KENVIRONS

SPURLOCK STATION LANDFILL
PHASE 3-C CELL CONSTRUCTION

CCR RULE
POST-CONSTRUCTION DESIGN CERTIFICATION

EAST KENTUCKY
POWER COOPERATIVE

EAST KENTUCKY POWER COOPERATIVE

COAL COMBUSTION RESIDUAL RULE COMPLIANCE

REV. 0 (06/07/2019)

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Civil & Environmental Engineering and Laboratory Services • Visit us at www.Kenvirons.com

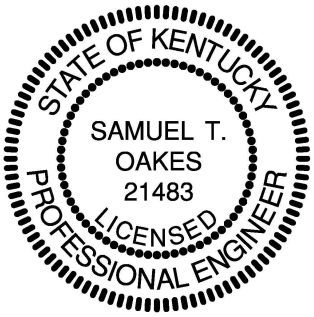
CERTIFICATION

EAST KENTUCKY POWER COOPERATIVE
SPURLOCK STATION LANDFILL – PHASE 3-C CELL CONSTRUCTION
CCR RULE - POST-CONSTRUCTION DESIGN CERTIFICATION

CERTIFICATION

I hereby certify, as a Professional Engineer in the Commonwealth of Kentucky, that the composite liner and leachate collection and removal system has been constructed in accordance with the requirements of 40 CFR 257.70. The information in this document was assembled under my direct supervisory control. This report is not intended or represented to be suitable for reuse by East Kentucky Power Cooperative or others without specific verification or adaptation by the Engineer.

S. Tim Oakes, P.E. [21,483] – Kenvirons, Inc.



Date: 6/7/19

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1.0 INTRODUCTION

On April 17, 2015, the Environmental Protection Agency (EPA) issued the final version of the federal Coal Combustion Residual Rule (CCR Rule) to regulate the disposal of coal combustion residual (CCR) materials generated at coal-fired units. The rule will be administered as part of the Resource Conservation and Recovery Act [RCRA, 42 United States Code (U.S.C.) §6901 et seq.], under Subtitle D.

East Kentucky Power Cooperative (EKPC) is subject to the CCR Rule and as such will demonstrate compliance with 40 Code of Federal Regulations (CFR) §257.70(f). This document serves as EKPC's post-construction verification that the Phase 3-C lateral expansion was constructed in accordance with the project's design plans and specifications (composite liner system and leachate collection system) at Spurlock Station Landfill. The Phase 3-C lateral expansion was designed by AECOM and the construction quality assurance (CQA) for cell construction was certified by Kenvirons, Inc. Record drawings for the composite liner system and leachate collection system can be found in Attachment 1.

TABLE 1-1 POST-CONSTRUCTION CERTIFICATION SUMMARY

CONSTRUCTION CRITERIA			
Unit: Phase 3-C Cell Construction			
DESCRIPTION	**CCR RULE COMPLIANCE**		
	YES	**NO**	**REPORT REFERENCE**
Composite Liner System[1]	☒	☐	See Section 2.0
Leachate Collection & Removal System	☒	☐	See Section 3.0

[1] Certification of the composite liner system is based on the requirements of 40 CFR §257.70(f).

2.0 COMPOSITE LINER SYSTEM

The constructed composite liner system consists of two components: an upper component consisting of a 60-mil HDPE geomembrane and a lower component consisting of at least a two-foot compacted soil layer with a hydraulic conductivity of no more than $1x10^{-7}$ centimeters per second (cm/sec) over subgrade construction.

2.1 Subgrade

Rock/soil structural fill was taken from excavation activities within the cell and the borrow area directly to the northeast of the cell. Since the materials contained a large percentage of rock/gravel particles, no laboratory testing was performed. Structural fill

was used primarily for filling the lower elevations of the natural valley to achieve subgrade elevations while excavation was constructed primarily on the valley slopes. Structural fill was placed in 12-inch maximum lifts. All materials were bladed into place with a dozer and compacted with a sheeps foot compactor. Once proper grades were achieved, the cell subgrade was proof rolled utilizing a loaded Volvo A40 articulated dump truck. The proof roll exercise consisted of running the loaded dump truck across the subgrade surface. The ground surface was observed for indication of pumping or rutting. If signs of pumping or rutting were exhibited, the failed areas were reworked and proof roll tested until a passing test was observed. Once complete, the area tested was approved by the certifying Engineer for placement of the two-foot compacted soil layer.

An underdrain system consisting of pipe and gravel was installed beneath final subgrade elevations to intercept discontinuous seeps from underneath of Phase 3-C's composite liner system. The underdrain discharges intercepted flow to the sediment pond located southeast of Phase 3-C waste cell.

2.2 Two-Foot Compacted Soil Layer

The source of the compacted soil material was the soil borrow area west of the construction entrance off South Ripley Road and excavation within the cell. Processed material with particle sizes of two inches or less was used in the compacted soil layer. Samples of the compacted soil layer material were obtained and testing was performed to assure the material can achieve a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec and to determine construction testing parameters. A standard Proctor density and optimum moisture content laboratory testing was performed to determine the construction testing parameters to achieve minimum field compaction of 92% of standard Proctor density and a target moisture content of -4% to +2% of optimum.

The compacted soil layer was placed on top of completed subgrade and is a minimum 24-inches thick throughout the cell. The soil liner material was spread into 6-inch compacted lifts using GPS-guided dozers to achieve proper grading. The lifts were compacted using a vibratory sheeps foot compactor. After compacting, the surface was rolled with a smooth drum vibratory roller. Moisture/density tests were taken on each lift using a nuclear density gauge at a frequency of no less than nine (9) tests per acre per lift.

If tested areas did not meet the minimum project requirements, that area was reworked and retested as necessary until retest results indicated compliance with project requirements. All lifts were scarified by tracking with dozers and water was added, if needed, prior to the next lift being placed. When the final lift was to grade, a smooth-drum, vibratory roller was used to prepare the compacted soil layer for geosynthetic installation. Prior to installation of geosynthetics, the compacted soil layer was inspected and approved by the certifying Engineer.

2.3 60-mil HDPE Geomembrane

Geomembrane deployment was monitored by Kenvirons, Inc. to insure that no damage was done to either the material or the soil liner and to ensure construction of the liner system was performed in accordance to the design and specifications for the project. The geomembrane material was deployed such that the panels and seams were approximately perpendicular to the contours of the slope. The panel alignment was adjusted by the Installer to provide orientation perpendicular to the contours and proper shingled overlap. In all cases, the FML panels were seamed on the day they were placed using a double hot-wedge, fusion welder. Each seam was observed by Kenvirons CQA monitor, with seam defects such as burn-throughs being marked for repair. All patches were heat tacked in place, ground for cleaning and to promote sufficient adhesion and then extrusion welded. Prior to seaming of the FML and again after approximately 4-hours of run time, trial welds were created per welding machine per welder operator each day. The trial seams were tested for peel and shear strength. For 60-mil Textured HDPE, the minimum peel strength for a fusion weld is 91 pounds per inch and 78 pounds per inch for extrusion welds. The minimum sheer strength for both extrusion and fusion welds is 120 pounds per inch. No panels were welded without the welder passing trial seam testing.

Non-destructive testing was performed on all fusion and extrusion welded panel seams and repairs. Air Pressure testing was conducted on fusion welded seams and vacuum box testing was performed on all extrusion welded seams including panel seaming and repair patches. Destructive samples were taken at selected locations for both fusion and extrusion welded seams. These samples were divided for testing on-site by the installation crew and the remaining sample sent out for independent laboratory testing.

3.0 LEACHATE COLLECTION & REMOVAL SYSTEM

The leachate collection system consists of a geocomposite drainage layer material, collection pipes, No. 57 peagravel drainage media and CoalTex geotextile.

3.1 Geocomposite Drainage Layer

The geocomposite was placed to provide sufficient overlap (approximately six inches) to tie the geonet and geotextile components together for each panel. The geonet component was joined via the installation of plastic pull ties placed a maximum of five feet apart on the longitudinal seams and a maximum of one foot apart on the cross seams. The top geotextile component was then fusion welded, sewn or heat bonded together. Additional geotextile material was heat bonded to the geocomposite to seal up all exposed geonet.

3.2 Leachate Collection Pipes

Leachate collection pipes consist of perforated 8-inch and 4-inch diameter HDPE, DR-17 pipes surrounded with No. 57 sized, low calcium carbonate content, washed

peagravel and enclosed within a 14-oz/sy CCR compatible geotextile (CoalTex). The 4 inch pipes placed on the benches remain perforated and tie into the 8-inch leachate collection piping near the tie-in with previously constructed Area C Phase 1 and 2. The 8-inch perforated piping located along Phase 1 and 2's tie-in connects to existing Area C, Phases 3-A and 3-B's leachate collection system. Cleanout risers for the collection pipes extend up the side slope of the cell to the north, south and east. Leachate gravity flows into the ditch east of the cell and finally into Pond 1.

3.3 Geotextile

The 14 oz/yd² geotextile (CoalTex) encasing the leachate collection piping and gravel was deployed with enough overlap (at least 6-inches) to connect the textile panels together by heat bonding or with zip ties. Geotextile patches were heat bonded where necessary to repair any cuts or tears in the geotextile.

4.0 REPORT LIMITATIONS

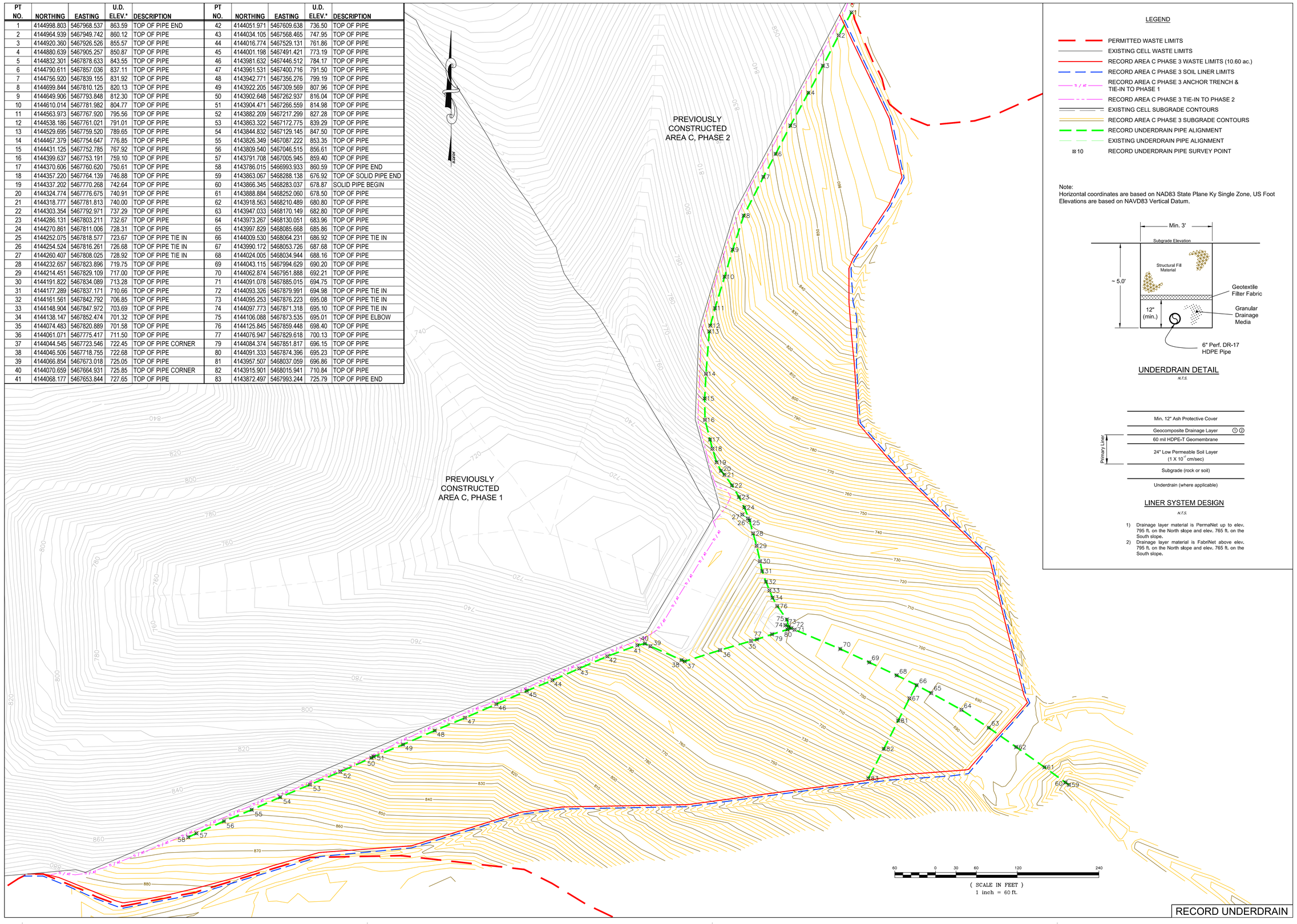
This report is based on data collected and observations made during construction that could be visually seen. Review of design documents and survey information provided by EKPC as well as CQA work performed by Kenvirons based on AECOM's design of Phase 3-C lateral expansion. This post-construction design certification is based on Kenvirons' understanding of AECOM's design plans for the lateral expansion and EKPC's plant operations, maintenance, storm water and CCR handling procedures for the newly constructed lateral expansion. Changes in any of these operations or procedures may result in deviation from the intended design and operation of Phase 3-C.

The post-construction certification is based on established engineering principles and provided in a manner consistent with the level of care and skill ordinarily exercised by the engineering consultants under similar circumstances. No other representation is intended.

ATTACHMENT 1

RECORD DRAWINGS

PT NO.	NORTHING	EASTING	U.D. ELEV.*	DESCRIPTION	PT NO.	NORTHING	EASTING	U.D. ELEV.*	DESCRIPTION
1	4144998.803	5467968.537	863.59	TOP OF PIPE END	42	4144051.971	5467609.638	736.50	TOP OF PIPE
2	4144964.939	5467949.742	860.12	TOP OF PIPE	43	4144034.105	5467568.465	747.95	TOP OF PIPE
3	4144920.360	5467926.526	855.57	TOP OF PIPE	44	4144016.774	5467529.131	761.86	TOP OF PIPE
4	4144880.639	5467905.257	850.87	TOP OF PIPE	45	4144001.198	5467491.421	773.19	TOP OF PIPE
5	4144832.301	5467878.633	843.55	TOP OF PIPE	46	4143981.632	5467446.512	784.17	TOP OF PIPE
6	4144790.611	5467857.036	837.11	TOP OF PIPE	47	4143961.531	5467400.716	791.50	TOP OF PIPE
7	4144756.920	5467839.155	831.92	TOP OF PIPE	48	4143942.771	5467356.276	799.19	TOP OF PIPE
8	4144699.844	5467810.125	820.13	TOP OF PIPE	49	4143922.205	5467309.569	807.96	TOP OF PIPE
9	4144649.906	5467793.848	812.30	TOP OF PIPE	50	4143902.648	5467262.937	816.04	TOP OF PIPE
10	4144610.014	5467781.982	804.77	TOP OF PIPE	51	4143904.471	5467266.559	814.98	TOP OF PIPE
11	4144563.973	5467767.920	795.56	TOP OF PIPE	52	4143882.209	5467217.299	827.28	TOP OF PIPE
12	4144538.186	5467761.021	791.01	TOP OF PIPE	53	4143863.322	5467172.775	839.29	TOP OF PIPE
13	4144529.695	5467759.520	789.65	TOP OF PIPE	54	4143844.832	5467129.145	847.50	TOP OF PIPE
14	4144467.379	5467754.647	776.85	TOP OF PIPE	55	4143826.349	5467087.222	853.35	TOP OF PIPE
15	4144431.125	5467752.785	767.92	TOP OF PIPE	56	4143809.540	5467046.515	856.61	TOP OF PIPE
16	4144399.637	5467753.191	759.10	TOP OF PIPE	57	4143791.708	5467005.945	859.40	TOP OF PIPE
17	4144370.606	5467760.620	750.61	TOP OF PIPE	58	4143786.015	5466993.933	860.59	TOP OF PIPE END
18	4144357.220	5467764.139	746.88	TOP OF PIPE	59	4143863.067	5468288.138	676.92	TOP OF SOLID PIPE END
19	4144337.202	5467770.268	742.64	TOP OF PIPE	60	4143866.345	5468283.037	678.87	SOLID PIPE BEGIN
20	4144324.774	5467776.675	740.91	TOP OF PIPE	61	4143888.884	5468252.060	678.50	TOP OF PIPE
21	4144318.777	5467781.813	740.00	TOP OF PIPE	62	4143918.563	5468210.489	680.80	TOP OF PIPE
22	4144303.354	5467792.971	737.29	TOP OF PIPE	63	4143947.033	5468170.149	682.80	TOP OF PIPE
23	4144286.131	5467803.211	732.67	TOP OF PIPE	64	4143973.267	5468130.051	683.96	TOP OF PIPE
24	4144270.861	5467811.006	728.31	TOP OF PIPE	65	4143997.829	5468085.668	685.86	TOP OF PIPE
25	4144252.075	5467818.577	723.67	TOP OF PIPE TIE IN	66	4144009.530	5468064.231	686.92	TOP OF PIPE TIE IN
26	4144254.524	5467816.261	726.68	TOP OF PIPE TIE IN	67	4143990.172	5468053.726	687.68	TOP OF PIPE
27	4144260.407	5467808.025	728.92	TOP OF PIPE TIE IN	68	4144024.005	5468034.944	688.16	TOP OF PIPE
28	4144232.657	5467823.896	719.75	TOP OF PIPE	69	4144043.115	5467994.629	690.20	TOP OF PIPE
29	4144214.451	5467829.109	717.00	TOP OF PIPE	70	4144062.874	5467951.888	692.21	TOP OF PIPE
30	4144191.822	5467834.089	713.28	TOP OF PIPE	71	4144091.078	5467885.015	694.75	TOP OF PIPE
31	4144177.289	5467837.171	710.66	TOP OF PIPE	72	4144093.326	5467879.991	694.98	TOP OF PIPE TIE IN
32	4144161.561	5467842.792	706.85	TOP OF PIPE	73	4144095.253	5467876.223	695.08	TOP OF PIPE TIE IN
33	4144148.904	5467847.972	703.69	TOP OF PIPE	74	4144097.773	5467871.318	695.10	TOP OF PIPE TIE IN
34	4144138.147	5467852.474	701.32	TOP OF PIPE	75	4144106.088	5467873.535	695.01	TOP OF PIPE ELBOW
35	4144074.483	5467820.889	701.58	TOP OF PIPE	76	4144125.845	5467859.448	698.40	TOP OF PIPE
36	4144061.071	5467775.417	711.50	TOP OF PIPE	77	4144076.947	5467829.618	700.13	TOP OF PIPE
37	4144044.545	5467723.546	722.45	TOP OF PIPE CORNER	79	4144084.374	5467851.817	696.15	TOP OF PIPE
38	4144046.506	5467718.755	722.68	TOP OF PIPE	80	4144091.333	5467874.396	695.23	TOP OF PIPE
39	4144066.854	5467673.018	725.05	TOP OF PIPE	81	4143957.507	5468037.059	696.86	TOP OF PIPE
40	4144070.659	5467664.931	725.85	TOP OF PIPE CORNER	82	4143915.901	5468015.941	710.84	TOP OF PIPE
41	4144068.177	5467653.844	727.65	TOP OF PIPE	83	4143872.497	5467993.244	725.79	TOP OF PIPE END



LEGEND

- PERMITTED WASTE LIMITS
- EXISTING CELL WASTE LIMITS
- RECORD AREA C PHASE 3 WASTE LIMITS (10.60 ac.)
- RECORD AREA C PHASE 3 SOIL LINER LIMITS
- RECORD AREA C PHASE 3 ANCHOR TRENCH & TIE-IN TO PHASE 1
- RECORD AREA C PHASE 3 TIE-IN TO PHASE 2
- EXISTING CELL SUBGRADE CONTOURS
- RECORD AREA C PHASE 3 SUBGRADE CONTOURS
- RECORD UNDERDRAIN PIPE ALIGNMENT
- EXISTING UNDERDRAIN PIPE ALIGNMENT
- ⊠10 RECORD UNDERDRAIN PIPE SURVEY POINT

Note:
Horizontal coordinates are based on NAD83 State Plane Ky Single Zone, US Foot
Elevations are based on NAVD83 Vertical Datum.

UNDERDRAIN DETAIL
N.T.S.

LINER SYSTEM DESIGN
N.T.S.

1) Drainage layer material is PermaNet up to elev. 795 ft. on the North slope and elev. 765 ft. on the South slope.
2) Drainage layer material is FabriNet above elev. 795 ft. on the North slope and elev. 765 ft. on the South slope.

60 0 30 60 120 240
(SCALE IN FEET)
1 inch = 60 ft.

RECORD UNDERDRAIN

SPURLOCK STATION LANDFILL
MASON COUNTY, KENTUCKY
PERMIT NO. 081-00005
AREA C, PHASE 3-C
RECORD DRAWINGS

EAST KENTUCKY POWER COOPERATIVE

STATE OF KENTUCKY
6/7/19
SAMUEL T. OAKES
21483
LICENSED PROFESSIONAL ENGINEER

DRAWN BY: CL
CHECKED BY: SMR
CHECKED BY: STO
DATE: JANUARY 2017
SCALE: 1" = 60'

REVISIONS

KENVIRONS, INC.
FRANKFORT, KENTUCKY

PROJECT NO.
2016090

SHEET NO.
1 of 4

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PREVIOUSLY CONSTRUCTED AREA C, PHASE 2

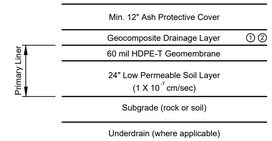
PREVIOUSLY CONSTRUCTED AREA C, PHASE 1

RECORD SUBGRADE

LEGEND

- PERMITTED WASTE LIMITS
- EXISTING CELL WASTE LIMITS
- RECORD AREA C PHASE 3 WASTE LIMITS (10.60 ac.)
- RECORD AREA C PHASE 3 SOIL LINER LIMITS
- RECORD AREA C PHASE 3 ANCHOR TRENCH & TIE-IN TO PHASE 1
- RECORD AREA C PHASE 3 TIE-IN TO PHASE 2
- RECORD AREA C PHASE 3 SUBGRADE CONTOURS
- EXISTING CELL SUBGRADE CONTOURS
- ⊠ 1000 RECORD SUBGRADE CERTIFICATION SURVEY POINT

Note:
Horizontal coordinates are based on NAD83 State Plane Ky Single Zone, US Foot
Elevations are based on NAVD83 Vertical Datum.



LINER SYSTEM DESIGN

N.T.S.

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2) Drainage layer material is FabriNet above elev. 795 ft. on the South slope.

60 0 30 60 120 240
(SCALE IN FEET)
1 inch = 60 ft.

SPURLOCK STATION LANDFILL
MASON COUNTY, KENTUCKY
PERMIT NO. 081-00005
AREA C, PHASE 3-C
RECORD DRAWINGS

EAST KENTUCKY POWER COOPERATIVE

STATE OF KENTUCKY
SAMUEL T. OAKES
21483
LICENSED PROFESSIONAL ENGINEER
6/7/19

DRAWN BY: IDL
CHECKED BY: KMR
CHECKED BY: STO
DATE: JANUARY 2017
SCALE: 1" = 60'
REVISIONS

KENVIRONS, INC.
FRANKFORT, KENTUCKY

PROJECT NO.
2016090

SHEET NO.
2 of 4

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PREVIOUSLY CONSTRUCTED AREA C, PHASE 2

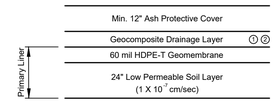
PREVIOUSLY CONSTRUCTED AREA C, PHASE 1

RECORD SOIL LINER

LEGEND

- PERMITTED WASTE LIMITS
- EXISTING CELL WASTE LIMITS
- RECORD AREA C PHASE 3 WASTE LIMITS (10.60 ac.)
- RECORD AREA C PHASE 3 ANCHOR TRENCH & TIE-IN TO PHASE 1
- RECORD AREA C PHASE 3 TIE-IN TO PHASE 2
- RECORD AREA C PHASE 3 SOIL LINER LIMITS
- RECORD AREA C PHASE 3 SUBGRADE CONTOURS
- RECORD AREA C PHASE 3 SOIL LINER CONTOURS
- EXISTING SOIL LINER CONTOURS
- ⊠ 2500 RECORD AREA C PHASE 3 SOIL LINER CERTIFICATION POINT

Note:
Horizontal coordinates are based on NAD83 State Plane Ky Single Zone, US Foot
Elevations are based on NAVD83 Vertical Datum.



LINER SYSTEM DESIGN

N.T.S.

1) Drainage layer material is PermaNet up to elev. 795 ft. on the North slope and elev. 765 ft. on the South slope.
2) Drainage layer material is FabriNet above elev. 795 ft. on the North slope and elev. 765 ft. on the South slope.

(SCALE IN FEET)
1 inch = 60 ft.

SPURLOCK STATION LANDFILL
MASON COUNTY, KENTUCKY
PERMIT NO. 081-00005
AREA C, PHASE 3-C
RECORD DRAWINGS

EAST KENTUCKY POWER COOPERATIVE

COMMONWEALTH OF KENTUCKY
SAMUEL T. OAKES
21483
LICENSED PROFESSIONAL ENGINEER
6/7/19

DRAWN BY: IDL
CHECKED BY: SMR
CHECKED BY: STO
DATE: JANUARY 2017
SCALE: 1" = 60'
REVISIONS

KENVIRONS, INC.
FRANKFORT, KENTUCKY

PROJECT NO.
2016090

SHEET NO.
3 of 4

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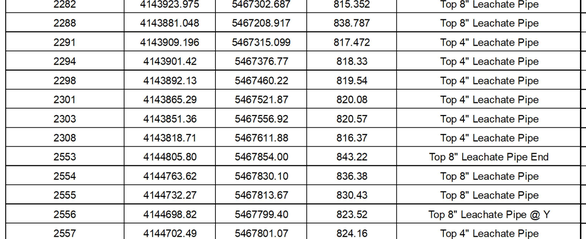
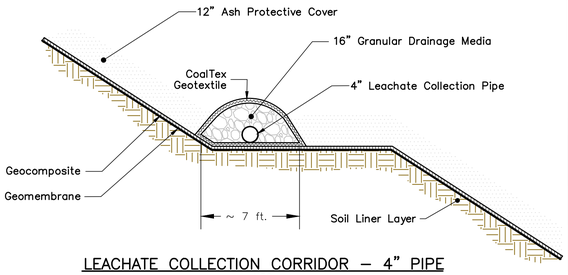
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
2278	4143974.467	5467422.365	793.735	Top 8" Leachate Pipe
2280	4143949.031	5467356.52	805.392	Top 8" Leachate Pipe
2282	4143923.975	5467302.687	815.352	Top 8" Leachate Pipe
2288	4143881.048	5467208.917	838.787	Top 8" Leachate Pipe
2291	4143909.196	5467315.099	817.472	Top 4" Leachate Pipe
2294	4143901.42	5467376.77	818.33	Top 4" Leachate Pipe
2298	4143892.13	5467460.22	819.54	Top 4" Leachate Pipe
2301	4143865.29	5467521.87	820.08	Top 4" Leachate Pipe
2303	4143851.36	5467556.92	820.57	Top 4" Leachate Pipe
2308	4143818.71	5467611.88	816.37	Top 4" Leachate Pipe
2553	4144805.80	5467854.00	843.22	Top 8" Leachate Pipe End
2554	4144763.62	5467830.10	836.38	Top 8" Leachate Pipe
2555	4144732.27	5467813.67	830.43	Top 8" Leachate Pipe
2556	4144698.82	5467799.40	823.52	Top 8" Leachate Pipe @ Y
2557	4144702.49	5467801.07	824.16	Top 4" Leachate Pipe
2558	4144692.68	5467814.84	826.13	Top 4" Leachate Pipe
2563	4144607.00	5467767.09	805.63	Top 8" Leachate Pipe
2565	4144645.53	5467778.46	812.51	Top 8" Leachate Pipe
2566	4144675.13	5467789.67	818.35	Top 8" Leachate Pipe
2567	4144677.10	5467822.37	826.33	Top 4" Leachate Pipe
2568	4144636.43	5467827.44	826.25	Top 4" Leachate Pipe
2569	4144595.48	5467833.18	826.61	Top 4" Leachate Pipe
2570	4144579.66	5467836.49	827.12	Top 4" Leachate Pipe
2571	4144569.98	5467841.21	827.45	Top 4" Leachate Pipe
2573	4144540.37	5467877.38	828.02	Top 4" Leachate Pipe
2574	4144516.89	5467908.28	828.64	Top 4" Leachate Pipe
2575	4144498.20	5467931.21	828.71	Top 4" Leachate Pipe
2576	4144487.24	5467948.44	828.76	Top 4" Leachate Pipe
2577	4144480.96	5467963.18	828.63	Top 4" Leachate Pipe
2579	4144474.09	5467985.96	827.50	Top 4" Leachate Pipe End
11221	4144101.16	5467852.63	703.13	Leachate Collection Pipe
11222	4144083.586	5467802.785	711.042	Leachate Collection Pipe
11223	4143847.373	5467879.601	761.793	Leachate Collection Pipe
11224	4143868.437	5467834.127	761.761	Leachate Collection Pipe
11225	4143893.819	5467770.946	761.452	Leachate Collection Pipe
11226	4143929.597	5467721.607	760.702	Leachate Collection Pipe
11227	4143995.819	5467637.141	759.354	Leachate Collection Pipe
11228	4144030.472	5467570.675	757.817	Leachate Collection Pipe
11229	4144242.079	5467837.572	732.524	Leachate Collection Pipe
11230	4144216.786	5467951.793	733.918	Leachate Collection Pipe
11231	4144202.329	5468070.105	735.082	Leachate Collection Pipe

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
11232	4144187.956	5468179.889	735.812	Leachate Collection Pipe
11233	4144067.878	5467737.089	725.485	Leachate Collection Pipe
11234	4144080.608	5467690.857	727.928	Leachate Collection Pipe
11235	4144038.678	5467566.578	756.703	Leachate Collection Pipe Junction
11236	4144009.354	5467496.544	779.045	Leachate Collection Pipe Junction
11237	4144009.438	5467496.532	779.024	Leachate Collection Pipe
11238	4144232.438	5467789.829	727.231	Leachate Collection Pipe
11239	4144291.789	5467792.729	741.172	Leachate Collection Pipe
11240	4144248.279	5467792.407	729.366	Leachate Collection Pipe
11241	4144104.296	5467864.408	702.644	Leachate Collection Pipe Wye
11242	4144058.752	5467964.265	698.37	Wye Tie-In to Existing Pipe
11243	4143954.156	5468160.761	690.175	Solid Pipe/ Penetration Assembly
11248	4143997.658	5468079.925	694.566	Leachate Collection Pipe
11257	4144190.791	5467819.056	725.327	Leachate Collection Pipe
11263	4144251.5	5467774.128	729.581	Tie-In To Existing Leachate Pipe
11318	4144375.814	5467746.696	756.247	Top 8" Leachate Pipe
11319	4144413.23	5467737.41	765.073	Top 8" Leachate Pipe
11320	4144438.673	5467740.237	772.531	Top 8" Leachate Pipe
11321	4144469.555	5467744.261	780.397	Top 8" Leachate Pipe
11322	4144476.185	5467744.564	781.81	Top 8" Leachate Pipe
11323	4144477.638	5467746.261	782.813	Top 8" Leachate Pipe
11324	4144478.422	5467747.292	783.194	Top 8" Leachate Pipe Connector To 4"
11325	4144479.618	5467745.006	782.584	Top 8" Leachate Pipe
11326	4144508.153	5467746.572	788.697	Top 8" Leachate Pipe
11327	4144533.04	5467750.433	792.352	Top 8" Leachate Pipe
11328	4144564.088	5467757.034	797.831	Top 8" Leachate Pipe
11329	4144480.477	5467750.132	784.482	Top 4" Leachate Pipe
11330	4144482.647	5467759.417	787.49	Top 4" Leachate Pipe
11331	4144479.41	5467771.729	789.669	Top 4" Leachate Pipe
11332	4144463.529	5467792.389	789.631	Top 4" Leachate Pipe
11333	4144444.667	5467815.609	789.872	Top 4" Leachate Pipe
11334	4144423.595	5467839.785	789.908	Top 4" Leachate Pipe
11335	4144411.155	5467856.12	790.178	Top 4" Leachate Pipe
11336	4144401.53	5467871.953	790.285	Top 4" Leachate Pipe
11337	4144392.053	5467894.798	790.473	Top 4" Leachate Pipe
11338	4144383.905	5467922.826	790.744	Top 4" Leachate Pipe
11339	4144377.293	5467949.454	791.01	Top 4" Leachate Pipe
11340	4144370.107	5467979.221	791.416	Top 4" Leachate Pipe
11341	4144365.14	5467996.975	791.551	Top 4" Leachate Pipe
11342	4144361.382	5468011.637	791.892	Top 4" Leachate Pipe
11343	4144359.137	5468020.304	790.629	Top 4" Leachate Pipe
11344	4144357.615	5468026.155	788.25	Top 4" Leachate Pipe



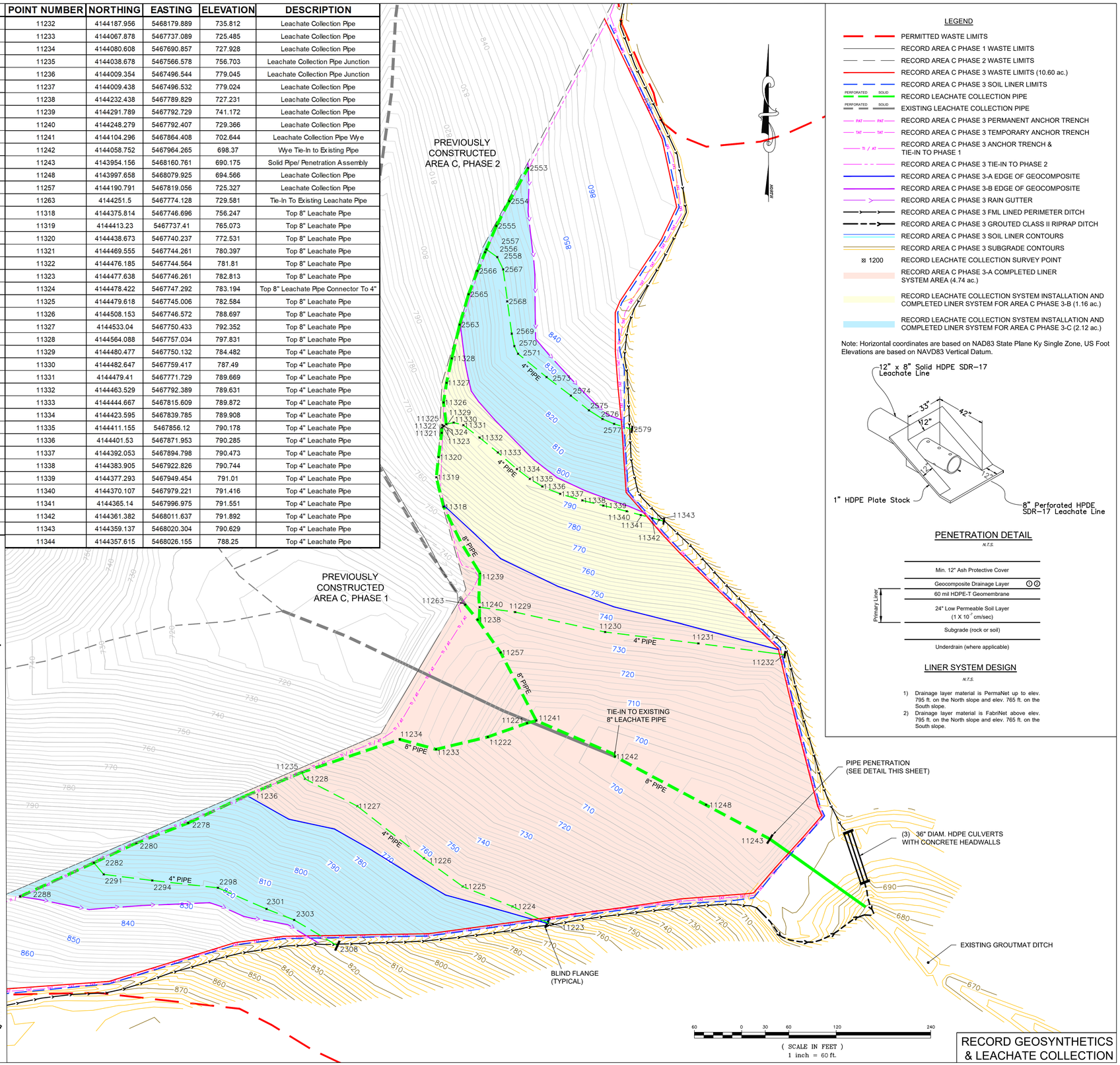
LEACHATE COLLECTION CORRIDOR – 8" PIPE

N.T.S.



LEACHATE COLLECTION CORRIDOR – 4" PIPE

N.T.S.



LEGEND

- PERMITTED WASTE LIMITS
- RECORD AREA C PHASE 1 WASTE LIMITS
- RECORD AREA C PHASE 2 WASTE LIMITS
- RECORD AREA C PHASE 3 WASTE LIMITS (10.60 ac.)
- RECORD AREA C PHASE 3 SOIL LINER LIMITS
- RECORD LEACHATE COLLECTION PIPE (PERFORATED / SOLID)
- EXISTING LEACHATE COLLECTION PIPE (PERFORATED / SOLID)
- RECORD AREA C PHASE 3 PERMANENT ANCHOR TRENCH (PAT)
- RECORD AREA C PHASE 3 TEMPORARY ANCHOR TRENCH (TAT)
- RECORD AREA C PHASE 3 ANCHOR TRENCH & TIE-IN TO PHASE 1 (TI / AT)
- RECORD AREA C PHASE 3 TIE-IN TO PHASE 2
- RECORD AREA C PHASE 3-A EDGE OF GEOCOMPOSITE
- RECORD AREA C PHASE 3-B EDGE OF GEOCOMPOSITE
- RECORD AREA C PHASE 3 RAIN GUTTER
- RECORD AREA C PHASE 3 FML LINED PERIMETER DITCH
- RECORD AREA C PHASE 3 GROUTED CLASS II RIPRAP DITCH
- RECORD AREA C PHASE 3 SOIL LINER CONTOURS
- RECORD AREA C PHASE 3 SUBGRADE CONTOURS
- ⊠ 1200 RECORD LEACHATE COLLECTION SURVEY POINT
- RECORD AREA C PHASE 3-A COMPLETED LINER SYSTEM AREA (4.74 ac.)
- RECORD LEACHATE COLLECTION SYSTEM INSTALLATION AND COMPLETED LINER SYSTEM FOR AREA C PHASE 3-B (1.16 ac.)
- RECORD LEACHATE COLLECTION SYSTEM INSTALLATION AND COMPLETED LINER SYSTEM FOR AREA C PHASE 3-C (2.12 ac.)

Note: Horizontal coordinates are based on NAD83 State Plane Ky Single Zone, US Foot Elevations are based on NAVD83 Vertical Datum.

PENETRATION DETAIL

N.T.S.

LINER SYSTEM DESIGN

N.T.S.

1) Drainage layer material is PermaNet up to elev. 795 ft. on the North slope and elev. 765 ft. on the South slope.
2) Drainage layer material is FabriNet above elev. 795 ft. on the North slope and elev. 765 ft. on the South slope.

SPURLOCK STATION LANDFILL
MASON COUNTY, KENTUCKY
PERMIT NO. 081-00005
AREA C, PHASE 3-C
RECORD DRAWINGS

EAST KENTUCKY POWER COOPERATIVE

STATE OF KENTUCKY SAMUEL T. OAKES 21462 LICENSED PROFESSIONAL ENGINEER 6/7/19

DRAWN BY: KPJ
CHECKED BY: SMR
CHECKED BY: STO
DATE: MAY 2019
SCALE: 1" = 60'

REVISIONS

KENVIRONS, INC.
FRANKFORT, KENTUCKY

PROJECT NO.
2016090

SHEET NO.
4 of 4

RECORD GEOSYNTHETICS & LEACHATE COLLECTION

N:\P\2016090\RECORD DRAWINGS & SURVEYING\04_RECORD GEOSYNTHETICS AND LEACHATE COLLECTION_PHASE 3-C_CCR DESIGN CERT_060719.dwg, 8/8/2019 5:47:05 PM