0.80	1.80
ROADSIDE CHANNEL 13	TRIANGULAR	1.6	–	2:1 / 3:1	0.10	LIGHT STONE FILLING TYPE I	0.90	2.03
CHANNEL 1	TRAPEZOIDAL	1.0	2.0	2:1	0.16	LIGHT STONE FILLING TYPE I	1.00	2.25
CHANNEL 2	TRAPEZOIDAL	1.8	2.0	2:1	0.043	GRASS-LEGUME MIXTURE OR CLASS A LINING	–	–
CHANNEL 3	TRAPEZOIDAL	1.7	2.0	2:1	0.005	RED FESCUE, REDTOP, SERICEA LESPEDEZA, ANNUAL LESPEDEZA, SMALL GRAINS OR CLASS B LINING	–	–
CHANNEL 4	TRAPEZOIDAL	0.8	2.0	2:1	0.057	GRASS-LEGUME MIXTURE OR CLASS B LINING	–	–
CHANNEL 5	TRAPEZOIDAL	1.0	2.0	2:1	0.33	REED CANARYGRASS, TALL FESCUE, OR KENTUCKY BLUEGRASS	–	–
CHANNEL 6	TRAPEZOIDAL	0.6	2.0	2:1	0.33	REED CANARYGRASS, TALL FESCUE, KENTUCKY BLUEGRASS OR CLASS B LINING	–	–
SIDESWALE A	TRIANGULAR	1.25	–	2:1 / 3:1	0.02	RED FESCUE, REDTOP, SERICEA LESPEDEZA, ANNUAL LESPEDEZA, SMALL GRAINS OR CLASS B LINING	–	–
SIDESWALE B	TRIANGULAR	1.5	–	2:1 / 3:1	0.02	RED FESCUE, REDTOP, SERICEA LESPEDEZA, ANNUAL LESPEDEZA, SMALL GRAINS OR CLASS B LINING	–	–
SIDESWALE C	TRIANGULAR	1.75	–	2:1 / 3:1	0.02	RED FESCUE, REDTOP, SERICEA LESPEDEZA, ANNUAL LESPEDEZA, SMALL GRAINS OR CLASS A LINING	–	–
SIDESWALE D	TRIANGULAR	2.0	–	2:1 / 3:1	0.02	RED FESCUE, REDTOP, SERICEA LESPEDEZA, ANNUAL LESPEDEZA, SMALL GRAINS OR CLASS A LINING	–	–
POND 1 EMERGENCY SPILLWAY	TRAPEZOIDAL	2.1	5.0	2:1	0.025	LIGHT STONE FILLING TYPE I	0.40	1.0
POND 2 EMERGENCY SPILLWAY	TRAPEZOIDAL	2.5	7.0	2:1	0.01	LIGHT STONE FILLING TYPE I	0.25	1.0

STONE FILLING NOTES:

1. IF DRAINAGE CHANNELS ARE PLACED INSIDE THE LIMIT OF WASTE BEFORE FINAL COVER PLACEMENT, A MINIMUM OF 24-INCHES OF CLAYEY INTERMEDIATE COVER SHALL BE PLACED BETWEEN WASTE MATERIALS AND ANY CHANNEL BEDDING. FOR CHANNELS ABOVE FINAL COVER GEOSYNTHETICS, THE 24-INCH THICK BARRIER PROTECTION LAYER MUST BE A LOW PERMEABILITY CLAYEY SOIL.
2. A MINIMUM OF SIX-INCHES OF BEDDING MATERIAL MEETING THE REQUIREMENTS OF NYSDOT ITEM 620-2.05 SHALL BE PLACED ABOVE THE CLAYEY INTERMEDIATE COVER SOIL, PRIOR TO PLACEMENT OF THE CHANNEL LINING TO PREVENT PIPING AND EROSION OF THE INTERMEDIATE COVER SOIL. BEDDING MATERIAL SHALL BE PLACED USING METHODS THAT WILL NOT RESULT IN SEGREGATION OF PARTICLE SIZES.
3. ALL STONE FILLING TO BE USED FOR THE CHANNEL LINING SHALL BE ACCEPTED OR REJECTED FOR USE BASED ON A VISUAL EXAMINATION OF THE MATERIAL BY THE ENGINEER.
4. STONE FILLING MEETING THE REQUIREMENTS OF NYSDOT ITEM 620-1.01 SHALL BE PLACED AND CONSOLIDATED IN-PLACE IN THE CHANNEL TO ITS FULL COURSE THICKNESS IN ONE OPERATION. STONE FILLING SHALL BE PLACED IN A MANNER THAT PRODUCES A REASONABLY WELL-GRADED MASS WITH THE SMALLER STONE FRAGMENTS FILLING THE VOIDS BETWEEN THE LARGER PARTICLES WITH A MINIMUM PRACTICABLE VOID RATIO IN THE COMPLETED CHANNEL LINING. THE MATERIAL SHALL BE PLACED SUCH THAT THERE ARE NO POCKETS OF UNIFORM SIZE MATERIAL. PLACEMENT OF THE CHANNEL LINING SHALL BE COMPLETED IN A MANNER THAT AVOIDS DISTRUPTION AND DAMAGE TO THE UNDERLYING BEDDING MATERIAL.
5. IT IS RECOMMENDED THAT THE DESIRED DISTRIBUTION OF THE VARIOUS SIZES OF STONE THROUGHOUT THE CHANNEL LINING BE OBTAINED BY SELECTIVE LOADING AT THE SOURCE, BY CONTROLLED DUMPING OF SUCCESSIVE LOADS DURING FINAL PLACEMENT, BY REARRANGING OF INDIVIDUAL STONES BY MECHANICAL EQUIPMENT OR BY HAND, OR BY OTHER WELL CONSIDERED METHODS THAT WILL PRODUCE THE SPECIFIED RESULTS.

STONE CHANNEL LINING GRADATION REQUIREMENTS;

LIGHT STONE FILLING TYPE I

STONE SIZE	PERCENT TOTAL BY WEIGHT
LIGHTER THAN 110 LBS	90–100
LARGER THAN 6 INCHES	50–100
SMALLER THAN ½ INCH	0–10

LIGHT STONE FILLING TYPE II

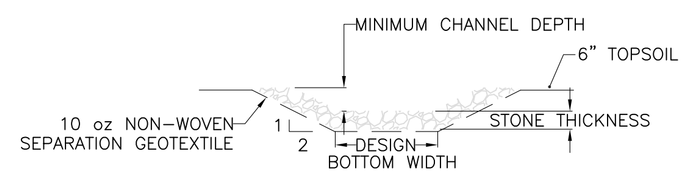
STONE SIZE	PERCENT TOTAL BY WEIGHT
HEAVIER THAN 110 LBS	90–100
LARGER THAN 12 INCHES	50–100
SMALLER THAN 6 INCH	0–10

MEDIUM STONE FILLING TYPE III

STONE SIZE	PERCENT TOTAL BY WEIGHT
HEAVIER THAN 110 LBS	50–100
SMALLER THAN 6 INCHES	0–10

HEAVY STONE FILLING TYPE IV

STONE SIZE	PERCENT TOTAL BY WEIGHT
HEAVIER THAN 660 LBS	50–100
SMALLER THAN 6 INCHES	0–10



TYPICAL EMERGENCY SPILLWAY DETAIL
(SEE DRAINAGE CHANNEL PROTECTION SUMMARY TABLE)
NOT TO SCALE

⚠ CULVERT SUMMARY TABLE

CULVERT ID	DESCRIPTION	NOMINAL DIAMETER (IN)	LENGTH (FT)	INVERT IN	INVERT OUT	SLOPE (FT/FT)	DISCHARGE LOCATION
CULVERT 1	HDPE CULVERT PIPE	20	20	1836.30	1835.30	0.05	CHANNEL 2
CULVERT 2	HDPE CULVERT PIPE	30	181	1815.78	1816.70	0.005	MANHOLE 1
CULVERT 3	HDPE CULVERT PIPE	30	73	1815.06	1810.10	0.068	SANDBERG RD CHANNEL
CULVERT 4	DUAL HDPE CULVERT PIPES	24	42	1857.62	1857.20	0.01	DOWNCHUTE 1
CULVERT 5	DUAL HDPE CULVERT PIPES	30	59	1777.41	1777.11	0.005	MANHOLE 4
CULVERT 6	DUAL HDPE CULVERT PIPES	30	20	1806.20	1806.00	0.01	MANHOLE 2
CULVERT 7	HDPE CULVERT PIPE	36	450	1806.13	1791.28	0.033	MANHOLE 3
CULVERT 8	HDPE CULVERT PIPE	36	453.5	1791.61	1777.10	0.033	MANHOLE 4
CULVERT 9	HDPE CULVERT PIPE	48	126	1776.62	1742.60	0.27	MANHOLE 5
CULVERT 10	DUAL HDPE CULVERT PIPES	36	56	1742.62	1741.00	0.029	FOREBAY 1
CULVERT 11	HDPE CULVERT PIPE	18	30	1773.44	1772.81	0.021	SIDESWALE 19
CULVERT 12	HDPE CULVERT PIPE	36	153	1776.83	1761.53	0.10	MANHOLE 6
CULVERT 13	HDPE CULVERT PIPE	36	148	1745.84	1744.36	0.01	FOREBAY 2
CULVERT 14	DUAL HDPE CULVERT PIPES	48	36	1735.34	1734.98	0.01	VERTICAL PIPE
CULVERT 15	DUAL HDPE CULVERT PIPES	48	92	1715.39	1715.39	0.00	STOREHOUSE RUN
CULVERT 16	HDPE CULVERT PIPE	24	113	1737.90	1720.25	0.15	GRADED FILTER 1
CULVERT 17	HDPE CULVERT PIPE	42	17	1715.36	1715.33	0.002	STOREHOUSE RUN
CULVERT 18	HDPE CULVERT PIPE	24	88.5	1737.5	1734.83	0.03	GRADED FILTER 2
CULVERT 19	HDPE CULVERT PIPE	42	30	1722.1	1722.04	0.002	STOREHOUSE RUN
CULVERT 20	DUAL HDPE CULVERT PIPES	48	44	1736.23	1735.87	0.01	VERTICAL PIPE
CULVERT 21	DUAL HDPE CULVERT PIPES	48	29	1730.66	1730.00	0.002	INTERMITTENT DRAINAGEWAY
CULVERT 22	HDPE CULVERT PIPE	24	57	1740.17	1740.12	0.026	GRADED FILTER 3
CULVERT 23	HDPE CULVERT PIPE	42	136	1730.28	1730.01	0.002	STOREHOUSE RUN
CULVERT 24	HDPE CULVERT PIPE	24	90	1738.69	1737.79	0.01	GRADED FILTER 4
CULVERT 26	HDPE CULVERT PIPE	42	29	1730.05	1729.99	0.002	STOREHOUSE RUN
CULVERT 27	HDPE CULVERT PIPE	48	7	1742.69	1742.60	0.013	MANHOLE 5
CULVERT 28	HDPE DRAIN PIPE	2	46	1741.00	1741.00	0.00	SEDIMENT BASIN 1
CULVERT 29	HDPE DRAIN PIPE	2	40	1744.50	1744.50	0.00	SEDIMENT BASIN 2
CULVERT 30	DUAL HDPE DRAIN PIPES	6	21	1736.00	1735.81	0.009	EMERGENCY SPILLWAY
CULVERT 31	DUAL HDPE DRAIN PIPES	5	13	1737.00	1736.22	0.06	EMERGENCY SPILLWAY
CULVERT 32	DUAL HDPE CULVERT PIPES	15	43	1784.80	1783.94	0.02	DODGE RD CHANNEL
CULVERT 33	HDPE CULVERT PIPE	18	201	1777.41	1734.98	0.22	DROP MANHOLE 9
CULVERT 34	CONCRETE BOX CULVERT	4'W x 2'H	115	1785.92	1785.34	0.005	DROP MANHOLE 9

OUTLET PROTECTION SUMMARY TABLE

CHANNEL OR CULVERT ID	LENGTH OF APRON, LA (FT)	WIDTH OF APRON, W (FT)	DESIGN D50 STONE SIZE (IN)	MINIMUM STONE BLANKET THICKNESS (IN)	LINING TYPE
CULVERT 1	15.7	7.8	5.6	22.0	LIGHT STONE FILLING TYPE I
CULVERT 3	12.5	13.0	12.0	28.8	MEDIUM STONE FILLING TYPE III
CULVERT 10/FOREBAY 1	–	–	8.1	29.7	LIGHT STONE FILLING TYPE II
CULVERT 11	–	–	4.0	14.0	LIGHT STONE FILLING TYPE I
CULVERT 13/FOREBAY 2	–	–	16.0	33.0	HEAVY STONE FILLING TYPE IV
CULVERT 15	20.0	21.5	12.3	28.8	HEAVY STONE FILLING TYPE IV
CULVERT 17	8.0	10.7	5.3	21.0	LIGHT STONE FILLING TYPE I
CULVERT 19/CULVERT 26	8.0	10.7	4.9	21.0	LIGHT STONE FILLING TYPE I
CULVERT 21	17.5	18.8	11.2	28.8	MEDIUM STONE FILLING TYPE III
CULVERT 23	8.0	10.8	5.3	21.0	LIGHT STONE FILLING TYPE I

⚠⚠ STILLING BASIN SUMMARY TABLE

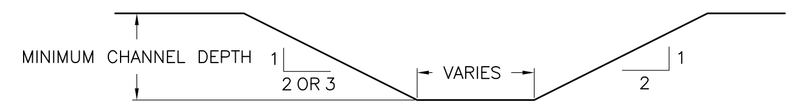
	STILLING BASIN 2	STILLING BASIN 3
LENGTH OF DISSIPATION POOL, LS (FT)	24.0	24.0
LENGTH OF APRON, LA (FT)	8.0	8.0
DEPTH OF DISSIPATOR POOL, HS (FT)	2.0	5.6
WIDTH OF APRON, WB (FT)	29.3	29.3
DESIGN D50 STONE SIZE (IN)	SEE NOTE	34
STONE THICKNESS FLOOR AND SIDESLOPES (FT)	0.60	0.60
STONE THICKNESS ON FORESLOPE (FT)	0.90	0.90
LINING TYPE	LIGHT STONE FILLING TYPE I	LIGHT STONE FILLING TYPE I

NOTE: SINCE VELOCITY IS GREATER THAN 17 FPS, STILLING BASIN SHALL BE SLUSHED WITH CONCRETE WHEN LOCATED ON STRUCTURAL FILL/VIRGIN SOILS OR CONSTRUCTED OF GABION MATTRESSES WHEN LOCATED ON WASTE.

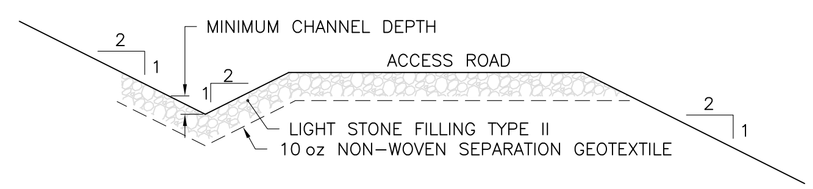
⚠⚠ MANHOLE SUMMARY TABLE

MANHOLE ID	DESCRIPTION	NOMINAL DIAMETER (FT)	RIM ELEVATION	INVERT
MANHOLE 1	CULVERT 2 TO CULVERT 3	6.0	1827.00	1814.96
MANHOLE 2	CULVERT 6 TO CULVERT 7	8.0	1812.00	1806.00
MANHOLE 3	CULVERT 7 TO CULVERT 8	6.0	1822.00	1791.28
MANHOLE 4	CULVERTS 5 & 8 TO CULVERT 9	8.0	1783.00	1777.10
MANHOLE 5	CULVERT 9 TO CULVER 10	6.0	1749.50	1742.60
MANHOLE 6	CULVERT 12 TO CULVERT 13	8.0	1779.32	1761.53NW/ 1745.63SE
MANHOLE 7	CULVERT 24 TO 25	6.0	1748.10	1736.21E/ 1736.21E
MANHOLE 8	DOWNCHUTE 1 TO BOX CULVERT	8.0	1804.40	1801.38IN/ 1785.92OUT
MANHOLE 9	BOX CULVERT & CULVERT 33 TO CULVERT 5	8.0	1790.00	1785.34IN/ 1777.41OUT

NOTE: MANHOLES, UNLESS NOTED, WILL BE MANUFACTURED OF CONCRETE.



TYPICAL CHANNEL SECTION
(SEE DRAINAGE CHANNEL PROTECTION SUMMARY TABLE)
NOT TO SCALE



TYPICAL ROADSIDE CHANNEL SECTION
(SEE DRAINAGE CHANNEL PROTECTION SUMMARY TABLE)
NOT TO SCALE

NO.	REVISION	BY	DATE
3	REVISED TABLES	SJD	9/16/16
2	REVISED SHEET NUMBER	TPP	10/13/15
1	REVISED CULVERT SUMMARY TABLE, MANHOLE SUMMARY TABLE, AND STILLING BASIN SUMMARY TABLE	TPP	10/13/15

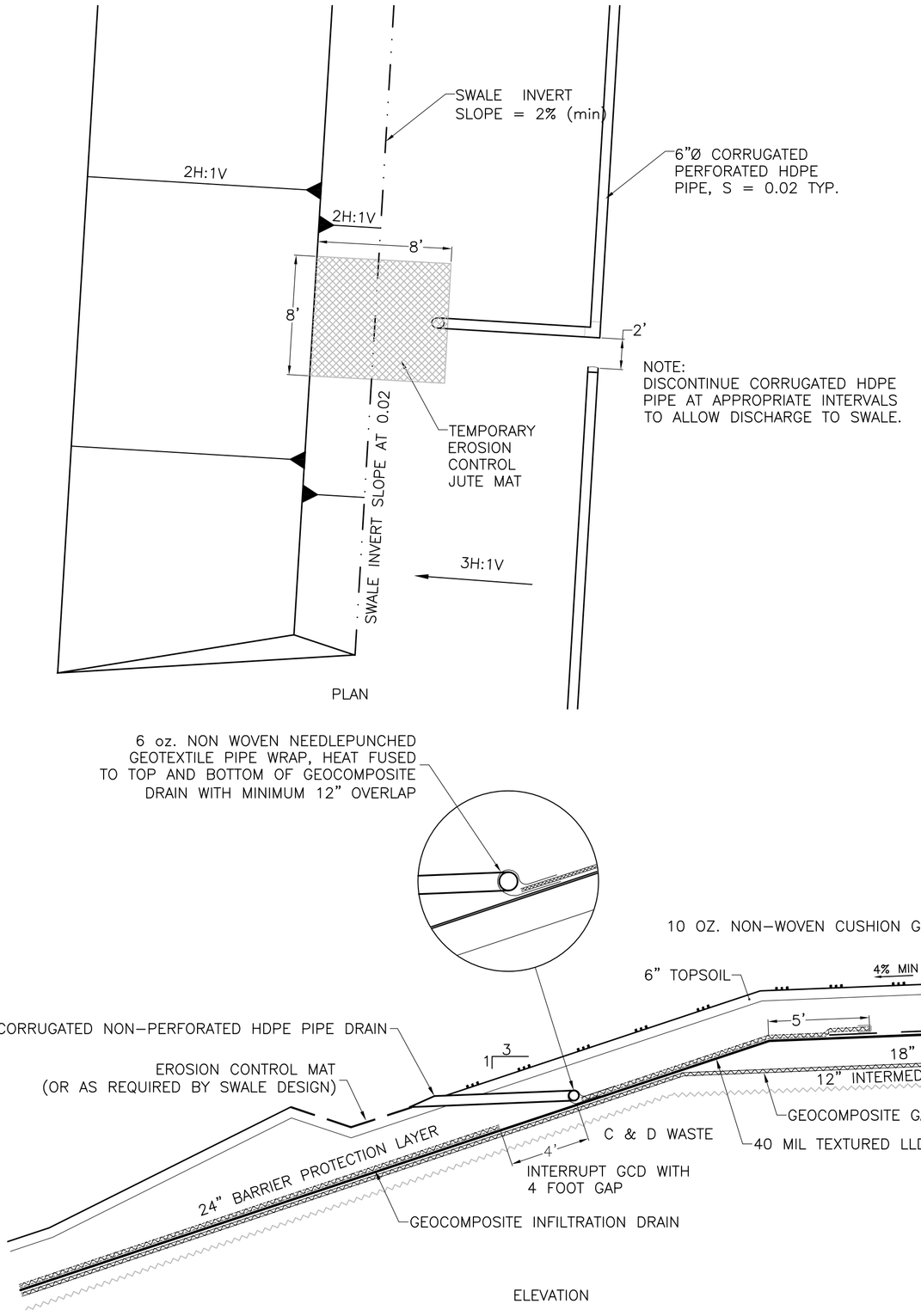
DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. (716) 773-6872
GRAND ISLAND, NEW YORK 14072 (716) 773-6873 FAX
JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: March 2014

SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC			DRAINAGE SYSTEM DETAILS CARROLL LANDFILL EXPANSION APPLICATION
DES. BY:	DRW. BY:	CHK. BY:	
DWG. PD-32 DRAINAGE SYSTEM DETAILS.dwg	TOWN OF CARROLL	CHAUTAUQUA COUNTY	STATE OF NEW YORK

SHEET PD-32 ⚠3



DIVERSION SWALE AND GEOCOMPOSITE INFILTRATION DRAIN DISCHARGE

NOT TO SCALE

NO.	REVISION	BY	DATE
1	REVISE NUMBER SHEET	TPP	10/12/15

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX

JAMES A. DAIGLER, P.E.
NYSPE NO. 061689

DATE: February 2014

SCALE: NOTED

PREPARED FOR: SEALAND WASTE, LLC			MISCELLANEOUS DETAILS CARROLL LANDFILL EXPANSION APPLICATION
DES. BY:	DRW. BY:	CHK. BY:	
DWG. PD-33 MISC DETAILS.dwg			TOWN OF CARROLL / CHAUTAUQUA COUNTY / STATE OF NEW YORK

SHEET PD-33 1