

July 6, 2021

Mr. Craig Stires, P.E.
Stires Associates, P.A.
43 West High Street
Somerville, New Jersey 08876
(908) 725-0230

RE: Aquatic Resource Investigation Results
Canal Road Solar Array
Lot 6.02, Block 516
Franklin Township, Somerset County, NJ
RETTEW Project No. 108322044

Dear Mr. Stires:

An aquatic resources investigation of the subject project area was conducted on May 18, 2021 by a qualified environmental scientist. The investigation was completed to determine if any portion of the referenced area satisfies criteria for designation as wetlands, streams, and/or wetland transition areas as regulated by the New Jersey Freshwater Wetlands Protection Act.

The evaluation was conducted utilizing the wetlands determination methodology required by the New Jersey Department of Environmental Protection (NJ DEP) in accordance with the New Jersey Freshwater Wetlands Protection Act (NJAC 7:7A).

Upon completed of the field investigation, it was determined four wetlands and two streams occur within the area of investigation (AOI). Review of the delineated resources and associated buffers and transition areas was conducted in relation to the proposed improvements. It was determined that the project will avoid all streams, wetlands, transition areas, and buffers for the project. Details from the investigation are included in the ***Aquatic Resource Investigation Memorandum*** that is enclosed immediately following this letter.

Sincerely,



Ryan S. Coleman, CPESC
Environmental Scientist

Enclosures



AQUATIC RESOURCE INVESTIGATION

PREPARED FOR

CANAL ROAD SOLAR PARTNERS, LLC
MECHANICSBURG, PENNSYLVANIA

RETTEW Project No. 108322044
JULY 2021



Jason David Wert
Licensed Professional Engineer
24GE04621800



Prepared by
RETTEW Associates, Inc.
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Allentown, PA 18101
800.738.8395
rettew.com
Certificate of Authorization:
24GA27986600

MEMORANDUM

TO: File

FROM: Ryan S. Coleman, CPESC

DATE: May 26, 2021

PROJECT NAME: Canal Road Solar Array **PROJECT NO.** 108322044

SUBJECT: Aquatic Resource Investigation

INTRODUCTION

An aquatic resource investigation of the proposed Canal Road Solar Array project was conducted on May 18, 2021 by a qualified environmental scientist from RETTEW Associates, Inc. The proposed project includes the construction of various solar arrays on the New Jersey American Water property. The proposed project is in Franklin Township, Somerset County, New Jersey (**Attachment A, Figure 1**). The area of investigation (AOI) for the project included approximately 68.56 acres, which includes the existing developed facility and undeveloped areas on the property. Locations of all features identified within the AOI are shown on **Attachment A, Figure 2**.

METHODS

The stream investigation was done in accordance with Section 404 of the Clean Water Act (CWA), which defines the landward limit of jurisdiction as the ordinary high-water mark within the limit of non-tidal waters. Wetland delineation procedures followed the protocol described in the January 1989 *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*. This investigation was conducted utilizing the wetlands determination methodology required by the New Jersey Department of Environmental Protection (NJ DEP) in accordance with the New Jersey Freshwater Wetlands Protection Act (NJAC 7:7A). Locations that met the parameters defining a wetland, hydrophytic vegetation, hydric soils, and wetland hydrology, were field located and described. Stream and wetland boundaries were surveyed using a Trimble Geo 7X Global Positioning System (GPS) unit with sub-meter accuracy.

RESULTS

Upon completion of the existing documentation review and field investigation, RETTEW determined four wetlands and two streams occur within the AOI. Please refer to **Attachment A, Figure 2** for an aerial view of the site, which includes resource, photograph, and sample point locations. Representative site photographs are provided in **Attachment B**. The sample points collected within the AOI were recorded on the Routine Onsite Determination Method Data Forms provided in **Attachment C**.

Uplands

Upland habitats in the AOI consisted primarily of developed areas, maintained lawn, fallow fields, stormwater facilities, and deciduous forest. Upland conditions within undeveloped areas of the AOI were recorded at four sampling points. **Table 1** provides a list of upland sampling point numbers and habitat types. These sampling points documented vegetation, soils, and hydrology of upland habitats in the AOI. Sampling point locations are illustrated on **Attachment A, Figure 2**.



Table 1. Uplands located within the Project AOI.	
Representative Sampling Point	Habitat Type
SP-1	Fallow Field
SP-2	Forest
SP-4	Fallow Field
SP-5	Fallow Field

Wetlands

A total of four wetlands were delineated within the AOI. Two palustrine emergent (PEM) wetlands and two wetlands which were comprised of PEM and palustrine forested (PFO) habitats were identified. **Table 2** provides a summary of each wetland identified. Specific information on vegetation, soils, and wetland hydrology for each wetland is documented on Routine Onsite Determination Method Data Forms provided in **Attachment C**.

Table 2. Wetlands located within the Project AOI.		
Project Wetland ID	Representative Sampling Point	Wetland Type
W-1	SP-3	PEM/PFO
W-2	SP-6	PEM/PFO
W-3	SP-6	PEM
W-4	SP-6	PEM

The representative sampling points were recorded in the field to document vegetated wetland habitats. Vegetated wetlands included PFO wetlands, which are comprised of hydrophytic trees, shrubs, and herbaceous species, and PEM wetlands, which are dominated by herbaceous hydrophytes. Based upon the habitat characteristics and drainage associations, the wetlands within the AOI would be classified as intermediate resource value thereby requiring a wetland transition area (WTA) distance of 50 feet. The wetlands and associated WTAs are show on the Site Plan (**Attachment A, Figure 3**).

Streams

One perennial stream and one intermittent stream were identified during the field investigation. These streams are Randolph Brook (STR-1) and an unnamed tributary (UNT) to Randolph Brook (STR-2). **Table 3** provides a summary of the identified streams. Locations of streams are illustrated on **Attachment A, Figure 2**.

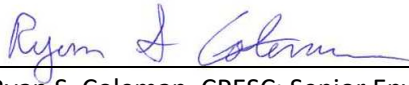
Table 3. Streams located within the Project AOI.		
Project Stream ID	Stream Name	Stream Type
STR-1	Randolph Brook	Perennial
STR-2	UNT to Randolph Brook	Intermittent

The streams are classified as FW2-NT by NJAC 7:9B-1.15(j), which is a general surface water classification applied to freshwaters that are non-trout waters. The streams will assume a 50-foot riparian zone, plus an overlapping 100-foot stream corridor as required by the Delaware Raritan Canal Commission (D&R). The streams, associated 100-year floodplain, and stream corridor buffers are shown on (**Attachment A, Figure 3**). It was confirmed with D&R that Randolph Brook drains under the canal and does not discharge directly to the canal.



CONCLUSIONS

Four wetlands and two streams are present within the AOI per the aquatic resource investigation for the project. The investigation was completed on the site as part of the proposed construction of various solar arrays on the property. The Site Plan (**Attachment A, Figure 3**) shows that all the proposed solar array installation will avoid the streams, wetlands, WTAs, and associated stream corridor buffers located on the property. The qualification of the persons conducting the site investigation and this report area included in **Attachment D**.

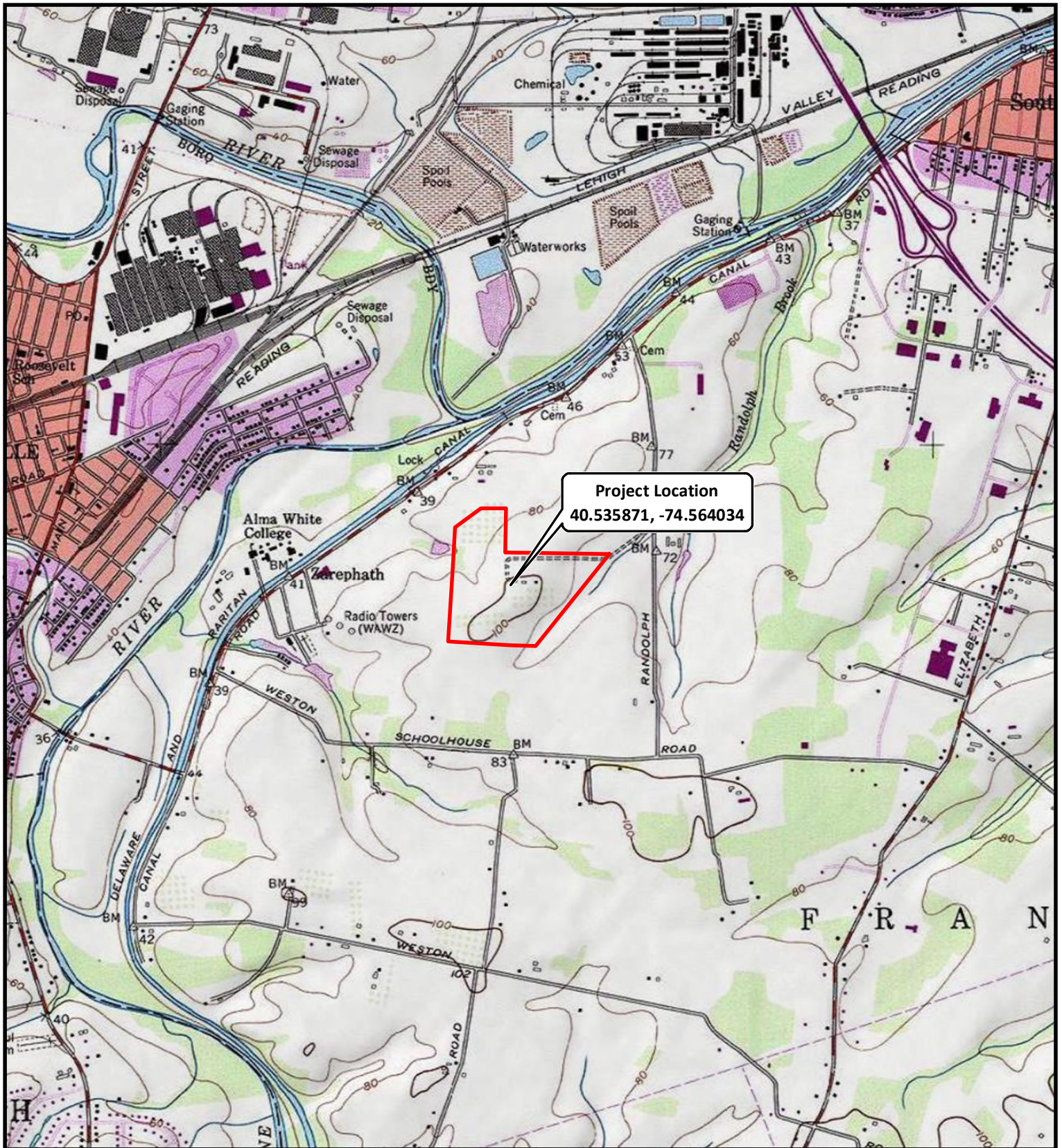
Prepared by: 
Ryan S. Coleman, CPESC; Senior Environmental Scientist

Reviewed by: 
Mark A. Metzler, Natural Sciences Group Manager

Z:\Shared\Projects\10832\108322044 Canal Rd Solar\NS\WetMemo\CanalRoad_WetMemo_2021-05-26.docx



ATTACHMENT A
PROJECT MAPPING AND SITE PLAN



Project Location
40.535871, -74.564034

Area of Investigation (68.564 Acres)

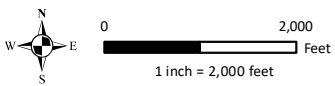
Canal Road Solar Partners, LLC

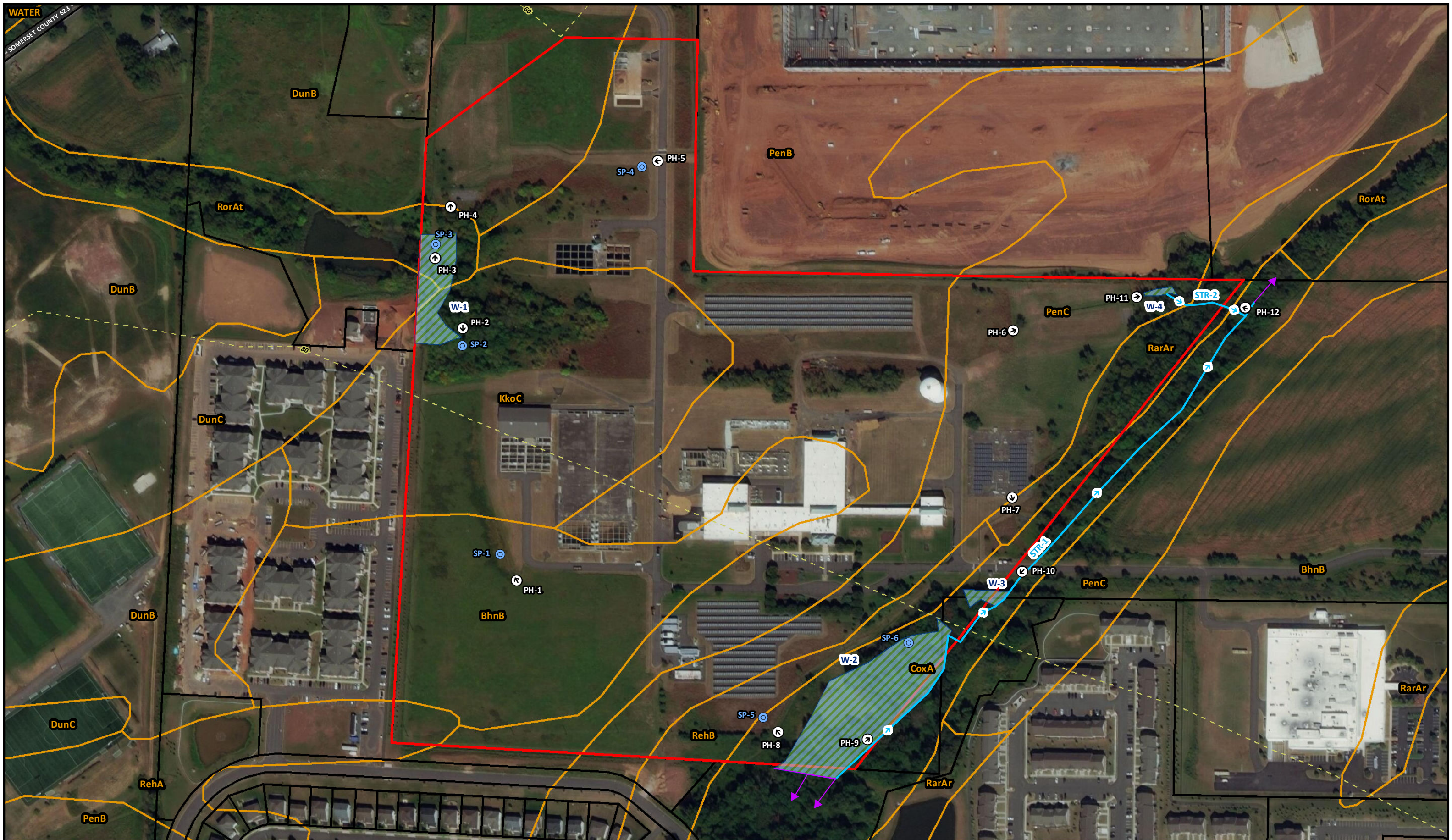
Canal Road Solar Array

Figure 1 - Topographic Basemap

Franklin Township, Somerset County, NJ

Project No. 108322044








Canal Road Solar Partners, LLC


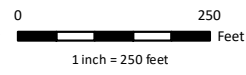
Canal Road Solar Array

Figure 2 - Aerial Basemap

Franklin Township, Somerset County, NJ
Project No. 108322044

-  Photo Location & Orientation
-  Stream Flow Direction
-  Sample Point
-  Feature Continues
-  Delineated Stream
-  Elevation Countour (20' Interval)
-  Road
-  Area of Investigation (68.564 Acres)

-  Delineated Wetland
-  Parcel Boundary
-  Soil Unit Boundary

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

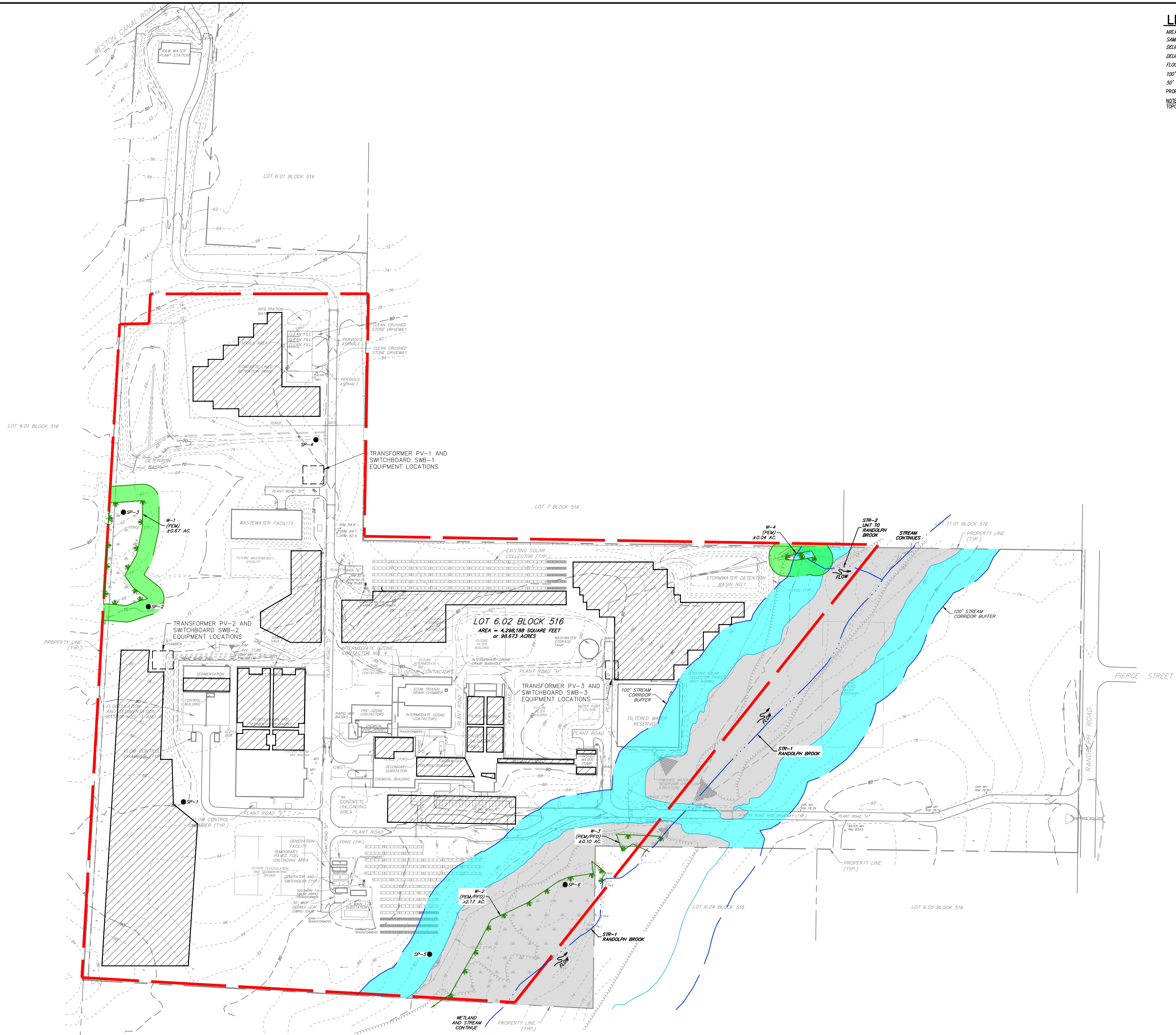


Sheet 1 of 1

5/21/2021

Drawn By: brian.eaton

Z:\Shared\Projects\10832\108322044 Canal Rd Solar\GIS\MapDocs\Wetland Memo Mapping\108322044_Canal_Road_Solar_Array_Fig2_Aerial_11x17.mxd



LEGEND

- AREA OF INVESTIGATION
- SAMPLE POINT
- DELINEATED STREAM
- FLOODPLAIN
- 100' STREAM CORRIDOR BUFFER
- 50' WETLAND TRANSITION AREA
- PROPOSED SOLAR ARRAY

NOTE:
TOPOGRAPHIC SURVEY BY STIRES ASSOCIATES, P.A.

FOR RETIEW ASSOCIATES BY: XREFS:

MANAGER: HOLLY SOUTHERLAND	CHKD BY:
DESIGN BY:	CHKD BY:
DRAWN BY: JIMIE	RSC
SURV. CHIEF:	FELDBOOK NO.
	DATA COLLECTOR

CLIENT
CANAL ROAD SOLAR PARTNERS, LLC
4550 LENA DRIVE, SUITE 201
MECHANICSBURG, PA 17055
717-571-1151

RETIEW
RETIEW Associates, Inc.
5031 Richard Ln, Suite 111,
Mechanicsburg, PA 17055
Phone: (800) 738-8395
Email: retiew@retiew.com
Website: www.retiew.com

Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

FIGURE 3
SITE PLAN
FOR
CANAL ROAD SOLAR ARRAY
FRANKLIN TOWNSHIP
SOMERSET COUNTY, PA

DATE:	JULY 6, 2021
SHEET NO.	1 OF 1
DWG. NO.	108322044

NO.	DATE	REVISION

NOT FOR CONSTRUCTION/NOT FOR BIDDING

ATTACHMENT B
PHOTO DOCUMENTATION

RETTEW Associates, Inc.
Photo Documentation

Client:
Canal Road Solar
Partners, LLC.

Site Name:
Canal Road Solar Array

Site Location:
Franklin Township,
Somerset County, New Jersey

**Project
Number:**
108322044

Photo 1

Date Taken:
May 18, 2021

Comments:
View of upland
drainage swale
documented by
Sample Point 1 (SP-1).
The swale receives
discharge from a pipe
that infiltrates in a
closed swale.



Photo 2

Date Taken:
May 18, 2021

Comments:
View of the upland
forested habitat
documented by
Sample Point 2 (SP-2)
in the northwest
portion of the AOI. SP-
2 serves as upland
verification for the
nearby wetland.



RETTEW Associates, Inc.
Photo Documentation

Client:
Canal Road Solar
Partners, LLC.

Site Name:
Canal Road Solar Array

Site Location:
Franklin Township,
Somerset County, New Jersey

**Project
Number:**
108322044

Photo 3

Date Taken:
May 18, 2021

Comments:
View of Wetland 1 (W-1) that was documented by Sample Point 3 (SP-3) in the northwest portion of the AOI. The wetland contains PEM habitat along the western portion and PFO habitat along the eastern portion.



Photo 4

Date Taken:
May 18, 2021

Comments:
View of a constructed stormwater facility in the northwest corner of the AOI.



RETTEW Associates, Inc.
Photo Documentation

Client:
Canal Road Solar
Partners, LLC.

Site Name:
Canal Road Solar Array

Site Location:
Franklin Township,
Somerset County, New Jersey

**Project
Number:**
108322044

Photo 5

Date Taken:
May 18, 2021

Comments:
View of an upland
fallow field located in
the northern portion of
the AOI. The area was
documented by
Sample Point 4 (SP-4).



Photo 6

Date Taken:
May 18, 2021

Comments:
View of a constructed
stormwater facility in
the northeast portion
of the AOI.



RETTEW Associates, Inc.
Photo Documentation

Client:
Canal Road Solar
Partners, LLC.

Site Name:
Canal Road Solar Array

Site Location:
Franklin Township,
Somerset County, New Jersey

**Project
Number:**
108322044

Photo 7

Date Taken:
May 18, 2021

Comments:
View of a constructed
stormwater facility in
the east-central
portion of the AOI.



Photo 8

Date Taken:
May 18, 2021

Comments:
View of an upland
fallow field in the
southeast portion of
the AOI. The upland
condition was
documented by
Sample Point 5 (SP-5).



RETTEW Associates, Inc.
Photo Documentation

Client:
Canal Road Solar
Partners, LLC.

Site Name:
Canal Road Solar Array

Site Location:
Franklin Township,
Somerset County, New Jersey

**Project
Number:**
108322044

Photo 9

Date Taken:
May 18, 2021

Comments:
View of Stream 1 (STR-1), identified as Randolph Brook a perennial stream, located along the eastern portion of the AOI. Wetland 2 (W-2) is located along the western edge of the stream. W-2 consists of PEM and PFO habitat.



Photo 10

Date Taken:
May 18, 2021

Comments:
View of STR-1 which is obscured by herbaceous vegetation and Wetland 3 (W-3) from the existing site access road in the east-central portion of the AOI.



RETTEW Associates, Inc.
Photo Documentation

Client:
Canal Road Solar
Partners, LLC.

Site Name:
Canal Road Solar Array

Site Location:
Franklin Township,
Somerset County, New Jersey

**Project
Number:**
108322044

Photo 11

Date Taken:
May 18, 2021

Comments:
View of Wetland 4 (W-4) a small PEM wetland located in the northeast corner of the AOI. The wetland receives direct discharge from the nearby stormwater facility and is underlaid with rip-rap scour protection.



Photo 12

Date Taken:
May 18, 2021

Comments:
View of Stream 2 (STR-2), an intermittent stream, that connects W-4 to STR-1.



ATTACHMENT C

ROUTINE ONSITE DETERMINATION METHOD DATA FORMS

**DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹**

Field Investigator(s): R. G. Keman Date: 5/18/21
 Project/Site: Canal Road State: NJ County: Somerset
 Applicant/Owner: NJAW Plant Community #/Name: SP-1

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain on back)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator		Dominant Plant Species	Indicator	
	Status	Stratum		Status	Stratum
1. <u>Juncus effusus</u>	<u>FACW</u>	<u>H</u>	11. _____	_____	_____
2. <u>Carex diuisa</u>	<u>FAC</u>	<u>H</u>	12. _____	_____	_____
3. <u>Juncus tenuis</u>	<u>FAC</u>	<u>H</u>	13. _____	_____	_____
4. _____	_____	_____	14. _____	_____	_____
5. _____	_____	_____	15. _____	_____	_____
6. _____	_____	_____	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Dominance of hydrophytes

SOILS

Series/phase: BhnB-Birdboro silt loam Subgroup:² _____

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: see back Mottle Colors: _____

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale: No hydric indicators present

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A - Dry to 18"

List other field evidence of surface inundation or soil saturation.

Located in concrete swale

Is the wetland hydrology criterion met? Yes No

Rationale: Lacks evidence of hydrology

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No

Rationale for jurisdictional decision: _____

Lacks hydrology and soils

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.

² Classification according to "Soil Taxonomy."

Soil:

0-7	7.5 YR	3/3	100%	SL	
7-18	5YR	4/4	100%	SCL	15% gravel

Sample point located in closed swale. A discharge pipe and riprap apron is located at head of channel. Channel is closed on downstream end which leads to retention of water, which has led to development of hydrophytic vegetation. No signs of prolonged inundation. Soils are well drained and lack wetland hydrology and hydric soils. Based on review of aerials, ca. 2008, and site interviews, the area was disturbed during construction and the swale is a constructed feature.

**DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹**

Field Investigator(s): R. Coleman Date: 5/18/21
 Project/Site: Canal Road State: PA County: Somerset
 Applicant/Owner: N/A Plant Community #/Name: SP-2

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain on back)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. <u>Fraxinus pennsylvanica</u>	<u>FACW</u>	<u>T</u>	11. _____	_____	_____
2. <u>Phalaris arundinacea</u>	<u>FACW</u>	<u>H</u>	12. _____	_____	_____
3. <u>Carex diuisa</u>	<u>FAC</u>	<u>H</u>	13. _____	_____	_____
4. <u>Microrhizon virginicum</u>	<u>FAC</u>	<u>H</u>	14. _____	_____	_____
5. _____	_____	_____	15. _____	_____	_____
6. _____	_____	_____	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Dominance of Hydrophytes

SOILS

Series/phase: Kroc-Klinsville channel loam Subgroup:² _____

Is the soil on the hydric soils list? Yes No Undetermined _____

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: see back Mottle Colors: _____

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes No

Rationale: Soil is well drained and lacks redox features.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: NA- Dry @ 18"

List other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale: Lacks hydrology indicators

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No

Rationale for jurisdictional decision: Lacks hydrology and soil.

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.

² Classification according to "Soil Taxonomy."

Soil

0-12	10YR 3/4	100%	L
12-18	10YR 7/4	90%	
	5YR 4/6	10%	clm. sil

Sample point located on a forested terrace. The area exhibits hydrophytic vegetation but lacks indicators of hydrology and hydric soils.

**DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹**

Field Investigator(s): R. Coleman Date: 5/18/21
 Project/Site: Coral Road State: NJ County: Somerset
 Applicant/Owner: NJAW Plant Community #/Name: SP-3

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain on back)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator		Dominant Plant Species	Indicator	
	Status	Stratum		Status	Stratum
1. <u>Phalaris arundinacea</u>	<u>FACW</u>	<u>H</u>	11. _____	_____	_____
2. <u>Microstegium vimineum</u>	<u>FAC</u>	<u>H</u>	12. _____	_____	_____
3. <u>Salix nigra</u>	<u>OBL</u>	<u>T</u>	13. _____	_____	_____
4. _____	_____	_____	14. _____	_____	_____
5. _____	_____	_____	15. _____	_____	_____
6. _____	_____	_____	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Dominance of hydrophytes

SOILS

Series/phase: PorAt - Rowland silt loam Subgroup:² _____

Is the soil on the hydric soils list? Yes No Undetermined _____

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: see back Mottle Colors: _____

Other hydric soil indicators: _____

Is the hydric soil criterion met? Yes No

Rationale: Soil is on hydric soil list and exhibits redoximorphic features in the field.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: NA - Dry to 18"

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: NA - Dry @ 18"

List other field evidence of surface inundation or soil saturation.

Drainage patterns, toe of slope, hydric veg

Is the wetland hydrology criterion met? Yes No

Rationale: Wetland is confined to a depressed drainage feature that concentrates hydrology.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No

Rationale for jurisdictional decision: Area contains required veg, soil, and hydrology.

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.

² Classification according to "Soil Taxonomy."

Soil

0-10	7.5 YR 4/3	80%		SiL
10-14	5 YR 5/6	20%	C/m	SiL
10-18	7.5 YR 5/2	75%		SiL
	7.5 YR 5/6	25%	C/m	SiL

Sample point is representative of Wetland 1 located in a low lying area at the edge of the property. This area receives surface runoff from the property which is evident based on drainage patterns.

**DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹**

Field Investigator(s): R. Coleman Date: 5/18/21
 Project/Site: Canal Road State: MI County: Somerset
 Applicant/Owner: NSAW Plant Community #/Name: SP-4

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain on back)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. <u>Bromus arvensis</u>	<u>FACU</u>	<u>H</u>	11. _____	_____	_____
2. <u>Poa pratensis</u>	<u>FACU</u>	<u>H</u>	12. _____	_____	_____
3. <u>Ambrosia artemisiifolia</u>	<u>FACU</u>	<u>H</u>	13. _____	_____	_____
4. _____	_____	_____	14. _____	_____	_____
5. _____	_____	_____	15. _____	_____	_____
6. _____	_____	_____	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC 0

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Lacks hydrophytes

SOILS

Series/phase: PenB-Penn silt loam Subgroup:² _____

Is the soil on the hydric soils list? Yes No Undetermined _____

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: _____ Mottle Colors: _____

Other hydric soil indicators: _____

Is the hydric soil criterion met? Yes No

Rationale: Lacks hydric soil indicators

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: NA - Dry to 12"

List other field evidence of surface inundation or soil saturation. _____

Is the wetland hydrology criterion met? Yes No

Rationale: Lacks hydrology indicators

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No

Rationale for jurisdictional decision: Lacks required veg, soil, and hydrology.

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.

² Classification according to "Soil Taxonomy."

Soil

0-12 7.54R^{3/4} 100% SIL

12+ : Rock / compaction refusal

Sample point located on a terrace that consists of fallow field. Area appears to be periodically mowed. Additionally, soil appears to be compacted fill material (not recent).

**DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹**

Field Investigator(s): P. Calerman Date: 5/18/21
 Project/Site: Canal Road State: NJ County: Somer Set
 Applicant/Owner: NJAW Plant Community #/Name: 3P5

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain on back)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. <u>Poa pratensis</u>	<u>FACU</u>	<u>H</u>	11. _____	_____	_____
2. <u>Bromus arvensis</u>	<u>FACU</u>	<u>H</u>	12. _____	_____	_____
3. <u>Securigera varia</u>	<u>UPL</u>	<u>H</u>	13. _____	_____	_____
4. _____	_____	_____	14. _____	_____	_____
5. _____	_____	_____	15. _____	_____	_____
6. _____	_____	_____	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC 0

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Lacks hydrophytes

SOILS

Series/phase: LoxA - Croton silt loam Subgroup: 2

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: see back Mottle Colors: _____

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes No

Rationale: Soil is included on hydric soil list but area does not exhibit hydric indicators. Area appears to be previously disturbed and may consist of fill material.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: NA - Dry

List other field evidence of surface inundation or soil saturation: None

Is the wetland hydrology criterion met? Yes No

Rationale: Area lacks hydrology indicators

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No

Rationale for jurisdictional decision: Area lacks veg. soil, hydrology

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.

² Classification according to "Soil Taxonomy."

Soil

0-10 7.5YR 3/4 100% SIL

10+ Rock/compaction refusal

Sample point documents herbaceous area near existing solar panels. Area appears to be periodically mowed and has compacted fill as soils.

**DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹**

Field Investigator(s): R. Coleman Date: 5/19/21
 Project/Site: Canal Road State: MI County: Somerset
 Applicant/Owner: NIAW Plant Community #/Name: SPG

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain on back)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. <u>Onoclea sensibilis</u>	<u>FACW</u>	<u>H</u>	11. _____	_____	_____
2. <u>Persicaria sagittata</u>	<u>OBL</u>	<u>H</u>	12. _____	_____	_____
3. <u>Cirsium vulpinoides</u>	<u>OBL</u>	<u>H</u>	13. _____	_____	_____
4. <u>Panicum pensylvanicum</u>	<u>FACW</u>	<u>H</u>	14. _____	_____	_____
5. <u>Impatiens lupensis</u>	<u>FACW</u>	<u>H</u>	15. _____	_____	_____
6. <u>Aster ruber</u>	<u>FAC</u>	<u>T</u>	16. _____	_____	_____
7. <u>Betula nigra</u>	<u>FACW</u>	<u>T</u>	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Dominance of hydrophytes

SOILS

Series/phase: CoxA-Croton silt loam Subgroup:² _____

Is the soil on the hydric soils list? Yes No Undetermined _____

Is the soil a Histosol? Yes _____ No Histic epipedon present? Yes _____ No

Is the soil: Mottled? Yes No Gleyed? Yes _____ No

Matrix Color: 500 bark Mottle Colors: _____

Other hydric soil indicators: Redox

Is the hydric soil criterion met? Yes No

Rationale: Soil is a reduced matrix

HYDROLOGY

Is the ground surface inundated? Yes _____ No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: NA

List other field evidence of surface inundation or soil saturation.

Soil saturated to surface

Is the wetland hydrology criterion met? Yes No

Rationale: Soils are saturated and located in a flood plain

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No

Rationale for jurisdictional decision: _____

Exhibits required veg, soils and hydrology.

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.

² Classification according to "Soil Taxonomy."

Soils

0-5	10YR 4/2	90%	SiL
	5YR 5/6	10%	C/m SiL
5-18	10YR 7/1	70%	SiLL
	10YR 5/6	30%	C/m

Sample point documents flood plain wetlands. Majority of wetland is PFO with some PEM openings in the canopy. Area is outside fenced portion of property.

ATTACHMENT D
QUALIFICATIONS

Mark A. Metzler, Senior Environmental Scientist/NICET II – Mr. Metzler has an associate’s degree in Wildlife Technology from the Pennsylvania State University and is certified by the National Institute for Certification in Engineering Technologies in Land Management and Water Control/Erosion and Sediment Control. Mr. Metzler has twelve years of experience working in the environmental regulatory community (Lancaster County Conservation District) and 20 years of private consulting experience. He received training in both the 1987 Corps of Engineers Wetland Delineation Manual and the 1989 Federal Manual from both the PA Dept. of Environmental Protection and the U.S. Army Corps of Engineers. In addition, he received soil mechanics training from the U.S. Dept. of Agriculture – Natural Resources Conservation Service. As an environmental regulator, Mr. Metzler reviewed, permitted, and inspected over 2,000 various plans and project sites many of which involved impacts to Waters of the Commonwealth (wetlands, rivers, lakes). Mr. Metzler has prepared five TMDL implementation plans for the Commonwealth of Pennsylvania and U.S. EPA, as well as numerous watershed assessment and river restoration plans. He is also experienced in dam removal design, the issue of legacy sediment and has overseen dam removal and fish migration projects within Pennsylvania, Maryland, and Virginia.

Ryan S. Coleman, CPESC – Mr. Coleman has a bachelor’s degree in environmental studies from The Pennsylvania State University and has nearly 15 years of experience in the environmental field. He is a Certified Professional in Erosion and Sediment Control (CPESC-6142). For three years he worked in Delaware on National Pollution Discharge Elimination System (NPDES) projects related to water quality, stream assessments, and Best Management Practice (BMP) performance. He also assisted in stream restoration projects and wetland investigations on sites in PA, DE, MD, and NJ. He is familiar with the *1987 Corps of Engineers Wetlands Delineation Manual* and has widely used the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* while conducting wetland delineations throughout Pennsylvania. He has also utilized the 1989 Federal Manual for delineations completed in New Jersey. Mr. Coleman has experience working as an environmental compliance inspector on construction sites throughout PA, DE, and NJ. He has prepared technical reports and permits for local, state, and federal governments. He also has experience in the preparation and review of permits for the PA DEP, NJ DEP, and the USACE.