

PPPO-02-10006249-20B



Department of Energy

Portsmouth/Paducah Project Office 1017 Majestic Drive, Suite 200 Lexington, Kentucky 40513 (859) 219-4000

June 17, 2020

Ms. Jamie Nielsen, Supervisor Permit Administration Section Division of Waste Management, Solid Waste Branch Kentucky Department for Environmental Protection 300 Sower Boulevard, 2nd Floor Frankfort, Kentucky 40601

Dear Ms. Nielsen:

2020 ANNUAL SURVEY FOR THE PADUCAH GASEOUS DIFFUSION PLANT C-746-U CONTAINED LANDFILL, PERMIT NUMBER 073-00045, AGENCY **INTEREST NO. 3059**

Enclosed is the certified Paducah Gaseous Diffusion Plant's 2020 Solid Waste Landfill Annual Survey Form, DEP 8059 (6/10), and associated cross-section drawings for Kentucky Division of Waste Management (KDWM) information, as required by 401 KAR 47:190 § 8(2) (Enclosures 1, 2, and 3).

Four Rivers Nuclear Partnership, LLC, completed field work in support of the Annual Survey on April 28, 2020.

On May 11, 2020, the U.S. Department of Energy (DOE) discussed with KDWM item numbers (Nos.) 32 and 33 on Form DEP 8059 (6/10). For item No. 32, DOE discussed with KDWM that no waste limits have been exceeded horizontally or vertically; therefore, the box on Page 4 should not be checked "Yes." DOE does acknowledge that the cover material exceeds the permitted final grade at Station 15+00. This cover material is identified appropriately on the annual survey drawing with an explanation that the material will be removed prior to closure.

DOE is also providing the enclosed summary table (Enclosure 4) requested in item No. 33 containing the beginning and ending location of any cover material exceedances (left or right of the baseline) and the total amount of cover material to be removed in order to construct the final cap. The summary table was prepared using the average end area method to calculate the amount of soil to be removed prior to final cap installation. There are no differences in cover material exceedances between the 2019 and 2020 survey contours. Therefore, the reported values submitted to KDWM for the 2019 annual landfill survey are reflected in Enclosure 4.

During the May 11, 2020, conference call, KDWM requested additional detail in answering line item No. 35 of Form DEP 8059 (6/10). The rate of compaction was calculated by dividing the quantity of waste received since the last survey (1,210.07 tons) by the difference between the filled airspace from the 2019 landfill survey (133,594.4 cubic yards) and the 2020 landfill survey (136,118.8 cubic yards), rounded to the nearest tenth of cubic yard. The reported rate of compaction is 959 lbs. per cubic yard, rounded to the nearest whole number.

To assist in the review, the previously submitted C-746-U Landfill Phases R3 figure, Drawing C7DC7460UA001 R9, and Drawing C5E-59701-K10 RB are included (Enclosures 5, 6, and 7).

If you have any questions or require additional information, please contact David Dollins at (270) 441-6819.

Sincerely,

Jennifer Woodard
Paducah Site Lead

Portsmouth/Paducah Project Office

Enclosures:

- 1. 2020 Annual Survey Form DEP 8059 (6/10)
- 2. C-746-U Landfill 2020 Annual Landfill Survey Drawings
- 3. Certification Page
- 4. "Volume of Soil to be Removed Prior to Final Cap Construction"
- 5. C-746-U Landfill Phases R3
- 6. Engineering Drawing C7DC7460UA001 R9
- 7. Engineering Drawing C5E-59701-K10 RB

cc w/enclosures:

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Form DEP 8059 (06/10) Page 1 of 5



ENERGY AND ENVIRONMENT CABINET

DEPARTMENT FOR ENVIRONMENTAL PROTECTION DIVISION OF WASTE MANAGEMENT 200 FAIR OAKS LANE, SECOND FLOOR FRANKFORT, KY 40601 TELEPHONE NUMBER (502) 564-6716

Solid Waste Landfill Annual Survey Form DEP 8059 (6/10)

(To be submitted in conjunction with the annual survey report required by 401 KAR 47:190, Section 8)

Statutes and regulations may be viewed online at the following website address: http://www.lrc.ky.gov/search.htm

Solid waste application forms are available at the following website address: http://www.waste.ky.gov

DWM OFFICAL USE ONLY				
AI#:	Application #:			



Form DEP 8059 (06/10) Page 2 of 5

GENERAL INSTRUCTIONS

1. APPLICABILITY - The owner or operator of a contained, construction and demolition or residual landfill shall complete, and submit the following reporting forms as listed in 401 KAR 47:190, Section 8(4).

- 2. ASSISTANCE Questions regarding this form may be directed in writing to the Division of Waste Management (DWM), Solid Waste Branch at the address listed above, or by calling (502) 564-6716.
- 3. SUBMISSION Please type or print legibly in permanent ink. Submit the original and one copy of the completed form to the DWM at the address listed above. If an item is not applicable to your facility write "N/A" in the space provided.
- 4. LAWS AND REGULATIONS Applicants are expected to understand and comply with all laws and regulations applicable to the facility.

To assist you in the submittal of a complete and accurate report, the DWM has identified the most common errors found during the review process. These errors are listed below for your convenience.

- 1. Failure to complete the report. Required maps, attachments, and supplemental data must be submitted with this report.
- 2. Failure to properly sign the report and drawings. An individual with signature authority for the applicant as defined by KRS 224.01-010(44) and 401 KAR 47:160 must sign the appropriate signature section of the form. Maps and drawings must be signed, dated and sealed by a professional engineer or professional land surveyor.
- 3. Failure to provide appropriate attachments, maps, drawings and narratives of sufficient detail.

NOTE: Solid Waste Regulations require the landfill owner or operator to notify the cabinet no less than fifteen (15) calendar days prior to the date the survey is to be conducted. Additionally, the annual survey is required to be made between January 1 and May 1 each year. The results of the survey must be submitted to the cabinet within sixty (60) days of the date of the survey unless aerial photography is used. If aerial photography is used, the results must be submitted within ninety (90) days of the aerial photography. Refer to 401 KAR 47:190, Section 8(2) for additional requirements for annual surveys.

Warning! Due to the potential for identity theft, do not provide social security numbers to the DWM as part of this application. If this information is required during the normal course of review of the application, a cabinet representative will contact the appropriate individual to acquire this information in a secure format.



Permittee Information

1. Agency Interest #: 3059

2. Permit #: 073 - 00045

Page 3 of

3. Permittee Name: Owner: U.S. Department of Energy

(This refers to the corporation, LLC, business, person, government agency, etc., that owns or operates the facility.)

4. Permittee Mailing Address: Four Rivers Nuclear Partnership, LLC; 5511 Hobbs Road

5. City: Kevil

6. State: KY **7.** Zip Code: 42053

8. Contact Person: Gary Hines

9. Title: Landfill Manager

10. E-mail Address: gary.hines@pad.pppo.gov

11. Phone #: 270-441-6211 ext. N/A

12. Cell #: 270 - 816 - 4164

13. Fax #: 270-441-6303

Preparer Information

14. Firm Name: Soldier Creek Engineering and Technical Services, LLC

15. Mailing Address: 459 Soldier Creek Road

16. City: Kirksey

17. State: KY **18.** Zip Code: 42054

19. Individual Name: Keith Thorn

20. E-mail Address: keith.thorn@soldiercreekengineering.com

21. Phone #: 270 - 462 - 4600 ext. N/A

22. Cell #: 270 - 556 - 5501

23. Fax #: N/A -

24. Name of licensed person performing survey: Mitchell Stewart, P.L.S. Number 3237

a. Firm - KY P. E. License No.: N/A

Expires: - -

b. Individual - KY P. E. License No.: N/A

Expires: -

c. Firm - KY L. S. License No.: 942

Expires: 12 - 31 - 2020

d. Individual - KY L. S. License No.: 3237

Expires: 6 - 30 - 2020



Form DEP 8059 (06/10) Page 4 of 5

Facility Information

25.	Date of	of	current	over-fli	ght /	survey:	4 -	- 28	-	20)2(0
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- 26. Date of last over-flight / survey: 4 16 2019
- 27. Number of days between over-flights / surveys: 378
- **28.** Total permitted landfill airspace in cubic yards: 1,179,420 C.Y.
- **29.** FILLED airspace as of this date in cubic yards: 136,119 C.Y.
- **30.** Subtract Item 28 from Item 29 to obtain remaining airspace in cubic yards: 1,043,301 C.Y.
- 31. Provide the necessary Cross-sections, maps or drawings
- **32.** Have any waste limits been exceeded horizontally or vertically? Yes No
- **33.** If the answer to Item 32 is "yes", provide a summary description of the area(s) where the waste boundary or limits have been exceeded. Include, in this summary, a description of the specific locations or areas exceeded, along with volume calculations specifying the amount, in cubic yards, filled outside the permitted airspace. Clearly delineate the areas on the cross sections that must accompany this submittal.

N/A

34. Provide the quantity of waste (in tons) disposed per day by dividing the number of days since the last survey by the waste (in tons) received for the number of days to the date of this annual survey (based on 365 calendar days per year).

3.20 Tons Per Day

Example: ABC Landfill conducts its current annual survey on April 1. The last survey was done on March 15 of the previous year.

Total days between March 15 of 1998 and April 1 of 1999: 365+16=381 days

During the time period from March 15 of the previous year to April 1 of the current year, ABC Landfill disposed of 381,000 tons of all wastes.

Divide 381,000 tons by 381 days.

Thus the ABC Landfill disposed of an average of 1,000 tons of waste per day.



35. Provide the rate of compaction of waste by subtracting the volume of airspace consumed since the last annual survey and dividing the resulting figure by the pounds of waste received since the date of the last survey.

959 lbs/ C.Y.

Example: In the previous example, if 381,000 tons of waste was received between March 15, 1998 and April 1, 1999. During that time period, 481,234 CY were filled.

$$\frac{\text{(\# TONS) (2,000 lbs)}}{\text{C.Y.}} = \frac{\text{(381,000)(2,000)}}{481,234} = 1,583.43 \text{ lbs/ C.Y.}$$

The landfill achieved a compaction rate of 1,583 lbs per cubic yards.

Certification

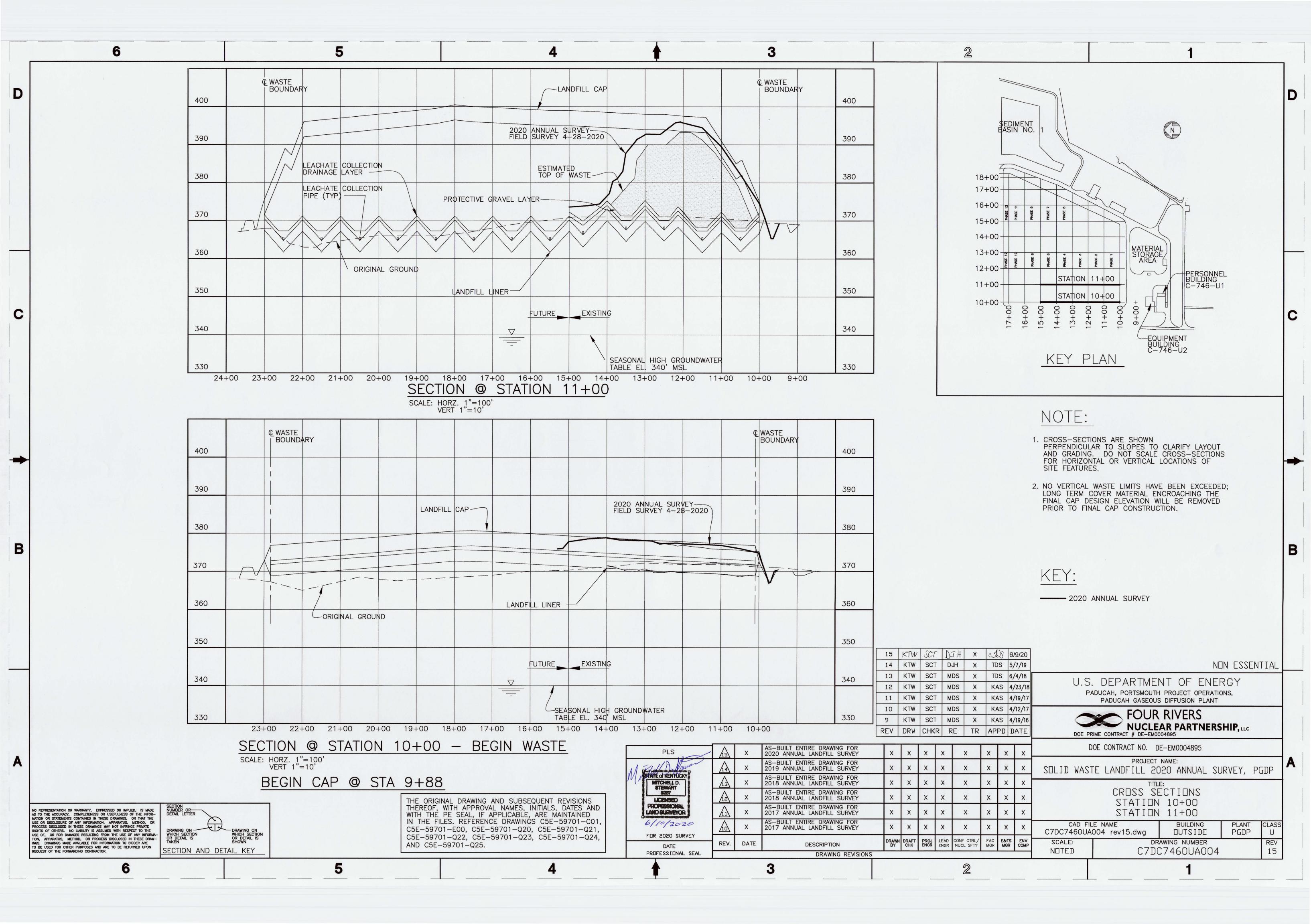
36. Pursuant to 401 KAR 47:160, Section 6, a person with signature authority such as a sole proprietor, owner, partner, corporate officer, plant manager, LLC member, mayor, county judge executive or other authorized official must sign this certification statement.

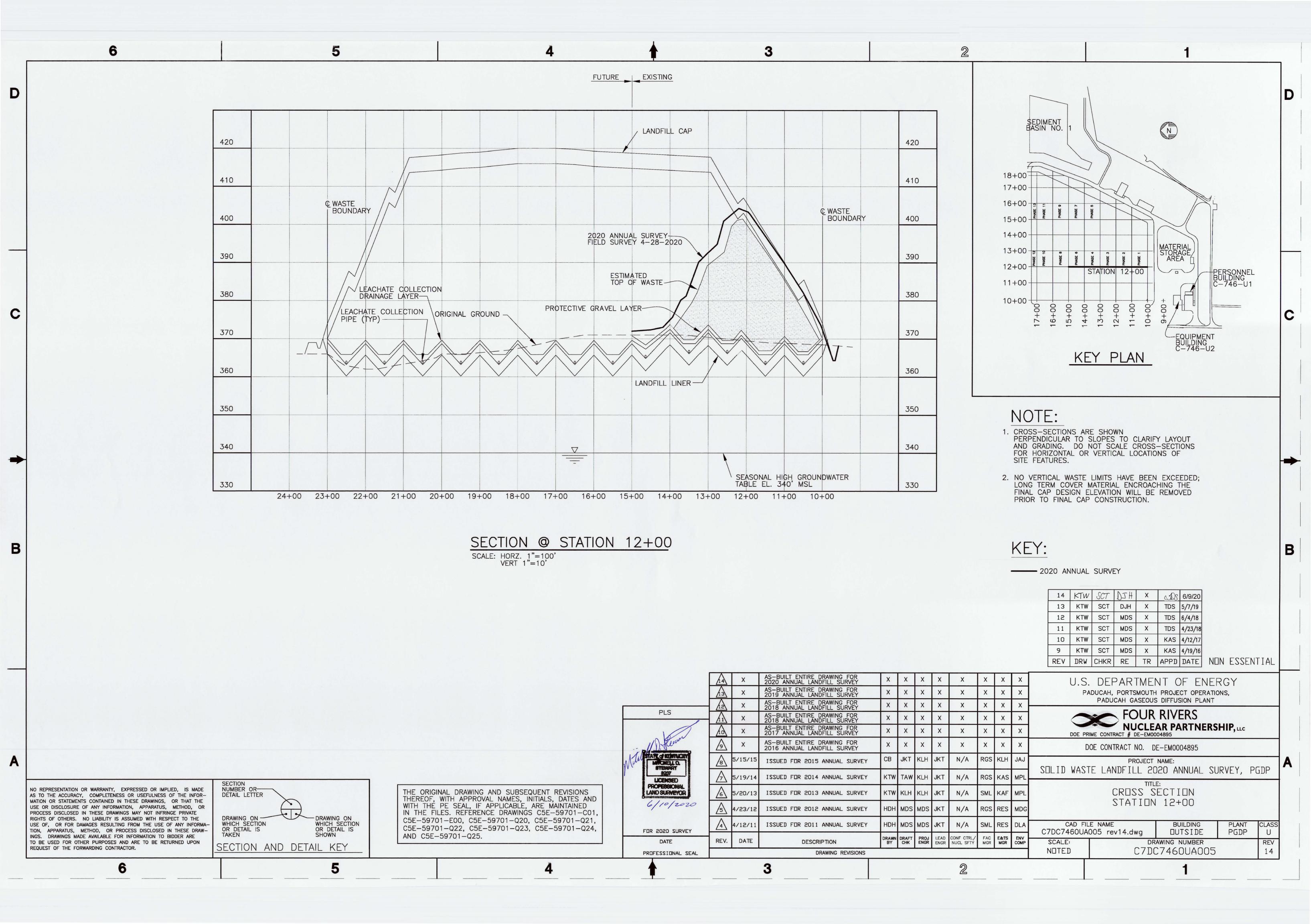
NOTE: Consultants may not sign the following certification statement.

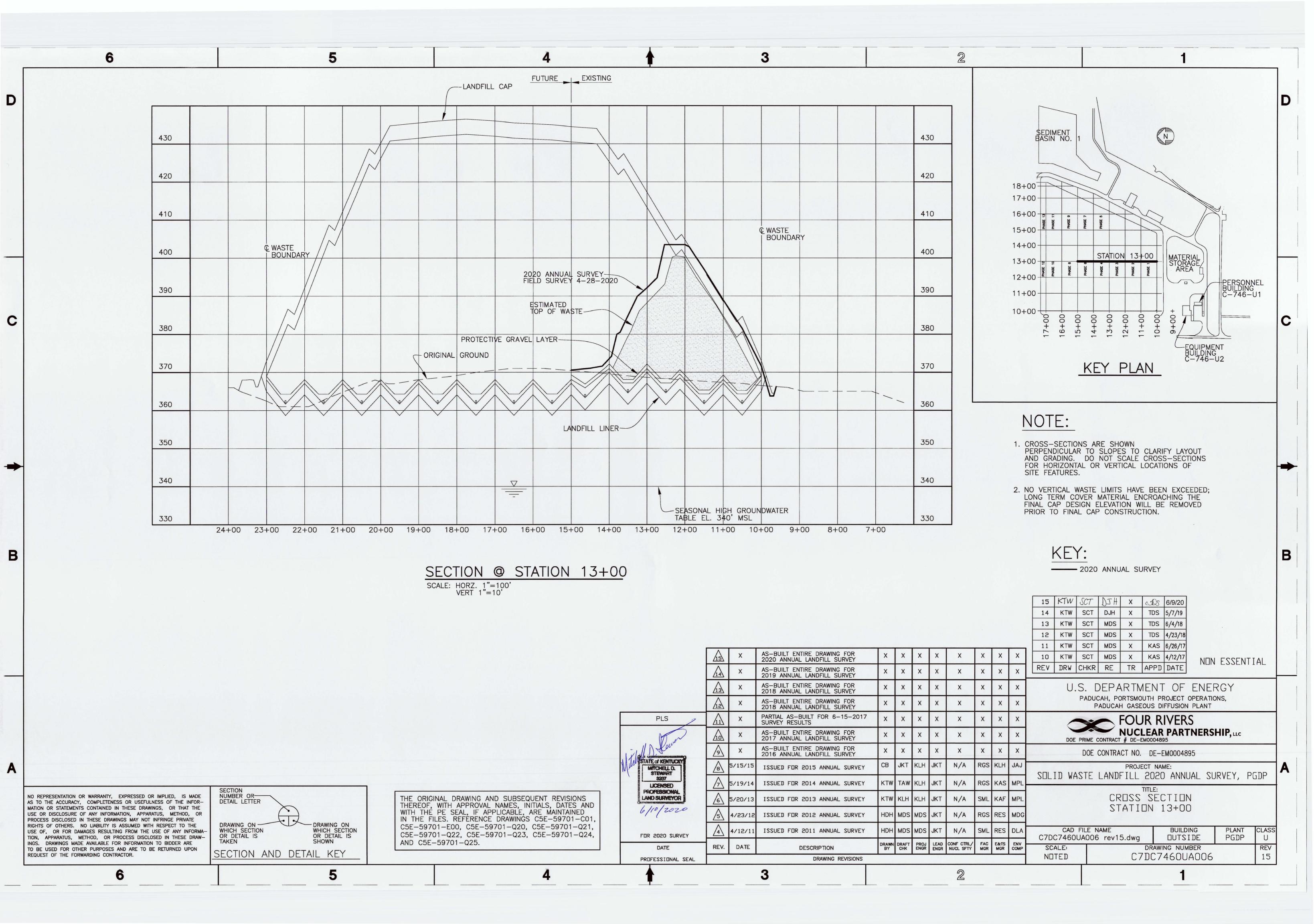
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for such violations."

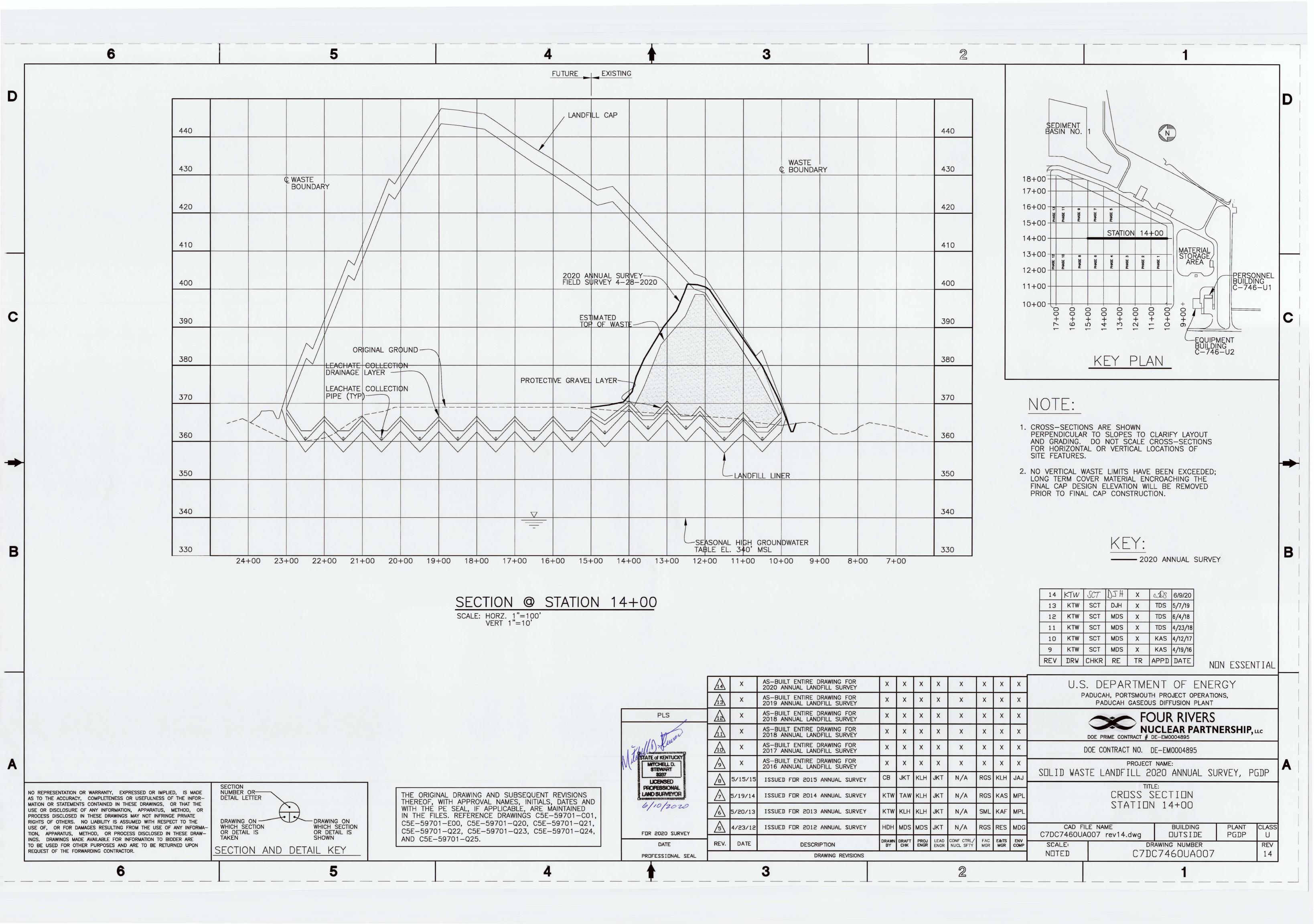
Name of Person Signing (type or print): Wygwa E. Radfield
Title of Person Signing: Program Marager Date: 6 - 16 - 2020
Signature per 401 KAR 47:160: Wheele Signature per 401 KAR 47:160:
Subscribed and sworn to before me this 16th day of July , Year 20 70
Notary Public Signature: Dala Rower # 609500
State of AV County of STATE AT I MAT My commission expires: 10 22-202

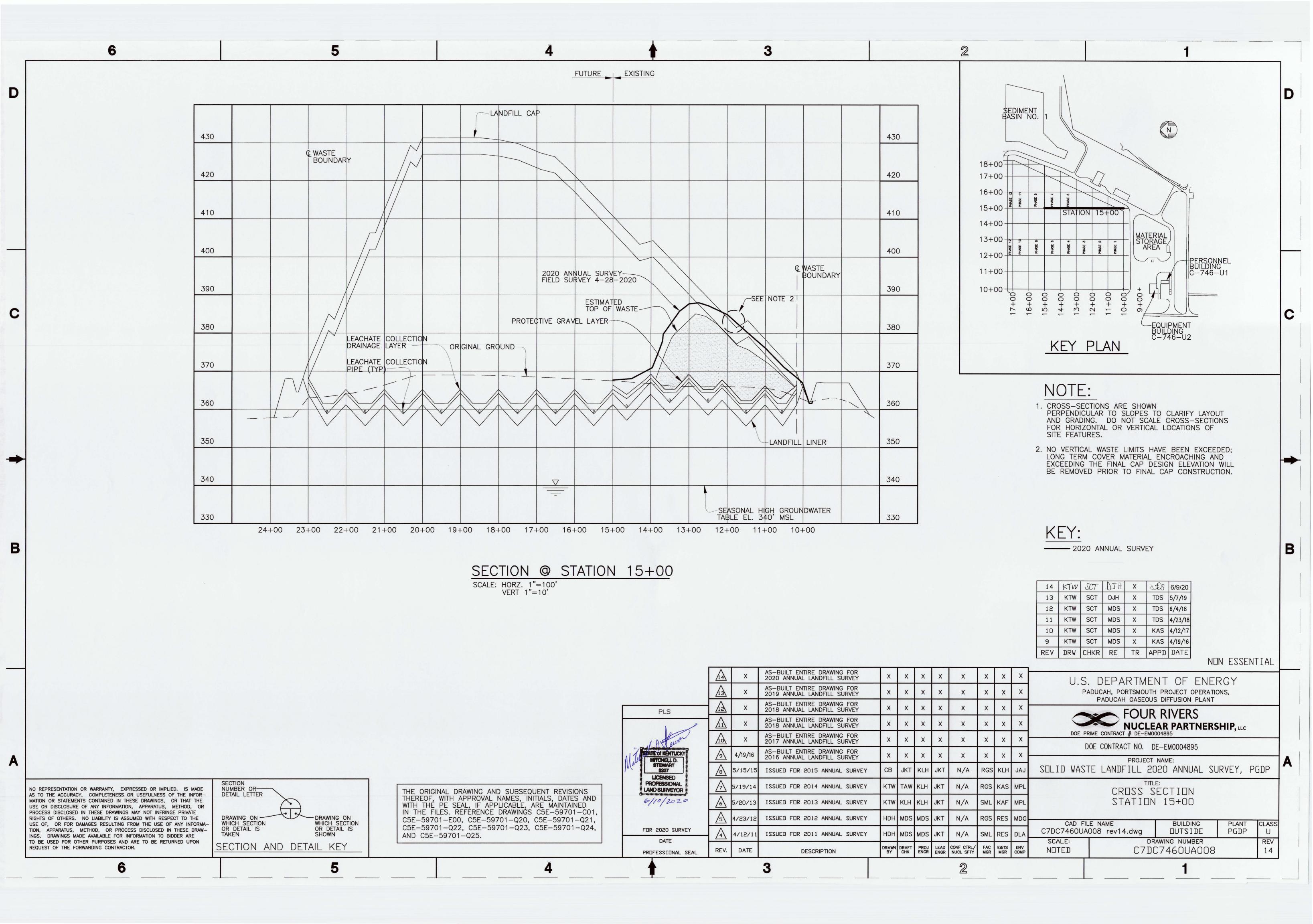


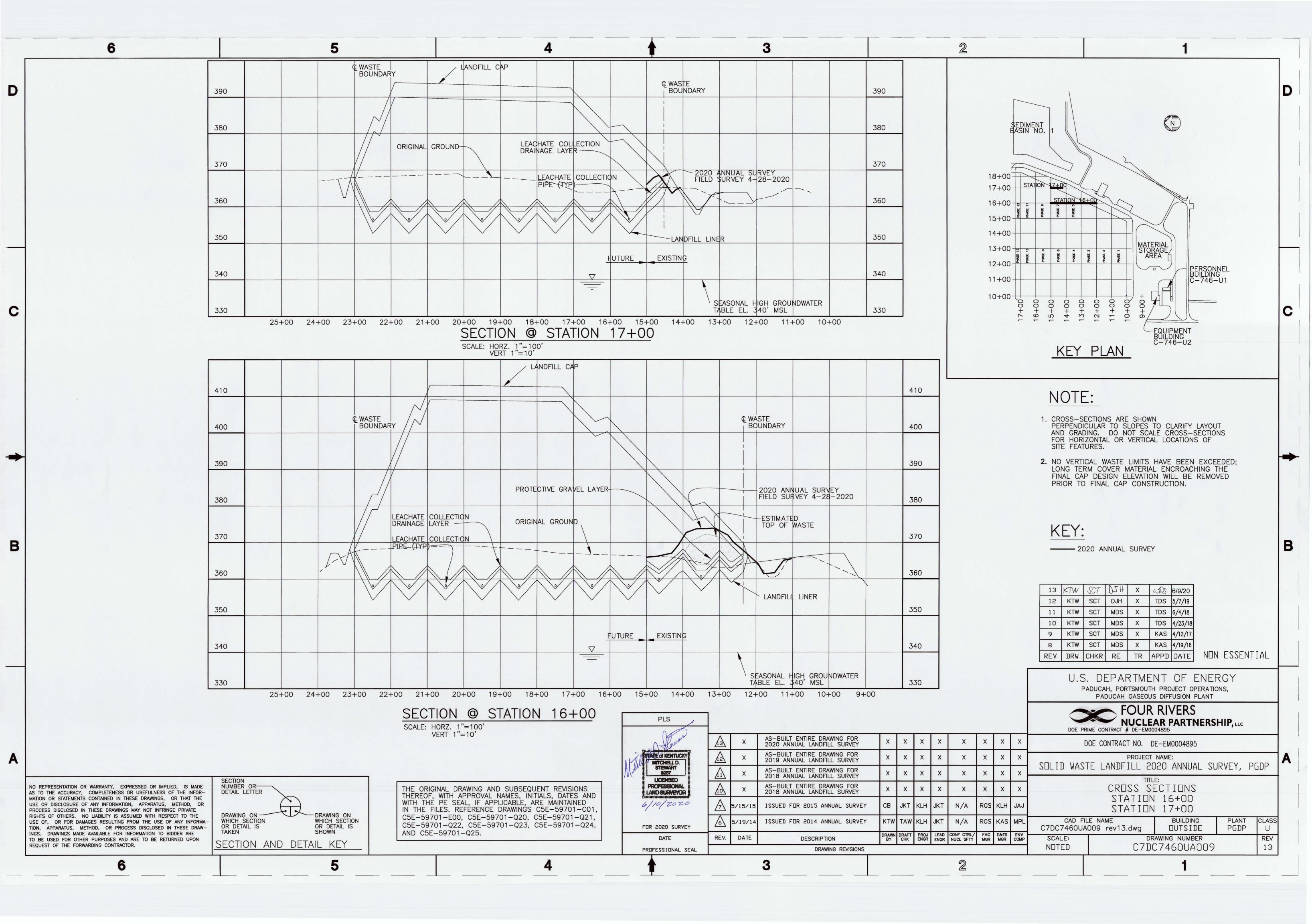












CERTIFICATION

Document Identification:

2020 Annual Survey for the Paducah Gaseous Diffusion Plant C-746-U Contained Landfill, Permit Number 073-00045, Agency Interest No. 3059

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for such violations.

Four Rivers Nuclear Partnership, LLC Permittee (Operator)

Myrna E Redfield, Program Manager Four Rivers Nuclear Partnership, LLC Date Signed

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for such violations.

U.S. Department of Energy

Vennifer Woodard, Paducah Site Lead Portsmouth/Paducah Project Office

U.S. Department of Energy

6/16/2020

Date Signed

PGDP C-746-U Landfill Volume of Soil to be Removed Prior to Final Cap Construction

The Landfill is referenced to a Transit Line (TL) that is oriented North/South and a Base Line (BL) that is oriented East/West.

The TL stations are used herein to provide a reference to the beginning and ending locations of the exceedances shown in the cross-section drawings which are cut at each BL Station.

Cross-section	Beginning Point	Ending Point	Volume of Soil		
			to be Removed		
			(CY)		
BL STA 10+00	TL STA 10+00	TL STA 14+00			
			3184		
BL STA 11+00	TL STA 10+04	TL STA 12+41			
			1863		
BL STA 12+00	TL STA 10+04	TL STA 12+35			
			2519		
BL STA 13+00	TL STA 10+03	TL STA 12+46			
			2331		
BL STA 14+00	TL STA 10+04	TL STA 12+32			
			1910		
BL STA 15+00	TL STA 10+23	TL STA 12+74			
			1155		
BL STA 16+00	TL STA 12+41	TL STA 13+03			
			98		
BL STA 16+50	TL STA 13+44	TL STA 13+70			
Total Volume of Soil to	13060				

