

From: [Alcoz, Nate J.](#)
To: [Seiler, Ann](#)
Cc: [SCQ](#); [Senn, Nate](#); [Kroh, Stanley M.](#); [Burrows, Byron T.](#); [Lawrence Curtin](#)
Subject: TECO Big Bend III Solar - Amendment Request for Laydown Area (ERP Tracking Number 29-0126191-020)
Date: Friday, July 21, 2023 7:19:05 AM
Attachments: [20-215.002 Big Bend II Phase II Plans, SS.pdf](#)

EXTERNAL MESSAGE

This email originated outside of DEP. Please use caution when opening attachments, clicking links, or responding to this email.

Ann,

As previously indicated, Tampa Electric Company (TECO) is submitting this Request for Amendment of the Site Certification for Big Bend Power Station (PA-79-12S) to allow the laydown area constructed for the Big Bend III Solar project to remain. TECO constructed the laydown area to facilitate the construction of the project. Since then, it's been determined that TECO would like to keep the laydown area to utilize for future projects. The laydown area is approximately 2.8 acres in size. Attached are the as-built plans submitted previously that indicate its location on the site and size. The currently permitted stormwater system is capable of treating the additional acreage with no modifications. The drainage report, created by Culpepper & Terpening, Inc., demonstrates compliance with all applicable stormwater regulations. Due to the size of the report, a separate email it will be sent which contains the drainage report.

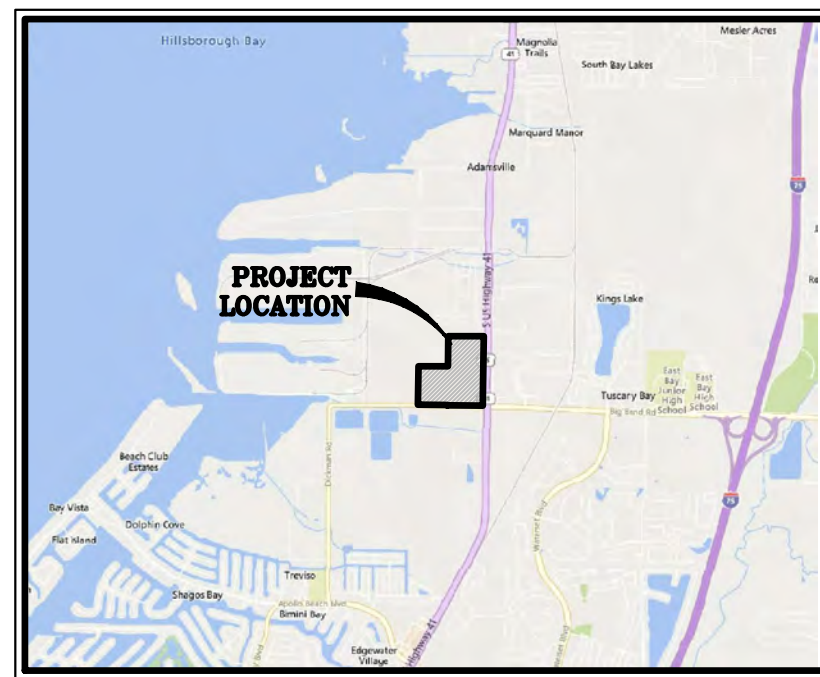
Please let us know if you have any questions or need additional information regarding this request for amendment. We look forward to working with you on this project.

Sincerely,
Adriano "Nate" Alcoz
Manager, Environmental Permitting & Tanks
Environmental Services Department
Office 813-228-4843
Mobile 813-293-0649
ajalcoz@tecoenergy.com



NOTICE: This email is intended only for the individual(s) to whom it is addressed and may contain confidential information. If you have received this email by mistake, please notify the sender immediately, delete this email from your system and do not copy or disclose it to anyone else. Although we take precautions to protect against viruses, we advise you to take your own precautions to protect against viruses as we accept no liability for any which remain.

STORMWATER MANAGEMENT PLANS FOR BIG BEND II PHASE II SOLAR LAYDOWN MODIFICATION IN SECTION 10, TOWNSHIP 31 SOUTH, RANGE 19 EAST HILLSBOROUGH COUNTY, FLORIDA PREPARED FOR TAMPA ELECTRIC COMPANY



LOCATION MAP N.T.S.
SECTION 10, TOWNSHIP 31 SOUTH, RANGE 19 EAST

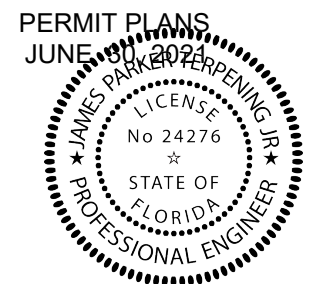


VICINITY MAP N.T.S.

INDEX TO SHEETS	
CE0	COVER SHEET
CE1	GENERAL NOTES
CE2	DEMOLITION PLAN
CE3	DEVELOPMENT PLAN
CE4	DRAINAGE PLAN
CE5	EROSION CONTROL PLAN
CE6-7	EROSION CONTROL DETAILS
CE8	T-LINE PLAN
CE9-12	DETAILS AND TYPICAL SECTIONS

NOTE:
DRAWING PREPARED IN AN 11X17 FORMAT. THE SCALE OF
THESE PLANS MAY HAVE CHANGED DUE TO
REPRODUCTION.

This item has been digitally signed and
sealed by James Parker Terpening, PE on
06/30/2021 using a Digital Signature.
Printed copies of this document are not
considered signed and sealed and the
SHA authentication code must be verified
on any electronic copies.



JAMES P. TERPENING JR., P.E. FL. REG. NO. 24276

DATUM:
1. ELEVATIONS SHOWN ON THE PLANS ARE NORTH
AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).

FILE NAME: 20-215 COVER.DWG

**CULPEPPER &
TERPENING INC**
2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981
PHONE 772-464-3537 • FAX 772-464-9497 • www.ct-eng.com
STATE OF FLORIDA BOARD OF PROFESSIONAL
ENGINEERS AUTHORIZATION NO. 4286

BIG BEND III SOLAR

C&T PROJECT NO. 20-215 SHEET 0 OF CE11

P:\Proj-2020-20-215 TECO - Big Bend III - Solar Facility\Eng\Permit Mod Revision 1\20-215 General Notes.dwg Plotted: 7/14/2023 9:38 AM By: ALEXANDER KAISER

1. GENERAL

A. SOIL TESTING: SOIL TESTING SHALL BE PERFORMED BY A CERTIFIED TESTING LABORATORY.

2. EARTHWORK AND GRADING

- A. MATERIALS AND CONSTRUCTION METHODS FOR EARTHWORK, EXCAVATION, EMBANKMENT AND GRADING SHALL MEET THE REQUIREMENTS OF FDOT SECTION 120 AND SHALL BE PERFORMED TO ACHIEVE FINAL GRADES, ELEVATIONS AND TYPICAL SECTIONS AS SHOWN ON THE PLANS FOR PROPOSED WORK.
- B. CLEARING AND GRUBBING: CLEARING AND GRUBBING SHALL MEET THE REQUIREMENTS OF FDOT SECTION 110 AND SHALL BE PERFORMED WITHIN THE LIMITS OF THE PROJECT WORK. ALL MATERIAL SHALL BE REMOVED FROM THE SITE OF THE PROJECT AND SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, REGIONAL, STATE AND FEDERAL LAWS, REGULATIONS AND ORDINANCES.
- C. ROUGH GRADE: THE CONTRACTOR SHALL GRADE THE SITE TO MEET THE REQUIREMENTS OF FDOT SECTIONS 110 AND 120 AND SHALL CONFORM TO THE LINES, GRADES, AND TYPICAL SECTIONS AS SHOWN ON THE PLANS.
- D. SODDING, SEED AND MULCH: SODDING, SEED AND MULCH SHALL MEET THE REQUIREMENTS OF FDOT SECTIONS 570 AND 981 AND SHALL BE PLACED IN ALL DISTURBED AREAS NOT OTHERWISE ADDRESSED IN PLANS.

3. DRAINAGE IMPROVEMENTS

MATERIALS, TRENCH EXCAVATION, PIPE LAYING AND BACKFILLING OPERATIONS FOR DRAINAGE IMPROVEMENTS SHALL MEET THE REQUIREMENTS OF FDOT SECTIONS 125 AND 430. PIPE SHALL BE LAID IN TRUE ALIGNMENT IN A PIPE TRENCH WITH AN ADEQUATE SUPPORTING VALUE AND "BEDDED" TO THE DETAIL SHOWN IN THE PLANS AND FDOT SECTION 430. ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180, UNLESS OTHERWISE SHOWN ON THE PLANS.

THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO COMPLETE THE WORK FOR DRAINAGE IMPROVEMENTS AT THE LOCATIONS, SIZES, AND TYPES SHOWN ON THE PLANS FOR THE FOLLOWING ITEMS:

- A. REINFORCED CONCRETE PIPE: REINFORCED CONCRETE PIPE SHALL MEET THE REQUIREMENTS OF CLASS III OF ASTM C-76, WALL THICKNESS "B", LATEST REVISION, AS MODIFIED BY FDOT SECTION 430. GASKETS FOR PIPE JOINTS SHALL BE ROUND RUBBER GASKETS AND SHALL MEET THE REQUIREMENTS OF FDOT SECTION 942.
- B. CORRUGATED ALUMINUM PIPE: CORRUGATED ALUMINUM PIPE SHALL MEET THE REQUIREMENTS OF FDOT SECTION 945, AND SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS.

4. MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH FDOT INDICES 600-670.

GENERAL NOTES

1. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED, UNLESS OTHERWISE NOTED IN THE PLAN.
2. THE VEGETATIVE DRAINAGE FEATURES REQUIRE ESTABLISHMENT OF VEGETATIVE COVER PRIOR TO THE REMOVAL OF THE SILT FENCING.
3. ALL SLOPES GREATER THAN 4:1 SHALL BE SODDED.
4. THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE ONLY AND MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING WORK.
5. THESE PLANS SHALL NOT BE USED FOR CONSTRUCTION UNLESS THEY ARE MARKED "APPROVED FOR CONSTRUCTION" IN THE TITLE BLOCK.
6. CONTRACTOR TO OBTAIN AND REVIEW ALL PERMITS PRIOR TO STARTING CONSTRUCTION
7. ALL NUISANCE EXOTIC VEGETATION ON-SITE MUST BE REMOVED IN CONJUNCTION WITH SITE DEVELOPMENT.
8. DRAWING SCALE MAY CHANGE DUE TO REPRODUCTION.

THE WORK

EXISTING UTILITIES AND STRUCTURES:

EXISTING UTILITIES, STRUCTURES AND FACILITIES SHOWN ON THE DRAWINGS WERE LOCATED AS ACCURATELY AS POSSIBLE FROM THE RECORDS EXAMINED. NO GUARANTEE IS MADE THAT ALL EXISTING FACILITIES ARE SHOWN OR THAT THOSE SHOWN ARE ENTIRELY ACCURATE. THE CONTRACTOR SHALL ASSURE HIMSELF OF THE ACTUAL LOCATION OF THE UTILITIES, STRUCTURES, OR FACILITIES PRIOR TO PERFORMANCE OF ANY WORK IN THE VICINITY. THE UTILITY COMPANIES OR UTILITY AGENCIES WILL CO-OPERATE WITH THE CONTRACTOR'S OPERATIONS. PRIOR TO START OF THE WORK, THE CONTRACTOR SHALL REQUEST EACH UTILITY AGENCY TO ADVISE HIM OF THE LOCATION OF THEIR FACILITIES IN THE VICINITY. THE OWNER WILL ASSUME NO LIABILITY FOR DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE CONTRACTOR'S OPERATION IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, OR TO THE TEMPORARY BRACING AND SHORING OF SAME. IN THE EVENT THAT IT IS NECESSARY TO SHORE, BRAVE, OR SWING A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHOULD BE CONTACTED AND THEIR PERMISSION SECURED AS TO THE METHOD USED FOR ANY SUCH WORK.

RESTORATION OF DAMAGED STRUCTURES OR UTILITIES:

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, REBUILD OR RESTORE TO ITS FORMER CONDITION, ANY AND ALL PORTIONS OF EXISTING UTILITIES, STRUCTURES, EQUIPMENT, APPURTENANCES OR FACILITIES, WHICH MAY BE DISTURBED OR DAMAGED DUE TO THIS CONSTRUCTION OPERATION.

ABANDONMENT OF SEPTIC TANKS:

ABANDONMENT OF SEPTIC TANKS SHALL BE IN ACCORDANCE WITH THE HEALTH DEPARTMENT POLICY UNDER FLORIDA ADMINISTRATIVE CODE 64E-6.001.

FINAL CLEANUP:

UPON COMPLETION OF THE WORK, BUT BEFORE FINAL PAYMENT WILL BE MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE PROJECT AREA, ALL FALSEWORK, EQUIPMENT, SURPLUS AND DISCARDED MATERIALS, RUBBISH AND TEMPORARY STRUCTURES WHICH RESULT FROM THE WORK UNDER THIS AGREEMENT, AND SHALL RESTORE IN AN ACCEPTABLE MANNER, ALL PROPERTY WHICH HAS BEEN DAMAGED DURING THE PROSECUTION OF THE WORK.

RECORD INFORMATION:

UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL OBTAIN AND SUBMIT RECORD INFORMATION TO THE OWNER. THIS INFORMATION SHALL INCLUDE THE FOLLOWING:

1. DRAINAGE SYSTEM:

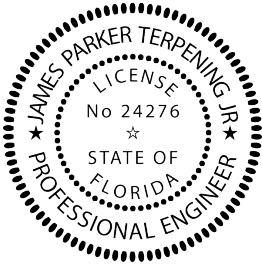
- A. HIGH POINTS AND LOW POINTS OF SITE;
- B. LOCATION, SIZE, TYPE, LENGTH AND INVERT OF ALL CULVERTS.

2. PATHWAYS AND GRADING:

THE RECORD INFORMATION SHALL BE CERTIFIED BY A FLORIDA PROFESSIONAL LAND SURVEYOR. LOCATIONS SHALL BE MADE BY REFERENCE TO CENTERLINE STATIONING AND OFFSET OR BY OTHER MEANS ACCEPTABLE TO THE OWNER. ELEVATIONS SHALL BE ACCORDING TO THE NORTH AMERICAN VERTICAL DATUM (NAVD).

3. GEOTECHNICAL TESTING :

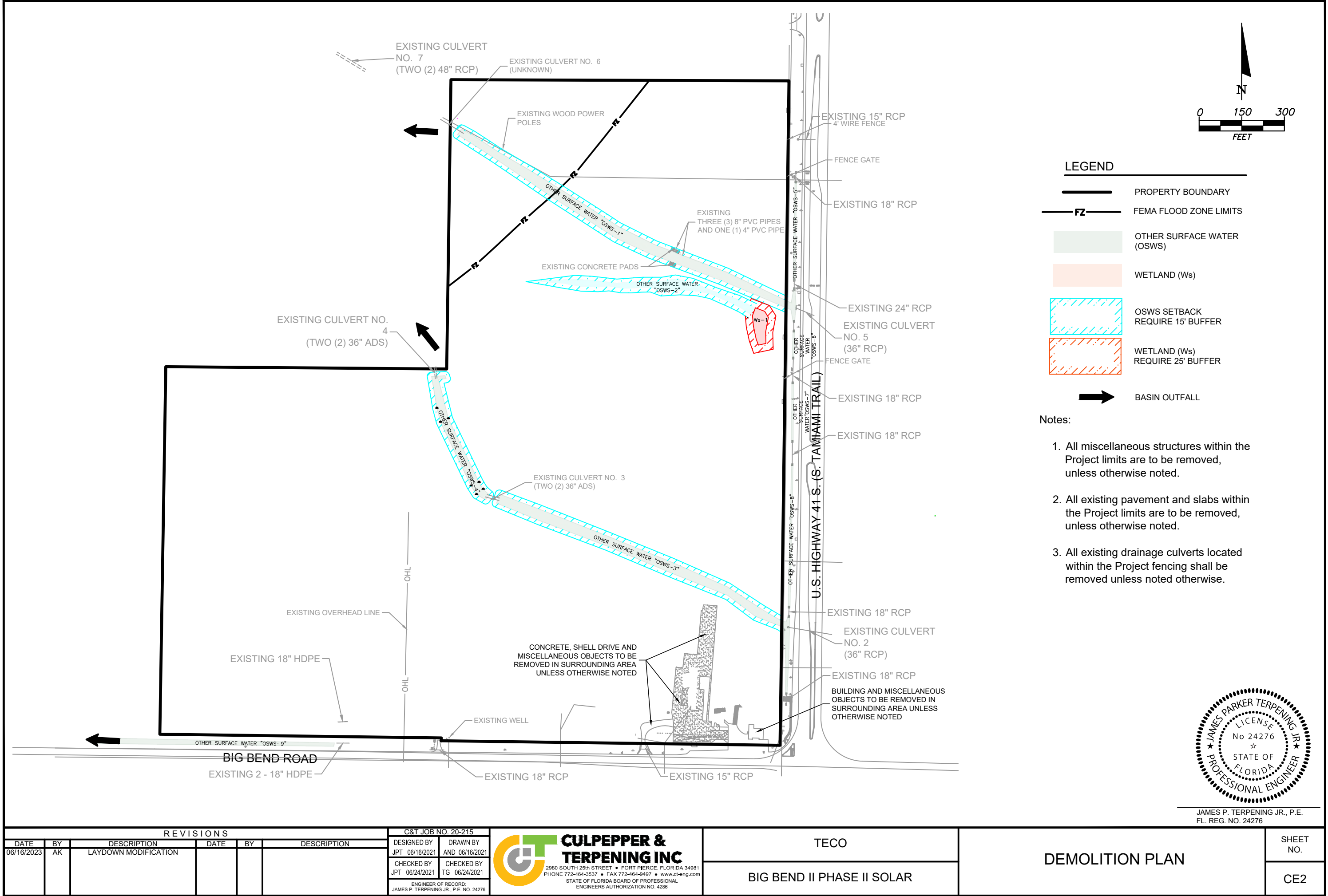
INCLUDES ALL PROCTORS, LBR AND DENSITIES.



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

REVISIONS						C&T JOB NO. 20-215		 CULPEPPER & TERPENING INC 2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981 PHONE 772-464-3537 • FAX 772-464-9497 • www.ct-eng.com STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286	TECO		GENERAL NOTES	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DRAWN BY	BIG BEND II PHASE II SOLAR					
06/16/2023	AK	LAYDOWN MODIFICATION				JPT 06/16/2021						
						JPT 06/24/2021						
						JPT 06/24/2021						
						ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276					CE1	

P:\Proj-2020-20-215 TECO - Big Bend II - Solar Facility\Eng\Permit Mod Revision 1\20-215 Base.dwg Plotted: 7/14/2023 8:53 AM By: ALEXANDER KAISER



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
06/16/2023	AK	LAYDOWN MODIFICATION			

C&T JOB NO. 20-215			
DESIGNED BY	JPT	DRAWN BY	AND
CHECKED BY	JPT	CHECKED BY	TG
ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276			

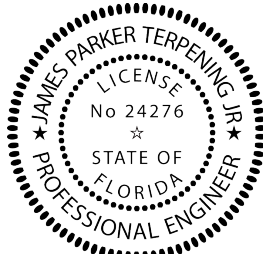


CULPEPPER & TERPENING INC
2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981
PHONE 772-464-3537 • FAX 772-464-9497 • www.ct-eng.com
STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

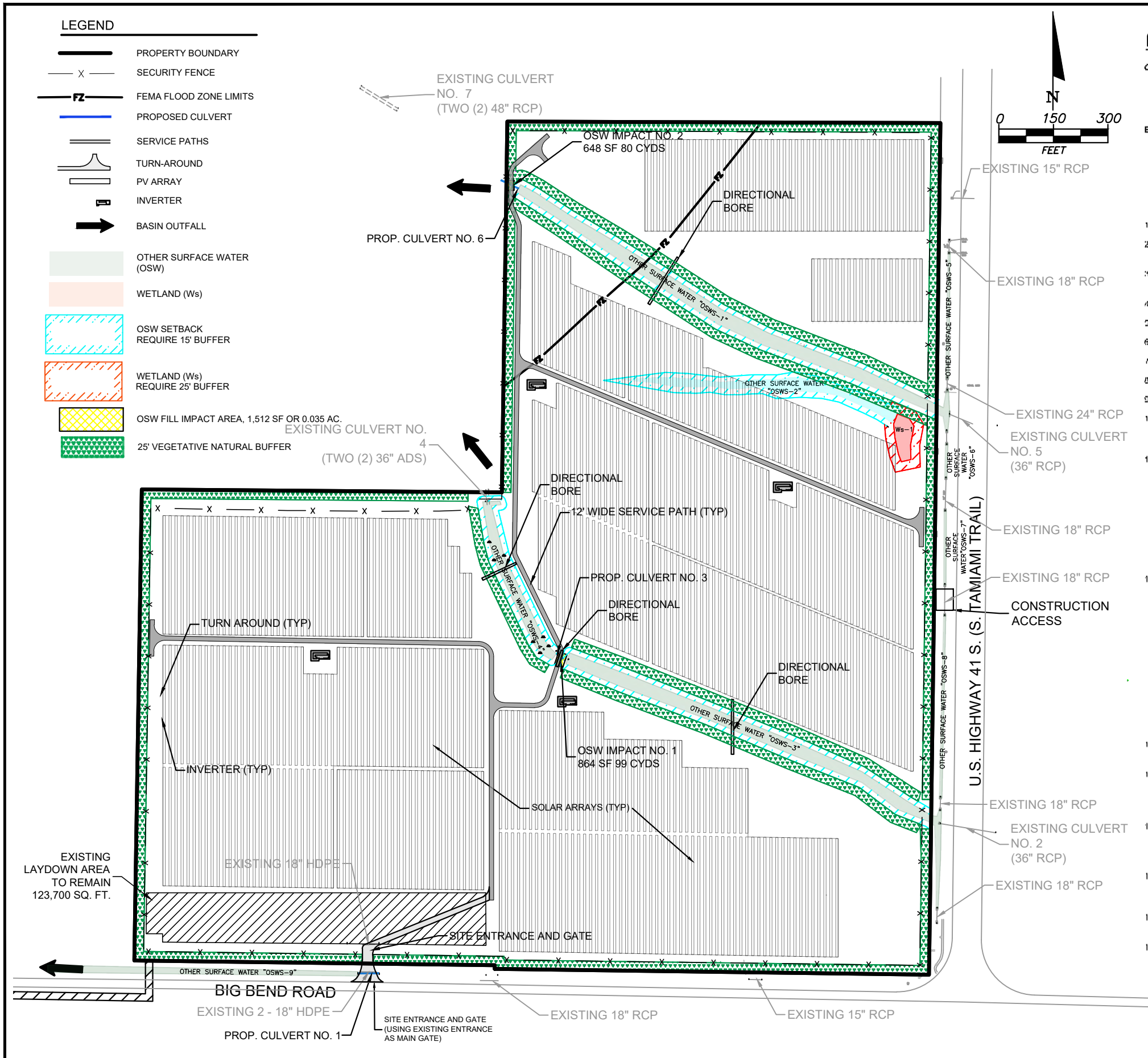
TECO
BIG BEND II PHASE II SOLAR

DEMOLITION PLAN
CE2

SHEET NO.
CE2



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276



BIG BEND II PHASE II SOLAR

[illegible]

- [illegible]

EXISTING IMPERVIOUS AND PERVIOUS DATA			
<u>IMPERVIOUS COVERAGE</u>	<u>ACREAGE</u>	<u>\$F</u>	<u>PERCENT OF SITE</u>
DRIVEWAY	0.00	0	0.0%
PAVES AND MISCELLANEOUS AREAS	1.147	46,709	1.7%
TOTAL IMPERVIOUS COVERAGE	1.147	46,709	1.7%
<u>PERVIOUS COVERAGE</u>	<u>ACREAGE</u>	<u>\$F</u>	<u>PERCENT OF SITE</u>
GRASSLAND (INCLUDING CROPS)	92.20	4,012,047	98.30%
TOTALS	93.27	4,062,041	100%

- 12.) PROPOSED : IMPERVIOUS AND PERVIOUS DATA

PERMITTED			PERMIT MODIFICATION		
IMPERVIOUS COVERAGE	ACREAGE	SF PERCENT OF SITE	ACREAGE	SF PERCENT OF SITE	
IMPERVIOUS COVERAGE	0.00	0.00%	0.00	1800	0.0%
PERVIOUS COVERAGE	1.00	100.00%	1.00	60,688	1.7%
PERVIOUS COVERAGE	0.00	0.00%	2.00	123,695	3.0%
TOTAL IMPERVIOUS COVERAGE	1.00	100.00%	3.00	125,493	3.0%
PERVIOUS COVERAGE	ACREAGE	SF PERCENT OF SITE	ACREAGE	SF PERCENT OF SITE	
PERVIOUS COVERAGE	0.00	0.00%	0.00	0.00	0.0%
TOTALS	93.27	4,062,841 100%	93.27	4,062,841	100%

Notes: External Measurements, and Internal 125I food weights.

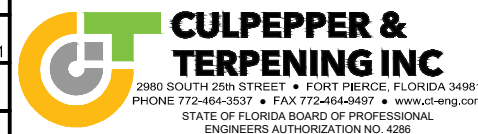
- | | |
|------|--|
| 13.) | CONSTRUCTION SCHEDULE
START: JANUARY 2022
COMPLETION: TO BE COMPLETED |
| 14.) | UTILITY SERVICE
WATER TO BE TAPPED: NONE
SEWER TO BE TAPPED: NONE
SOLID WASTE: NONE |
| 15.) | PARKING:
THE PROPOSED PROJECT ACTIVITIES AND OPERATIONS WILL BE LIMITED TO THE EXISTING DRIVEWAY AND DRIVEWAY TURNOUTS. THERE WILL BE NO PARKING TO BE PROVIDED FOR THE PROJECT. ALL VEHICLES AND EQUIPMENT MUST BE PARKED OR STORED WITHIN THE EXISTING DRIVEWAY AND DRIVEWAY TURNOUTS. |
| 16.) | SECURITY FENCING
A FENCE WILL BE INSTALLED AROUND THE EXISTING DRIVEWAY TURNOUTS TO PREVENT VEHICLES FROM ENTERING THE DRIVEWAY TURNOUTS. |
| 17.) | PROPERTY SET BACK
A MINIMUM SET BACK OF 10 FEET FROM THE PROPERTY LINE TO THE PROPOSED DRIVEWAY TURNOUTS. |
| 18.) | THE PROPOSED PROJECT ACTIVITIES AND OPERATIONS WILL BE LIMITED TO THE EXISTING DRIVEWAY AND DRIVEWAY TURNOUTS. THERE WILL BE NO PARKING TO BE PROVIDED FOR THE PROJECT. ALL VEHICLES AND EQUIPMENT MUST BE PARKED OR STORED WITHIN THE EXISTING DRIVEWAY AND DRIVEWAY TURNOUTS. |



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

R E V I S I O N S					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
06/16/2023	AK	LAYDOWN MODIFICATION			

C&T JOB NO. 20-215	
DESIGNED BY JPT 06/16/2021	DRAWN BY AND 06/16/2021
CHECKED BY JPT 06/24/2021	CHECKED BY TG 06/24/2021
ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276	



TECO

BIG BEND II PHASE II SOLAR

DEVELOPMENT PLAN

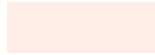
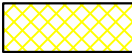
SHEET
NO.

CE3

Big Bend III Solar Culvert Chart

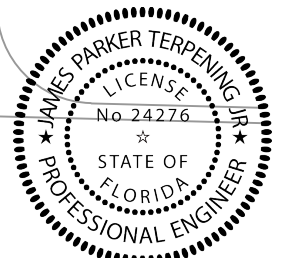
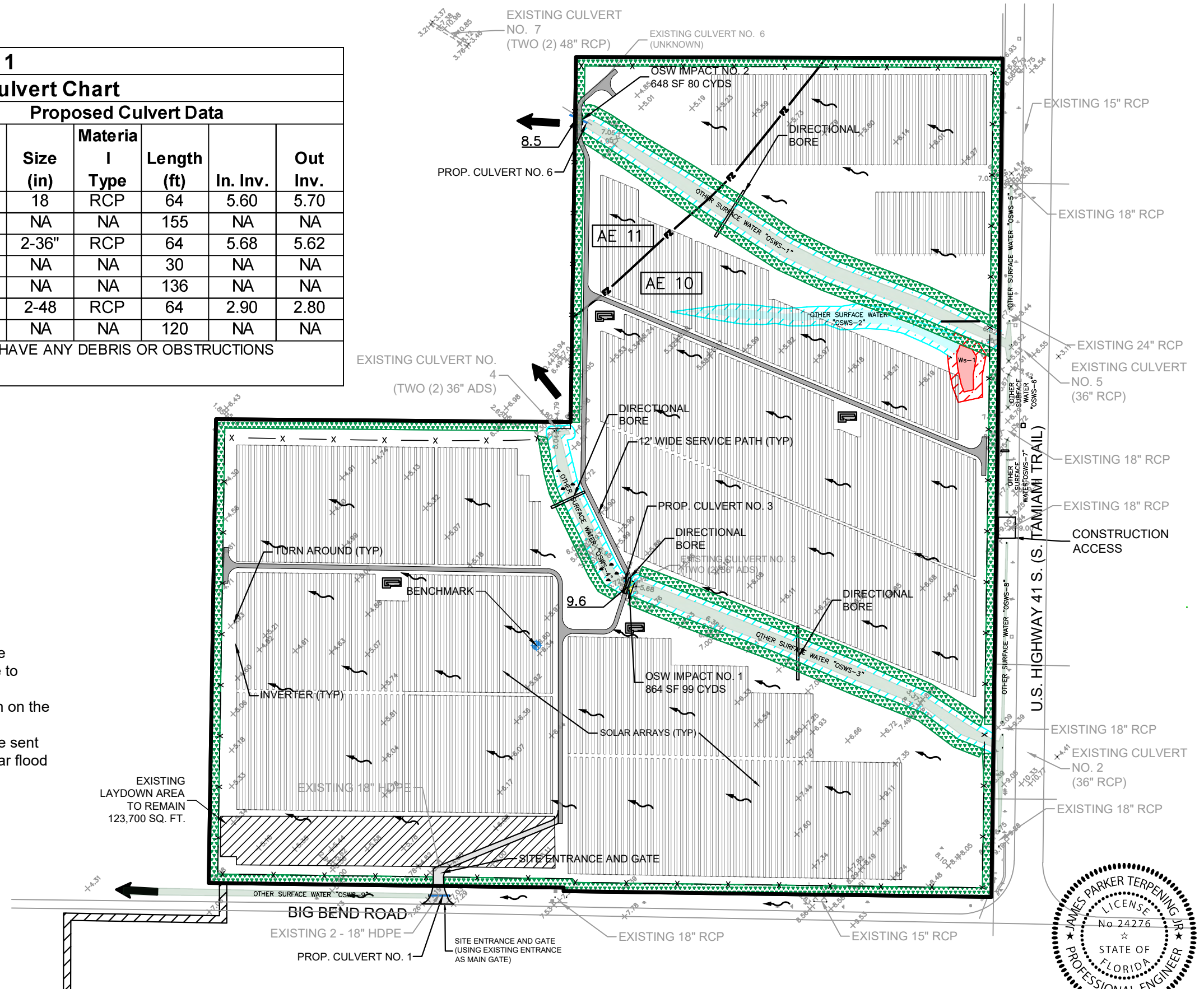
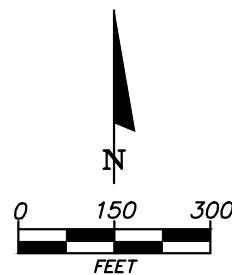
Existing Culvert Data					Proposed Culvert Data					
Culvert No.	Material Type	Size (in)	In. Inv.	Out Inv.	Status	Size (in)	Material Type	Length (ft)	In. Inv.	Out Inv.
1	ADS	2-18	5.70	6.01	PROPOSE	18	RCP	64	5.60	5.70
2	RCP	36	4.41	4.27	REMAIN	NA	NA	155	NA	NA
3	ADS	2-36	5.68	5.62	REPLACE	2-36"	RCP	64	5.68	5.62
4	ADS	2-36	5.04	4.79	REMAIN *	NA	NA	30	NA	NA
5	RCP	36	3.10	2.96	REMAIN	NA	NA	136	NA	NA
6	Unknow	Unknow	Unknow	Unknow	REPLACE	2-48	RCP	64	2.90	2.80
7	RCP	2-48	3.76	3.21	REMAIN *	NA	NA	120	NA	NA

LEGEND

- | | |
|---|--|
|  | PROPERTY BOUNDARY |
|  | SHEET FLOW ARROW |
|  | BASIN OUTFALL |
|  | SECURITY FENCE |
|  | FEMA FLOOD ZONE LIMITS |
|  | PROPOSED CULVERT |
|  | SERVICE PATHS |
|  | TURN-AROUND |
|  | PV ARRAY |
|  | INVERTER |
|  | OTHER SURFACE WATER (OSW) |
|  | WETLAND (Ws) |
|  | OSW SETBACK
REQUIRE 15' BUFFER |
|  | WETLAND (Ws)
REQUIRE 25' BUFFER |
|  | OSW FILL IMPACT AREA,
1,512 SF OR 0.035 AC. |
|  | 25' VEGETATIVE NATURAL
BUFFER |

Note:

1. PV field shall be leveled and grade to maintain grading patterns as shown on the plans.
2. Inverter shall be sent above the 200 year flood plain.



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

REVISIONS						C&T JOB NO. 20-215	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DESIGNED BY	DRAWN BY
06/16/2023	AK	LAYDOWN MODIFICATION				JPT 06/16/2021	AND 06/16/2021
						CHECKED BY	CHECKED BY
						JPT 06/24/2021	TG 06/24/2021
ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276							



**CULPEPPER &
TERPENING INC**
30 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981
PHONE 772-464-3537 • FAX 772-464-9497 • www.ct-eng.com
STATE OF FLORIDA BOARD OF PROFESSIONAL
ENGINEERS AUTHORIZATION NO. 4286

TECO

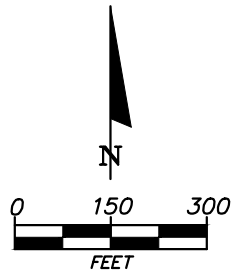
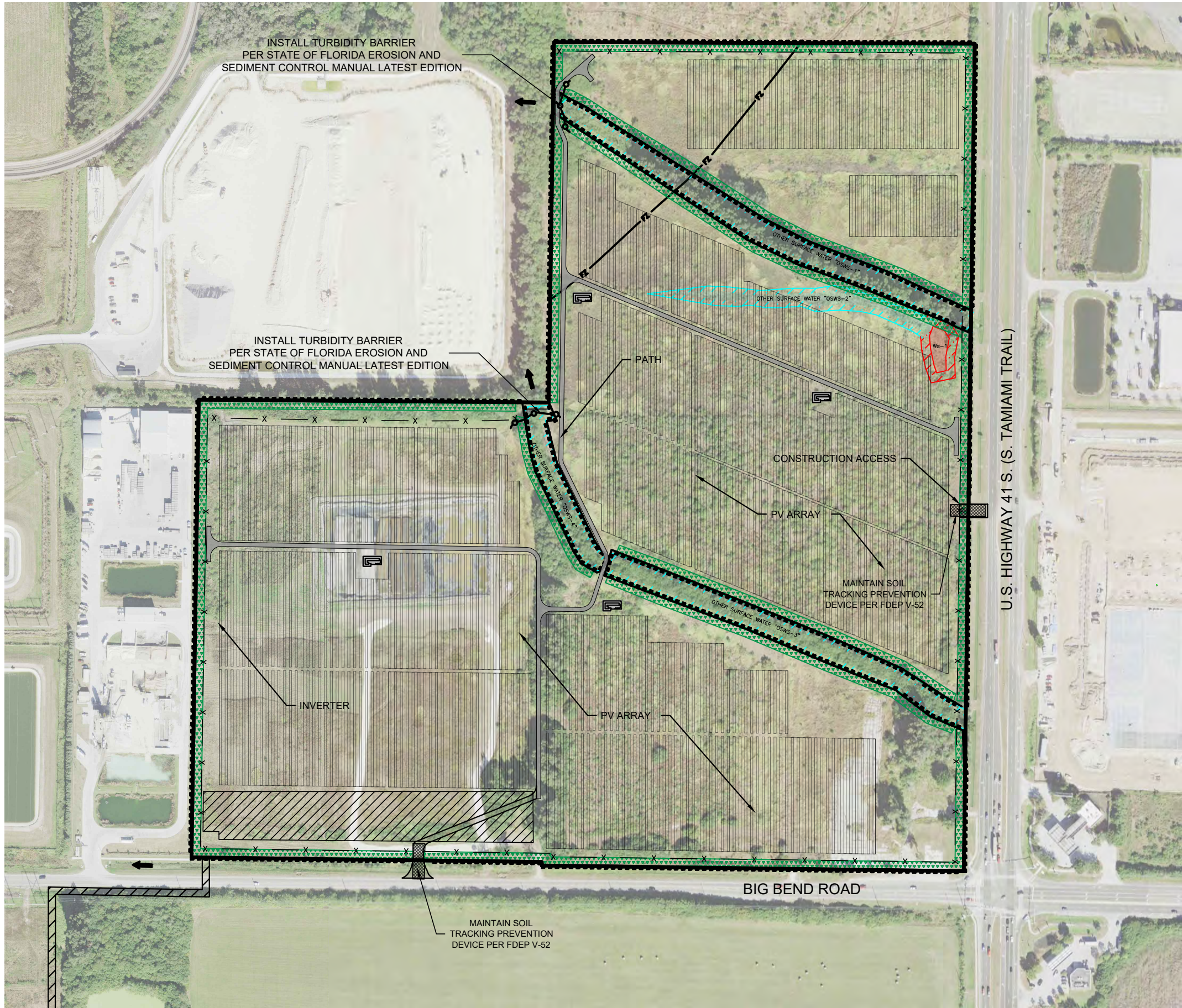
BIG BEND II PHASE II SOLAR

DRAINAGE AND GRADING PLAN

SHEET
NO.

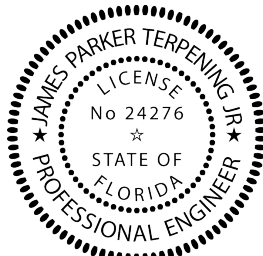
CE4

P:\Proj-2020-20-215 TECO - Big Bend II - Solar Facility\Eng\Permit Mod Revision 1\20-215 Erosion Control Plan and Details.dwg Plotted: 7/14/2023 8:58 AM By: ALEXANDER KAISER



LEGEND

- PROPERTY BOUNDARY
- SHEET FLOW ARROW
- BASIN OUTFALL
- SECURITY FENCE
- FEMA FLOOD ZONE LIMITS
- SERVICE PATHS
- TURN-AROUND
- PV ARRAY
- INVERTER
- SOIL TRACKING DEVICE
- SILT FENCE
- TURBIDITY BARRIER
- OTHER SURFACE WATER (OSW)
- WETLAND (Ws)
- OSW SETBACK REQUIRE 15' BUFFER
- WETLAND (Ws) REQUIRE 25' BUFFER
- OSW FILL IMPACT AREA, 1,512 SF OR 0.035 AC.
- 25' VEGETATIVE NATURAL BUFFER



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
06/16/2023	AK	LAYDOWN MODIFICATION			

C&T JOB NO. 20-215	
DESIGNED BY JPT 06/16/2021	DRAWN BY AND 06/16/2021
CHECKED BY JPT 06/24/2021	CHECKED BY TG 06/24/2021
ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276	



TECO
BIG BEND II PHASE II SOLAR

EROSION CONTROL PLAN

SHEET NO.
CE5

P:\Proj-2020-20-215 TECO - Big Bend III - Solar Facility\Eng\Permit Mod Revision 1\20-215 Erosion Control Plan and Details.dwg Plotted: 7/14/2023 9:14 AM By: ALEXANDER KAISER

STATE OF FLORIDA EROSION & SEDIMENT CONTROL - DESIGNER & REVIEWER MANUAL

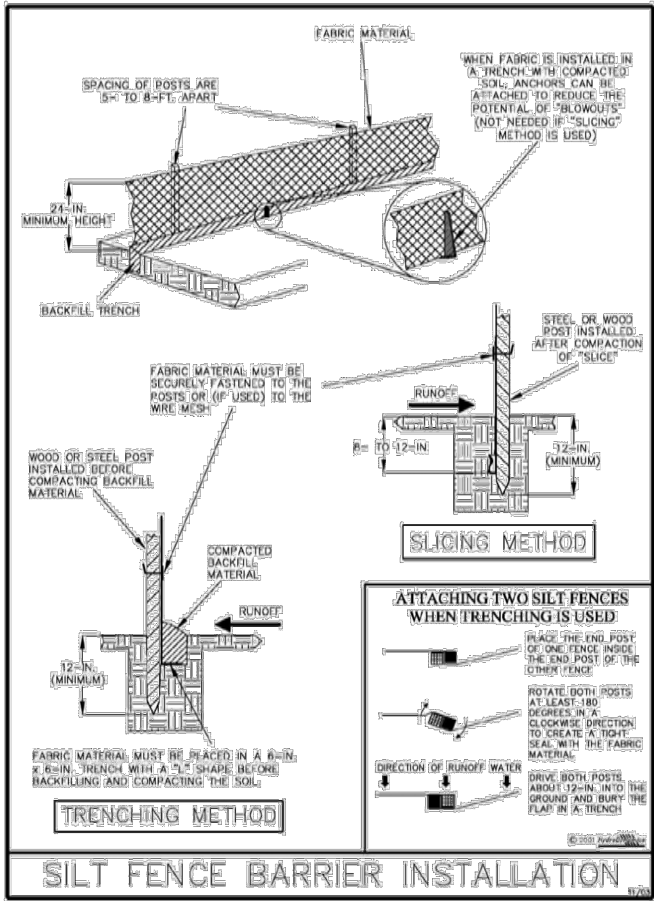


Figure V-40: Illustration of a Silt Fence Barrier

Permission is given by HydroDynamics Incorporated to copy and reproduce this detail

V-7

SILT FENCE BARRIER INSTALLATION

NOT TO SCALE

STATE OF FLORIDA EROSION & SEDIMENT CONTROL - DESIGNER & REVIEWER MANUAL

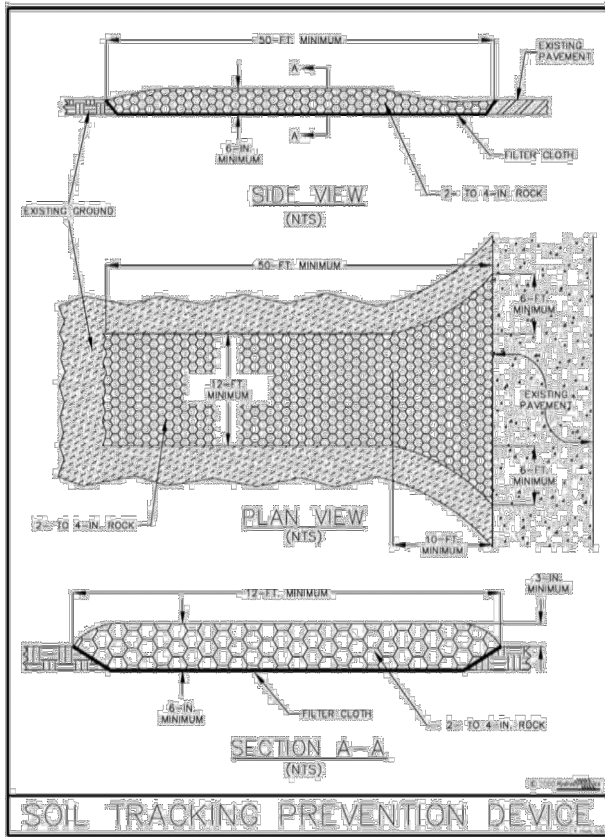


Figure V-14: Illustration of a Soil Tracking Prevention Device

Permission is given by HydroDynamics Incorporated to copy and reproduce this detail

V-31

SOIL TRACKING PREVENTION DEVICE

NOT TO SCALE

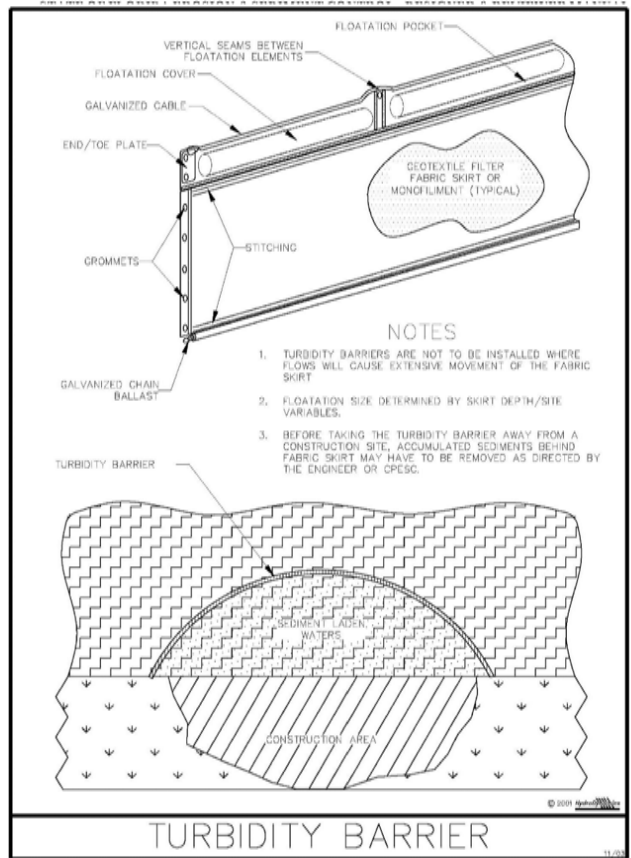


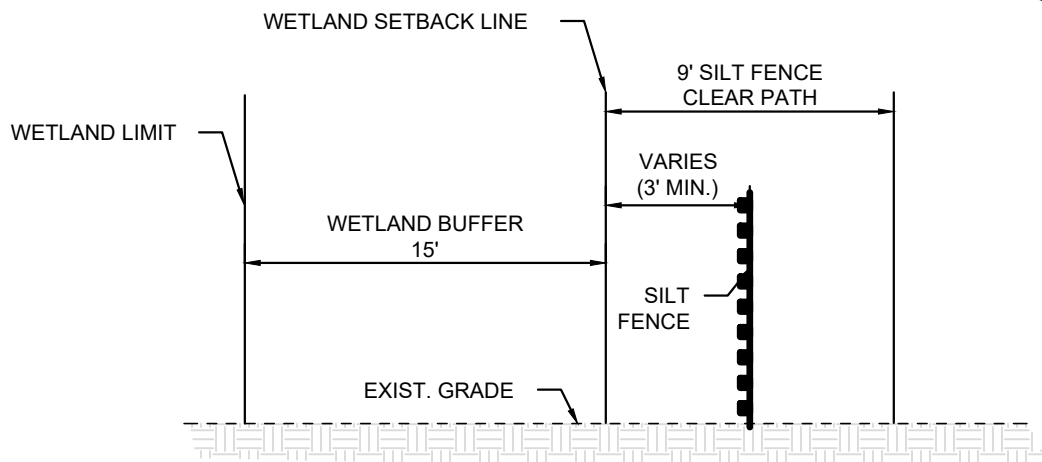
Figure V-44: Illustration of a Turbidity Barrier Curtain

Permission is given by HydroDynamics Incorporated to copy and reproduce this detail

V-15

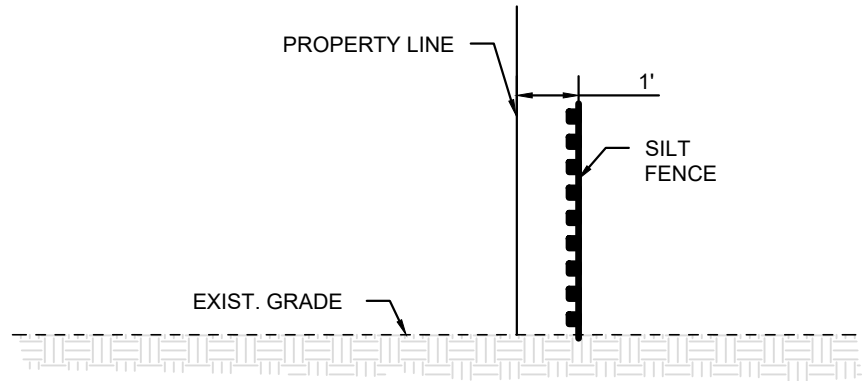
TURBIDITY BARRIER

NOT TO SCALE



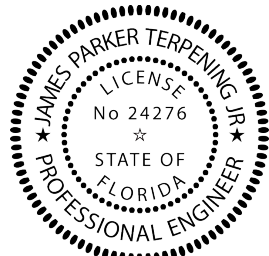
CLEAR PATH DETAIL

NOT TO SCALE



PROPERTY LINE DETAIL

NOT TO SCALE



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
06/16/2023	AK	LAYDOWN MODIFICATION			

C&T JOB NO. 20-215	
DESIGNED BY JPT 06/16/2021	DRAWN BY AND 06/16/2021
CHECKED BY JPT 06/24/2021	CHECKED BY TG 06/24/2021
ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276	



TECO
BIG BEND II PHASE II SOLAR

EROSION CONTROL PLAN DETAILS

SHEET NO.
CE6

P:\Proj-2020-20-215 TECO - Big Bend III - Solar Facility\Eng\Permit Mod Revision 1\20-215 Erosion Control Plan and Details.dwg Plotted: 7/14/2023 9:35 AM By: ALEXANDER KAISER

Section 1	Project Name and location information:	TECO - Big Bend II Phase II - Solar Facility Section 10, Township 31 South, Range 19 East Hillsborough County, FL.
Section 2	Describe the nature of the construction activity:	Solar Energy Center - PV Array
Section 3	Describe the intended sequence of major soil disturbing activities:	0-2 days: install perimeter sediment and erosion controls 3-10 days: clearing and site prep 11-40 days: earthwork - filling & grading 41-120 days: roadway and underground construction 121-128 Site Stabilization
Section 4	Total area of the site:	93 Acres
Section 5	Total area of the site to be disturbed:	78 Acres
Section 6	Existing data describing the soil or quality of any stormwater discharge from the site:	Soil types: • Wabasso Fine Sand, 0 to 2 percent slopes • Water
Section 7	Estimate the drainage area size for each discharge point:	93 Acres
Section 8	Latitude and longitude of each discharge point and identify the receiving water or MS4 for each discharge point:	LAT: 27.7986° LONG: -82.3881°
Section 9	Give a detailed description of all controls, Best Management Practices (BMPs) and measures that will be implemented at the construction site for each activity identified in the intended sequence of major soil disturbing activities section. Provide time frames in which the controls will be implemented. NOTE: All controls shall be consistent with performance standards for erosion and sediment control and stormwater treatment set forth in s. 62-40-432, F.A.C., the applicable Stormwater or Environmental Resource Permitting requirements of the Department or a Water Management District, and the guidelines contained in the State of Florida Erosion and Sediment Control Designer and Reviewer Manual, FDOT, FDEP, and any subsequent amendments.	
	• Prior to clearing, a silt fence (trenched 6 inches deep and backfilled on the uphill side), may be installed as required. Floating turbidity barrier will be installed to the limits of soil disturbance along the shoreline. • Disturbed portions of the site where construction activities have permanently ceased shall be stabilized with sod or other permanent stabilization methods no later than 60 days after the last construction activity. • All installation shall be commenced as depicted on the attached site map and installation "typical"	
Section 10	Describe all temporary and permanent stabilization practices. Stabilization practices include temporary seeding, mulching, permanent seeding, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, vegetative preservations, etc.	
	• Grassing or mulch shall be used to stabilize all disturbed areas.	
Section 11	Describe all structural controls to be implemented to divert stormwater flow from exposed soils and structural practices to store flows, retain sediment on site or in any other way limit stormwater runoff. These controls include silt fences, earth dikes, diversions, swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, coagulating agents and temporary or permanent sediment basins.	
Section 12	• Silt fence (with the same installation as indicated under the Best Management Practices heading) shall be installed as indicated on sheet CE 6. • Soil Tracking device (with the same installation as indicated under the Best Management Practices heading) shall be installed as indicated on sheet CE 6. Describe all sediment basins to be implemented for areas that will disturb 10 or more acres at one time. The sediment basins (or an equivalent alternative) should be able to provide 3,600 cubic feet of storage for each acre drained. Temporary sediment basins (or an equivalent alternative) are recommended for drainage areas under 10 acres. • No temporary sedimentation basins are proposed as runoff will be directed to permanent surface water management system.	

Section 13	Describe all permanent stormwater management controls such as, but not limited to, detention or retention systems or vegetated swales that will be installed during the construction process.	
	• The Project stormwater system that will accept any runoff from the disturbed areas is completed and operational.	
Section 14	Waste disposal, this may include construction debris, chemicals, litter, and sanitary wastes:	All construction materials and debris will be placed in a dumpster and hauled off site to a landfill or other proper disposal site. No materials will be buried on site.
Section 15	Offsite vehicle tracking from construction entrances/exits:	Off site vehicle tracking of sediments and dust generation will be minimized via a rock construction entrance, street sweeping and the use of water to keep dust down.
Section 16	The proper application rates of all fertilizers, herbicides and pesticides used at the construction site:	Florida-friendly fertilizers and pesticides will be used at a minimum and in accordance with the manufacturer's suggested application rates.
Section 17	The storage, application, generation and migration of all toxic substances:	All paints and other chemicals will be stored in a locked covered shed.
Section 18	Other:	Port-o-lets will be placed away from storm sewer systems, storm inlet(s), surface waters and wetlands. No vehicle maintenance shall be conducted on-site. A washdown area shall be designated at all times and will not be located in any area that will allow for the discharge of polluted runoff.
Section 19	Provide a detailed description of the maintenance plan for all structural and non-structural controls to assure that they remain in good and effective operating condition.	
	Contractor shall provide routine maintenance of permanent and temporary sediment and erosion control features in accordance with the technical specifications or as follows, whichever is more stringent: • Silt fence shall be inspected at least weekly. Any required repairs shall be made immediately. Sediment deposits shall be removed when they reach approximately one-half the height of the barrier. • Maintenance shall be performed on the rock entrance when any void spaces are full of sediment. • Inlet(s)/outfalls shall be inspected immediately after each rain event and any required repairs to the filter inlets, silt fence, or filter fabric shall be performed immediately. • Bare areas of the site that were previously seeded shall be reseeded per manufactures' instructions. • Mulch and sod that has been washed out shall be replaced immediately. • Maintain all other areas of the site with proper controls as necessary.	
Section 20	Inspections: Describe the inspection and inspection documentation procedures, as required by the FDEP NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities.	
	Qualified personnel will inspect all points of discharges, all disturbed areas of construction that have not been stabilized, constructed areas and locations where vehicles enter and exit the site, and all BMPs at least once every 7 calendar days and within 24 hours of the end of a rainfall event that is 0.5 inches or greater. Where sites have been finally stabilized, said inspections shall be conducted at least once every month until the Notice of Termination is filed.	
Section 21	Identify and describe all sources of non-stormwater discharges as allowed by the FDEP NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities.	
	It is expected that no non-stormwater discharges will occur from the site during construction period.	
Section 22	All contractor(s) and subcontractor(s) identified in the SWPPP must sign the following certification:	
	"I certify under penalty of law that I understand, and shall comply with, the terms and conditions of the State of Florida Generic Permit for Stormwater Discharge from Large and Small Construction Activities and this Stormwater Pollution Prevention Plan prepared thereunder."	



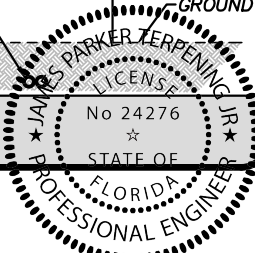
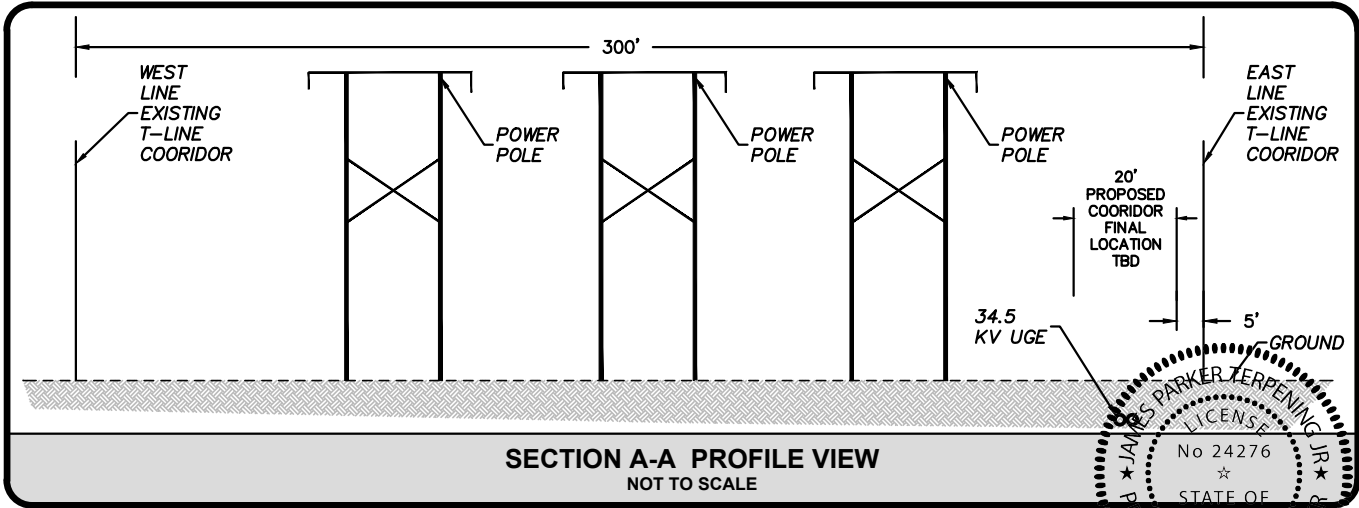
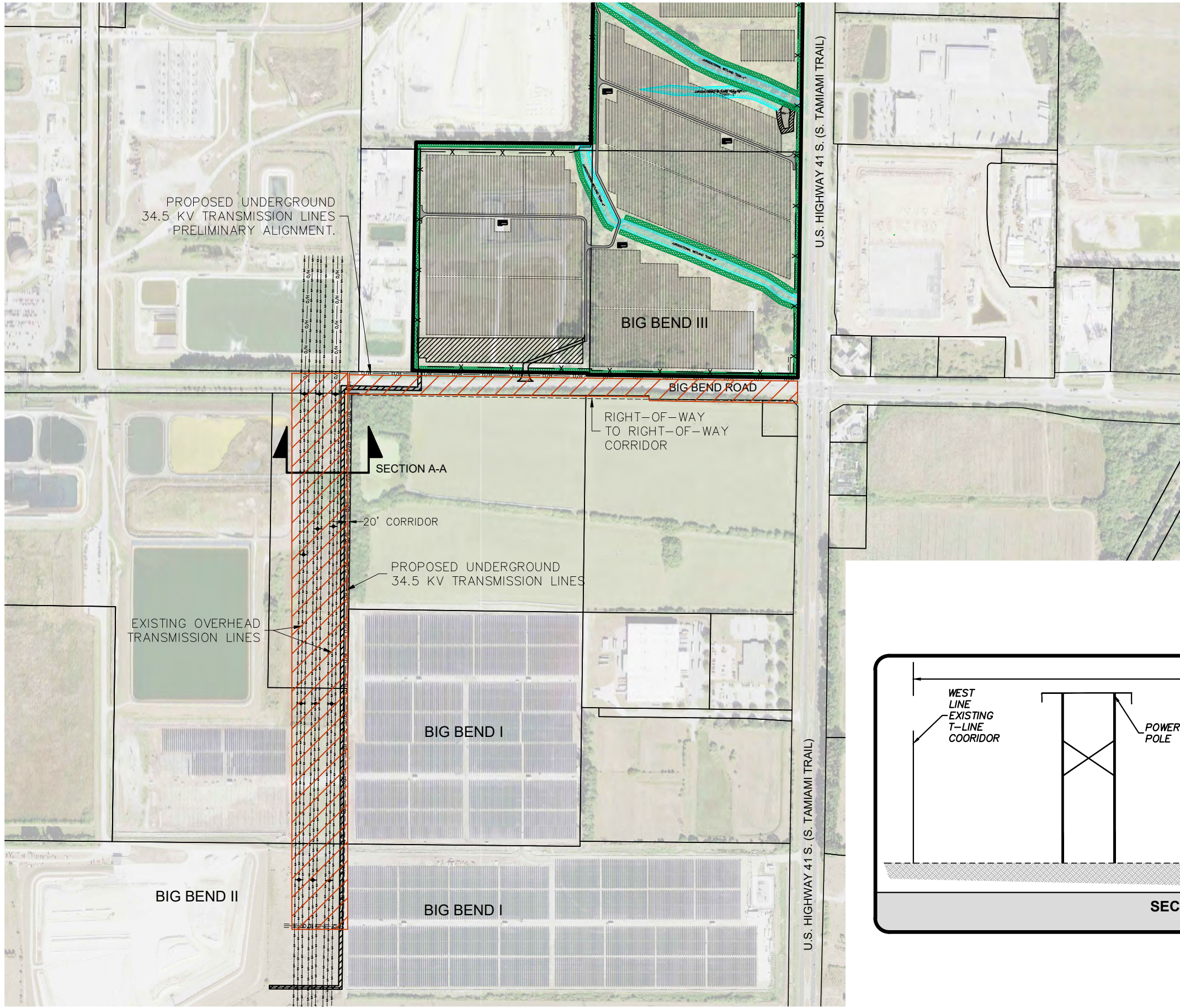
JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

REVISIONS						C&T JOB NO. 20-215	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DESIGNED BY	DRAWN BY
06/16/2023	AK	LAYDOWN MODIFICATION				JPT 06/16/2021	AND 06/16/2021
						CHECKED BY	CHECKED BY
						JPT 06/24/2021	TG 06/24/2021
						ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276	



TECO	EROSION CONTROL PLAN DETAILS	SHEET NO.
BIG BEND II PHASE II SOLAR		CE7

P:\Proj-2020-20-215 TECO - Big Bend III - Solar Facility\Eng\Permit Mod Revision 1\20-215 T-Line Plan.dwg Plotted: 7/14/2023 9:02 AM By: ALEXANDER KAISER



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
06/16/2023	AK	LAYDOWN MODIFICATION			

C&T JOB NO. 20-215			
DESIGNED BY	JPT	DRAWN BY	JEB
CHECKED BY	TK	CHECKED BY	TK
ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276			



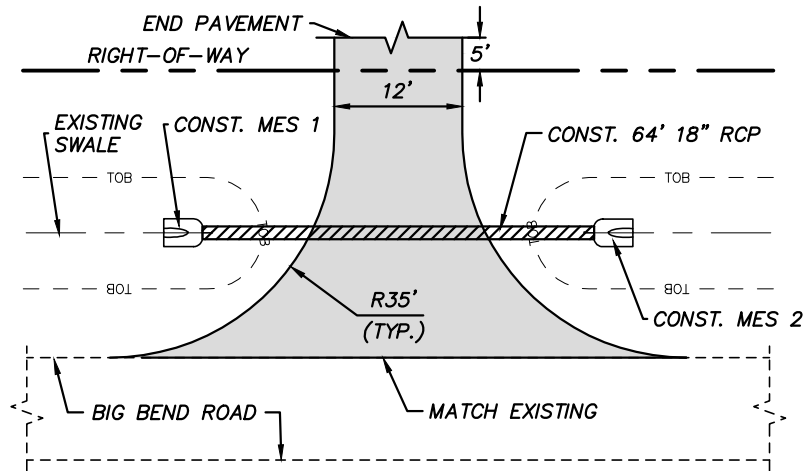
CULPEPPER & TERPENING INC
2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981
PHONE 772-464-3537 • FAX 772-464-9497 • www.ct-eng.com
STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

TECO
BIG BEND II PHASE II SOLAR

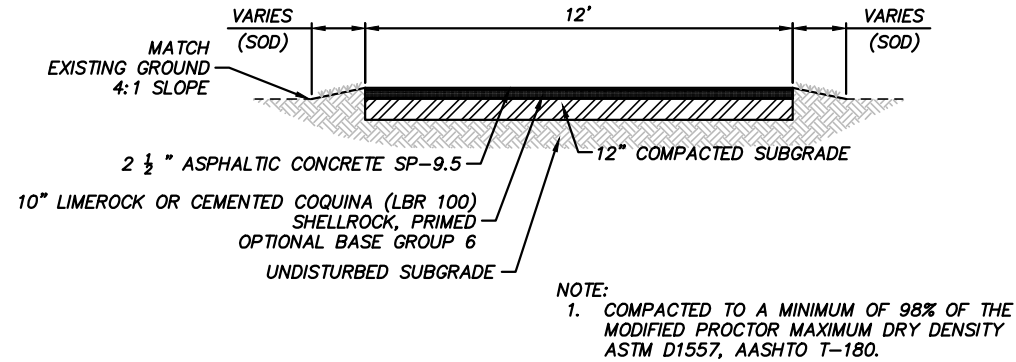
T-LINE PLAN

SHEET NO.
CE8

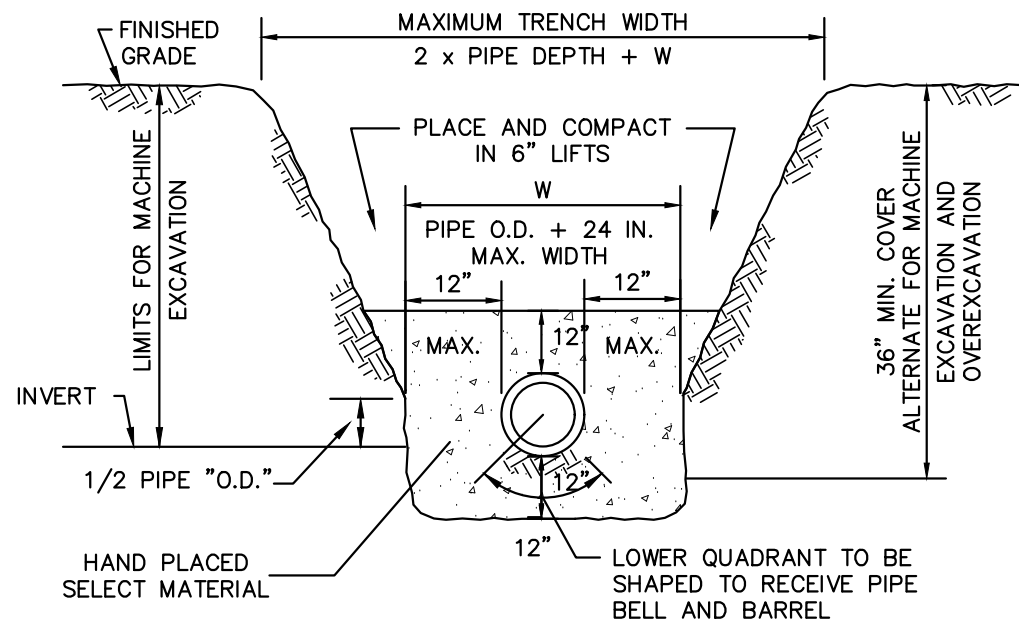
P:\Proj-2020-215\TECO - Big Bend II - Solar Facility\Eng\Permit Mod Revision 1\20-215 Details.dwg Plotted: 7/14/2023 9:09 AM By: ALEXANDER KAISER



BIG BEND ROAD PLAN VIEW
NOT TO SCALE



BIG BEND ROAD DRIVEWAY SECTION
NOT TO SCALE



PIPE TRENCH - DETAIL 1 OF 2
NOT TO SCALE

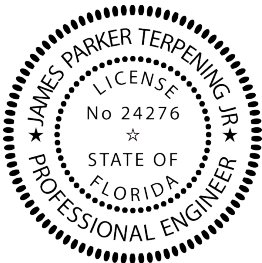
NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.
2. INITIAL BACKFILL SHALL BE HAND PLACED TO 12" ABOVE THE PIPE. BACKFILL SHALL BE MECHANICALLY TAMPED TO A MINIMUM OF 100% OF MAX. DENSITY AS DETERMINED BY AASHTO METHOD T-99.

THE FOLLOWING SHALL BE REQUIRED WHERE TRENCH EXCAVATION EXCEEDS 4 FEET DEPTH, SEE LAWS OF FLORIDA, CHAPTER 90-96

1. INCLUDE OSHA STANDARD 29 CFR, SECTION 1926.650 SUBPART P.
2. THE CONTRACTOR SHALL PROVIDE WRITTEN ASSURANCE OF COMPLIANCE WITH THIS LAW.
3. A SEPARATE COST ITEM IDENTIFYING THE COST OF COMPLIANCE.
4. A TRENCH SAFETY SYSTEM SHALL BE DESIGNED BY THE CONTRACTOR.

PIPE TRENCH - DETAIL 2 OF 2
NOT TO SCALE



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

REVISIONS				C&T JOB NO. 20-215			
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DESIGNED BY	DRAWN BY
06/16/2023	AK	LAYDOWN MODIFICATION				JPT 06/16/2021	AND 06/16/2021
						CHECKED BY	CHECKED BY
						JPT 06/24/2021	TG 06/24/2021

C&T JOB NO. 20-215			
DESIGNED BY	JPT 06/16/2021	DRAWN BY	AND 06/16/2021
CHECKED BY	JPT 06/24/2021	CHECKED BY	TG 06/24/2021
ENGINEER OF RECORD:	JAMES P. TERPENING JR., P.E. NO. 24276		

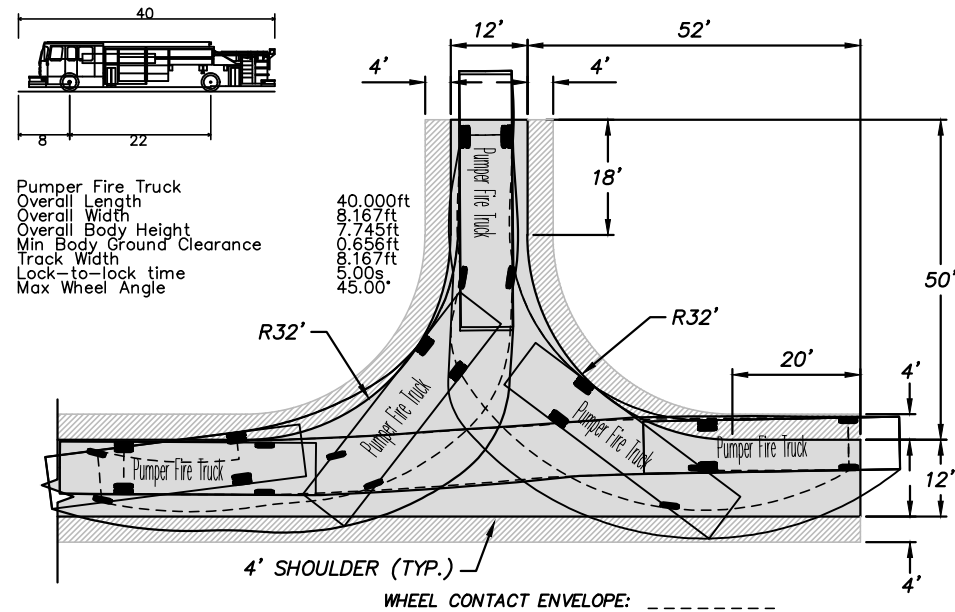


TECO
BIG BEND II PHASE II SOLAR

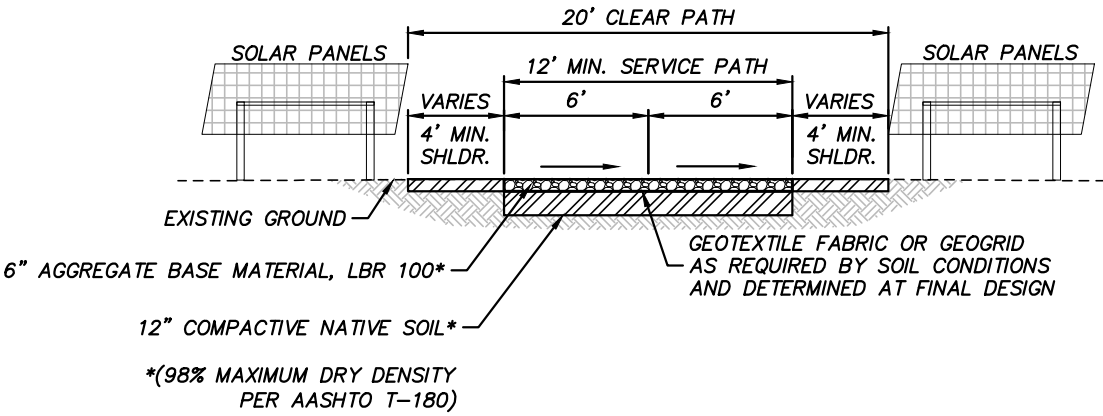
DETAILS AND TYPICAL SECTIONS
CE9

SHEET NO.
CE9

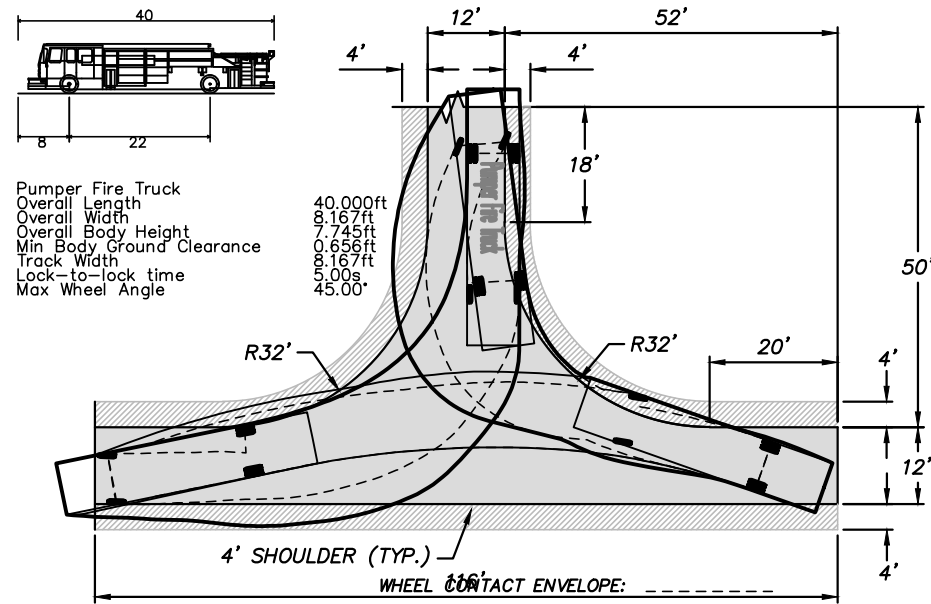
P:\Proj-2020-20-215 TECO - Big Bend III - Solar Facility\Eng\Permit Mod Revision 1\20-215 Details.dwg Plotted: 7/14/2023 9:08 AM By: ALEXANDER KAISER



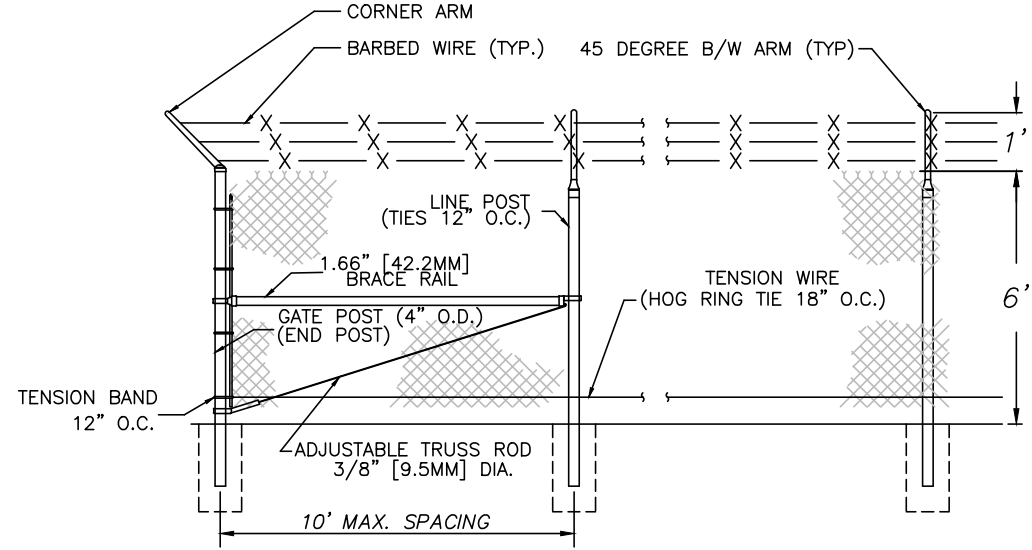
HAMMERHEAD TURN-AROUND
NOT TO SCALE



TYPICAL 12' MINIMUM SERVICE PATH
NOT TO SCALE



TEE TURN-AROUND
NOT TO SCALE



SECURITY FENCE DETAIL
NOT TO SCALE



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

REVISIONS			
DATE	BY	DESCRIPTION	DATE BY DESCRIPTION
06/16/2023	AK	LAYDOWN MODIFICATION	

C&T JOB NO. 20-215			
DESIGNED BY	JPT	DRAWN BY	AND
CHECKED BY	JPT	CHECKED BY	TG
ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276			

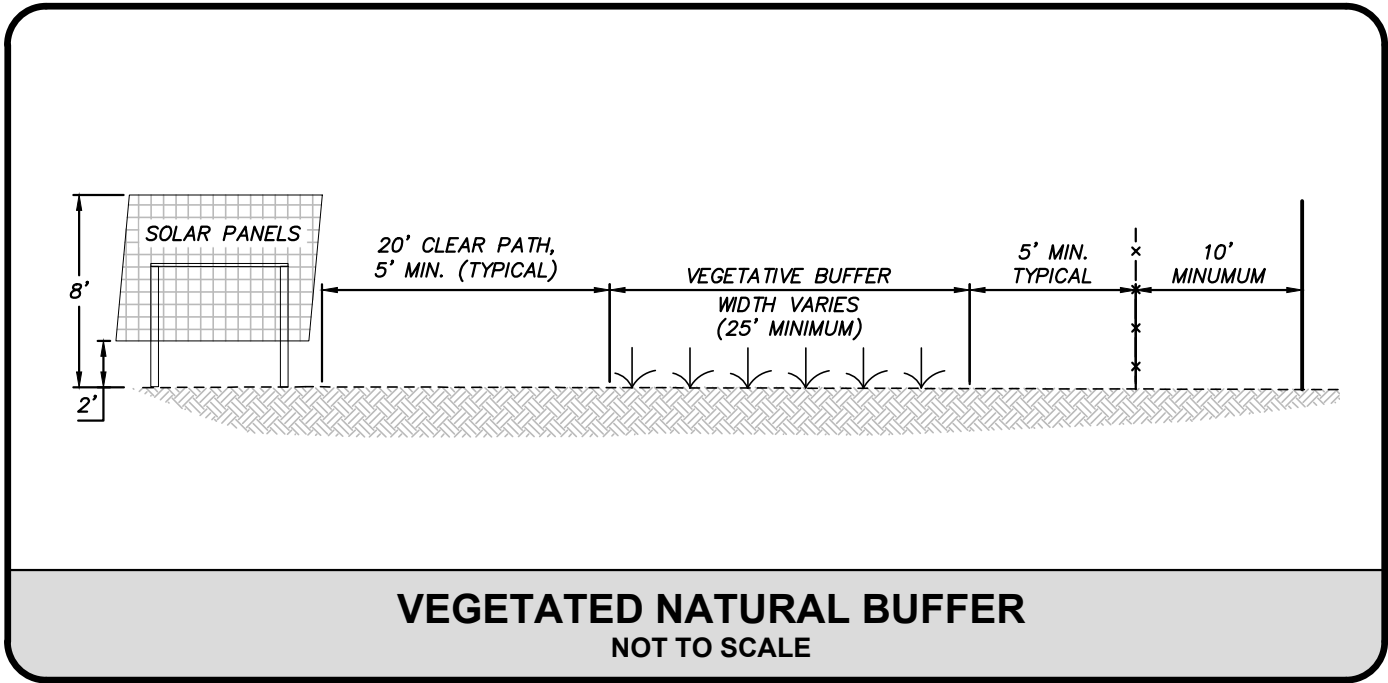
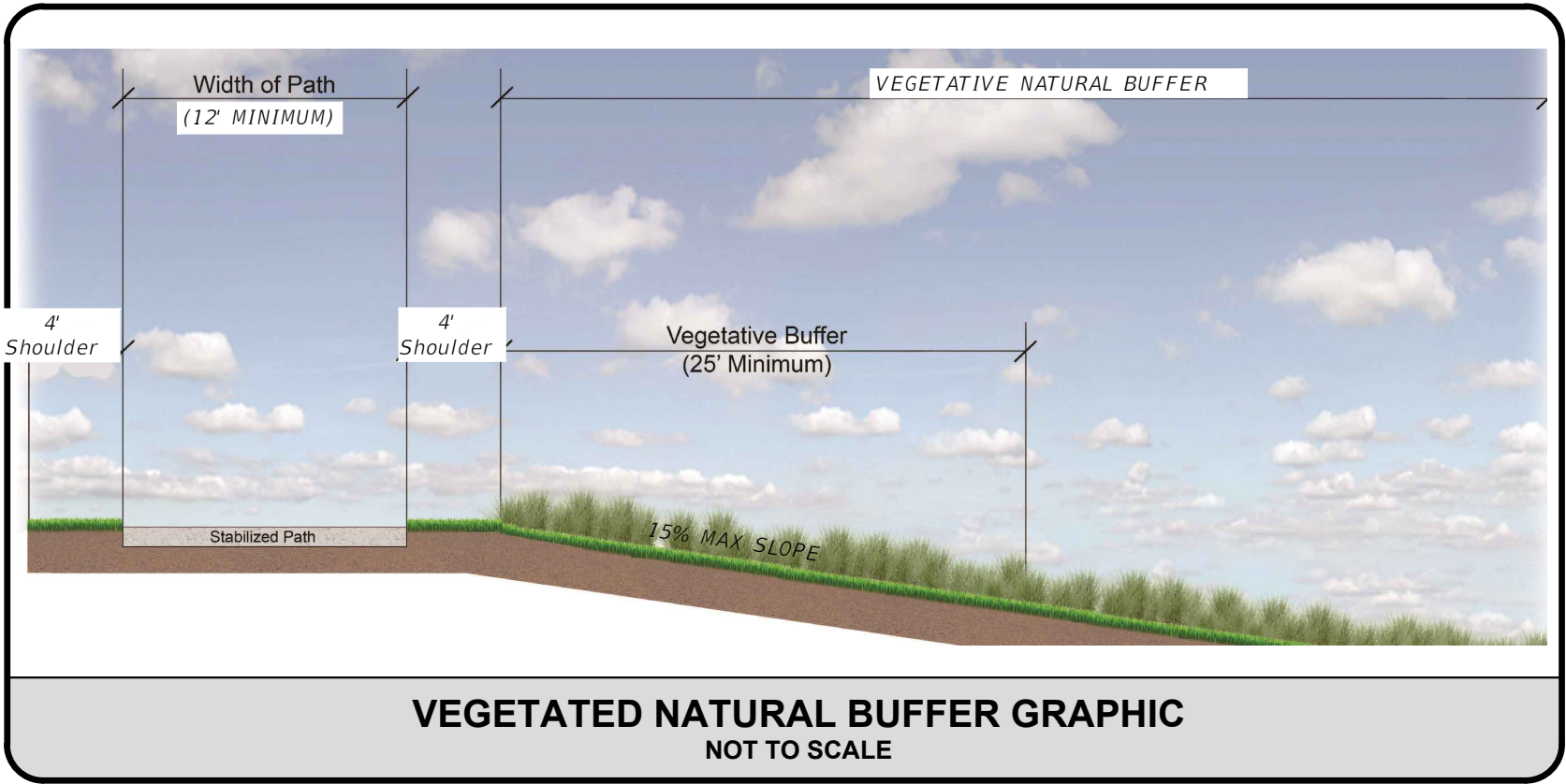
CULPEPPER & TERPENING INC
2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981
PHONE 772-464-3537 • FAX 772-464-9497 • www.ct-eng.com
STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

TECO
BIG BEND II PHASE II SOLAR

DETAILS AND TYPICAL SECTIONS

SHEET NO.
CE10

P:\Proj-2020-215\TECO - Big Bend III - Solar Facility\Eng\Permit Mod Revision 1\20-215 Details.dwg Plotted: 7/14/2023 9:07 AM By: ALEXANDER KAISER



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
06/16/2023	AK	LAYDOWN MODIFICATION			

C&T JOB NO. 20-215			
DESIGNED BY	JPT	DRAWN BY	AND 06/16/2021
CHECKED BY	JPT	CHECKED BY	TG 06/24/2021
ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276			

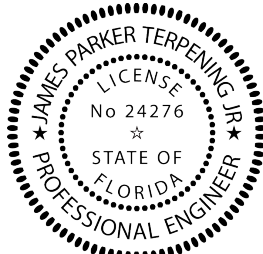
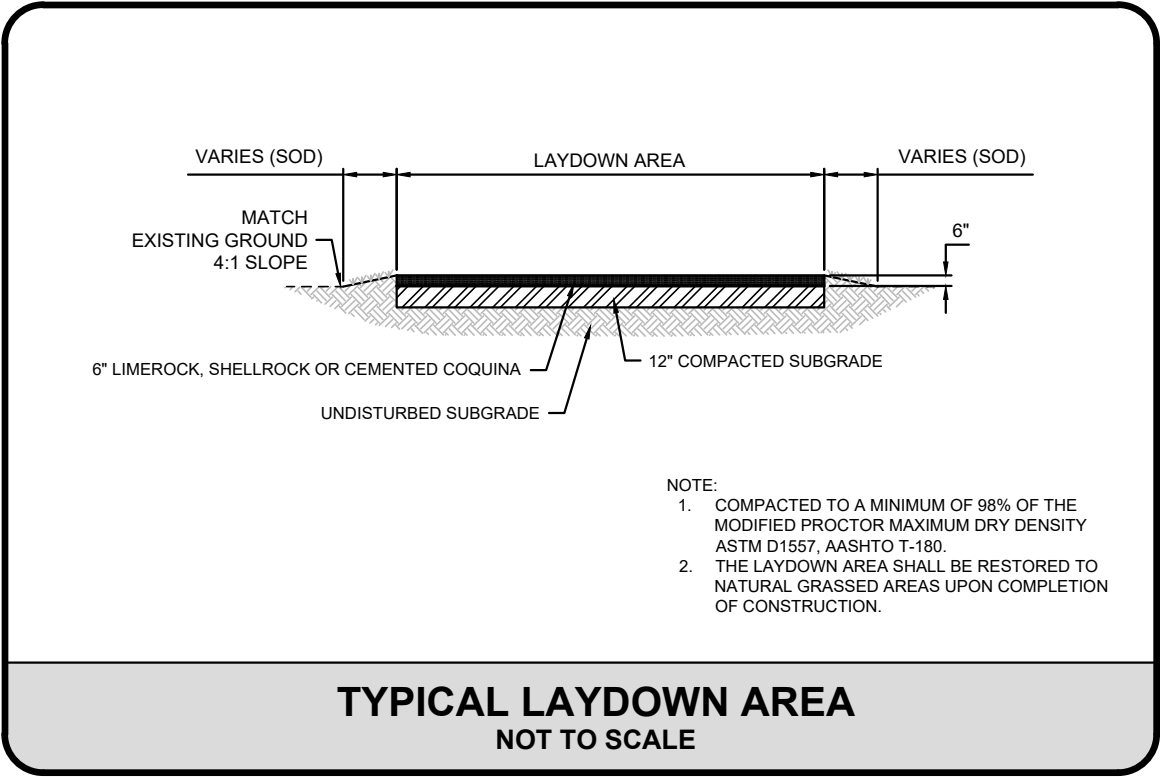
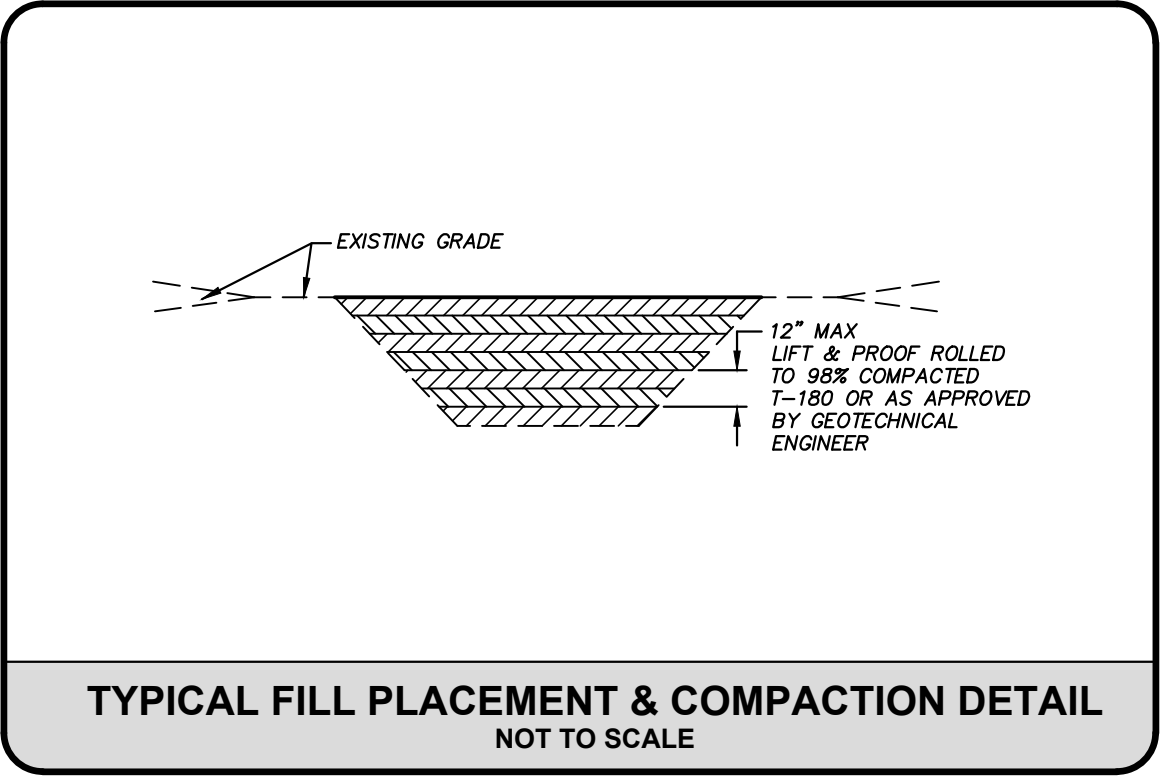
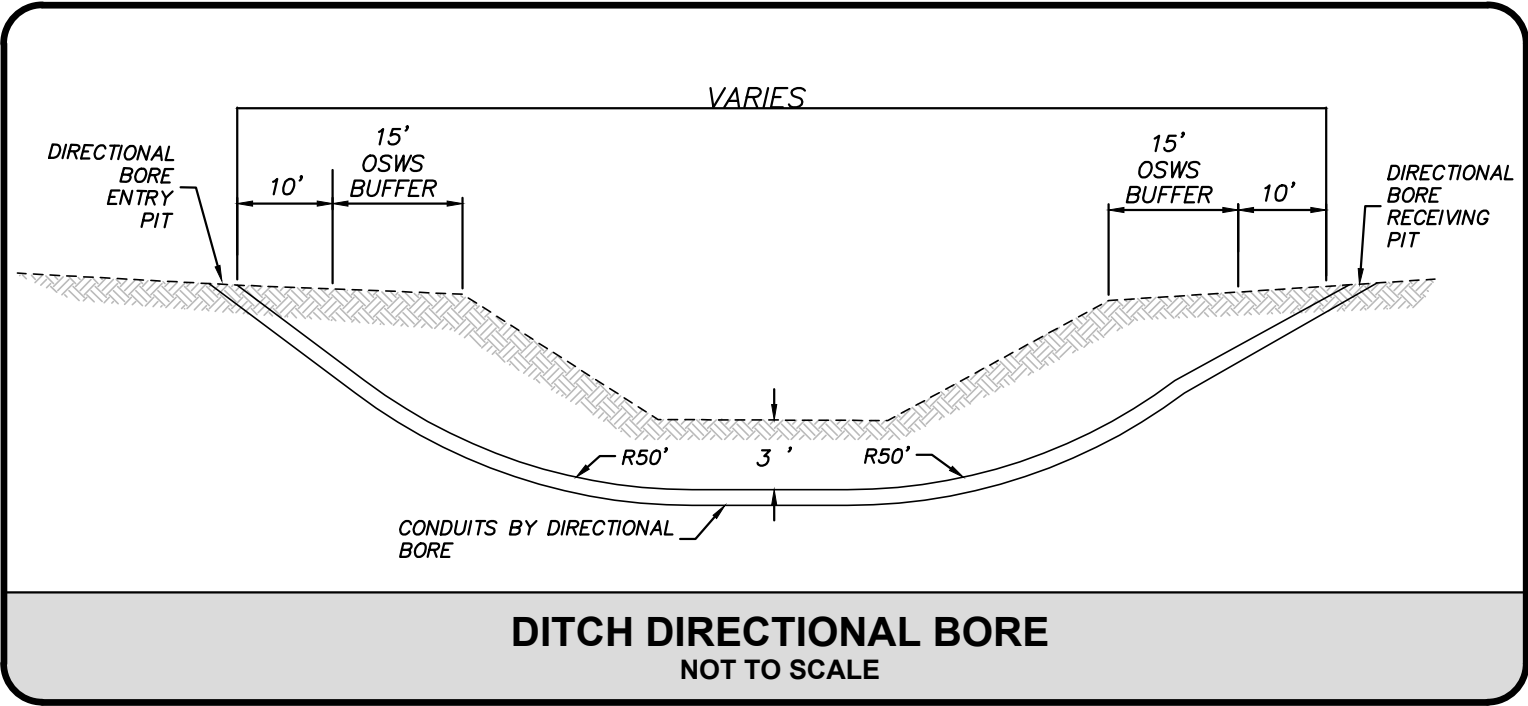
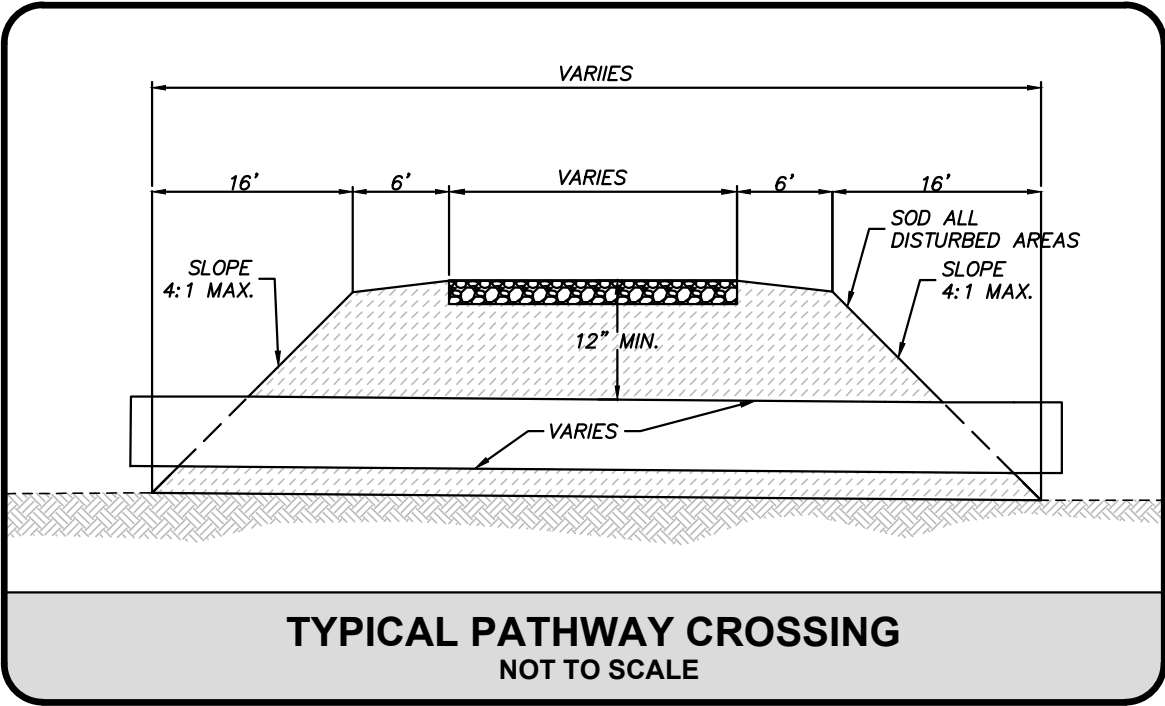


TECO
BIG BEND II PHASE II SOLAR

DETAILS AND TYPICAL SECTIONS

SHEET NO.
CE11

P:\Proj-2020-215\TECO - Big Bend III - Solar Facility\Eng\Permit Mod Revision 1\20-215 Details.dwg Plotted: 7/14/2023 9:06 AM By: ALEXANDER KAISER



JAMES P. TERPENING JR., P.E.
FL. REG. NO. 24276

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
06/16/2023	AK	LAYDOWN MODIFICATION			

C&T JOB NO. 20-215	
DESIGNED BY JPT 06/16/2021	DRAWN BY AND 06/16/2021
CHECKED BY JPT 06/24/2021	CHECKED BY TG 06/24/2021
ENGINEER OF RECORD: JAMES P. TERPENING JR., P.E. NO. 24276	



CULPEPPER & TERPENING INC
2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981
PHONE 772-464-3537 • FAX 772-464-9497 • www.ct-eng.com
STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

TECO
BIG BEND II PHASE II SOLAR

DETAILS AND TYPICAL SECTIONS
CE12

SHEET NO.
CE12



CULPEPPER & TERPENING, INC.

CONSULTING ENGINEERS, LAND SURVEYORS



BIG BEND II PHASE II SOLAR ENERGY CENTER

HILLSBOROUGH COUNTY, FLORIDA

DRAINAGE CALCULATIONS

JULY 2023

C&T Project No. 20-215.002

Certificate of Authorization No. 4286

PREPARED BY

Culpepper & Terpening, Inc.
2980 South 25th Street
Fort Pierce, Florida 34982
Tel. (772) 464-3537
www.ct-eng.com

PREPARED FOR

Tampa Electric Company
702 N. Franklin Street
Plaza 8
Tampa, Florida 33602



TABLE OF CONTENTS

SECTION 1 – GENERAL INFORMATION	2
1.1. Facility Information	2
SECTION 2 – STORMWATER ANALYSIS	7
2.1 Water Quantity	7
2.2 Water Quality.....	7
2.3 Floodplain Analysis	7
SECTION 3 – RESULTS	8
3.1 Water Quantity	8
3.2 Water Quality.....	8
3.3 Floodplain Analysis	9
SECTION 4 – CONCLUSIONS	10
 <u>FIGURES</u>	
Figure 1 – Location Map.....	3
Figure 2 – FEMA Flood Map.....	4
Figure 3 – Permitted-Development Map.....	5
Figure 4 – Proposed-Development Map.....	6
 <u>APPENDICES</u>	
Appendix 1 – FDEP ERP No. 29-0126191-023	12
Appendix 2 – Proposed Development Analysis	28

SECTION 1 – GENERAL INFORMATION

1.1. Facility Information

Tampa Electric Company is proposing a modification to the existing permit, Florida Department of Environmental Protection Environmental Resource Permit (FDEP ERP) No. 29-0126191-023 for the project known as the “Big Bend II Phase II” and herein referenced as “the Facility”. It should be noted, that the Facility was permitted under the name Big Bend Power Station and also, it was formerly known as Big Bend III.

The Facility is a 93.27 acre site. The Facility is generally located north of Big Bend Road, east of Wyandotte Road, and west of N. U.S. Highway 41 (State Road 45) in Hillsborough County, Florida. The project site is located within Section 10, Township 31S, Range 19E of Hillsborough County. A general location map is shown in Figure 1 “Location Map” on page 3.

The proposed modifications include the following:

- Relocate driveway location on Big Bend Road (site access) 338 feet to the east, so that the existing driveway access could be utilized.
- Relocate Permitted temporary laydown area from Northwest corner to the Southwest property corner. Laydown proposed to remain as a permanent feature.
- Increase impervious area of inverters by 396 SF. Permitted Area = 1,584 SF, Permit Modification Area = 1,980 SF
- Increase impervious of pathways by 7,138 SF. Permitted Area = 62,550 SF, Permit Modification Area = 69,688 SF
- The proposed modifications will result in a net increase of 3.02 acres of impervious area.

The Remainder of Page is Intentionally Blank

Big Bend II Phase II Drainage Calculations

Figure 1 – Location Map

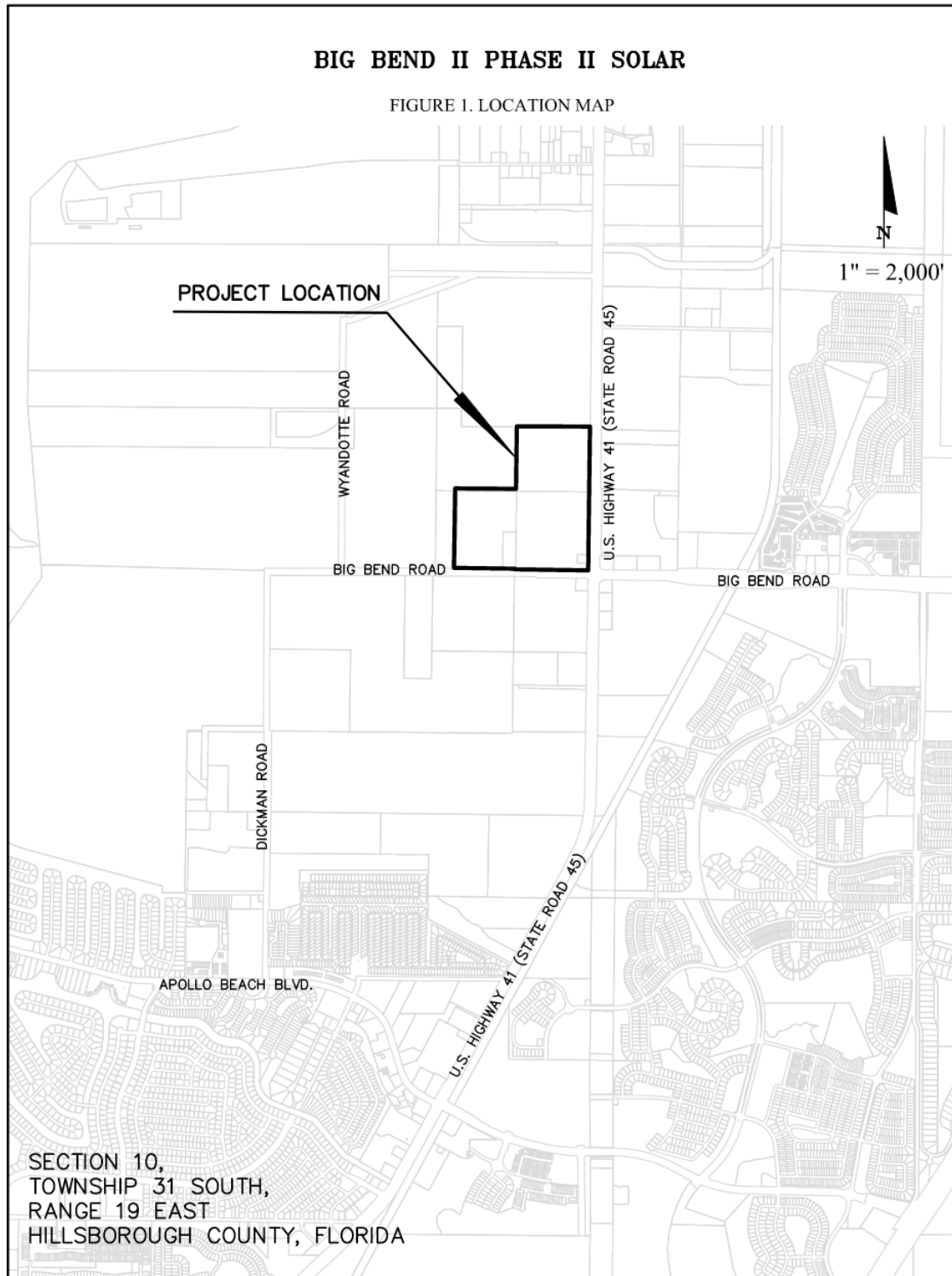


Figure 2 – FEMA Flood Map

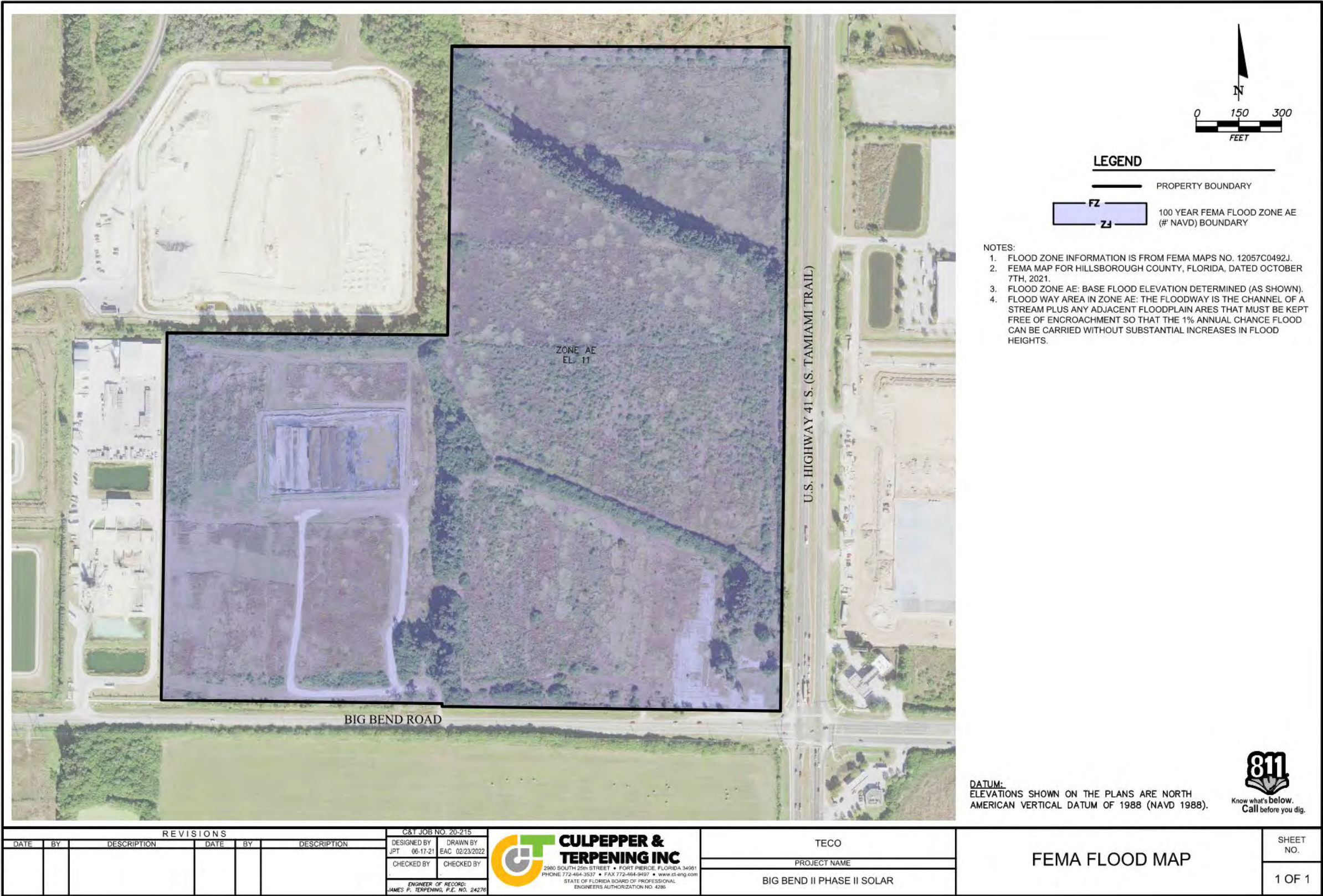


Figure 3 – Permitted-Development Map

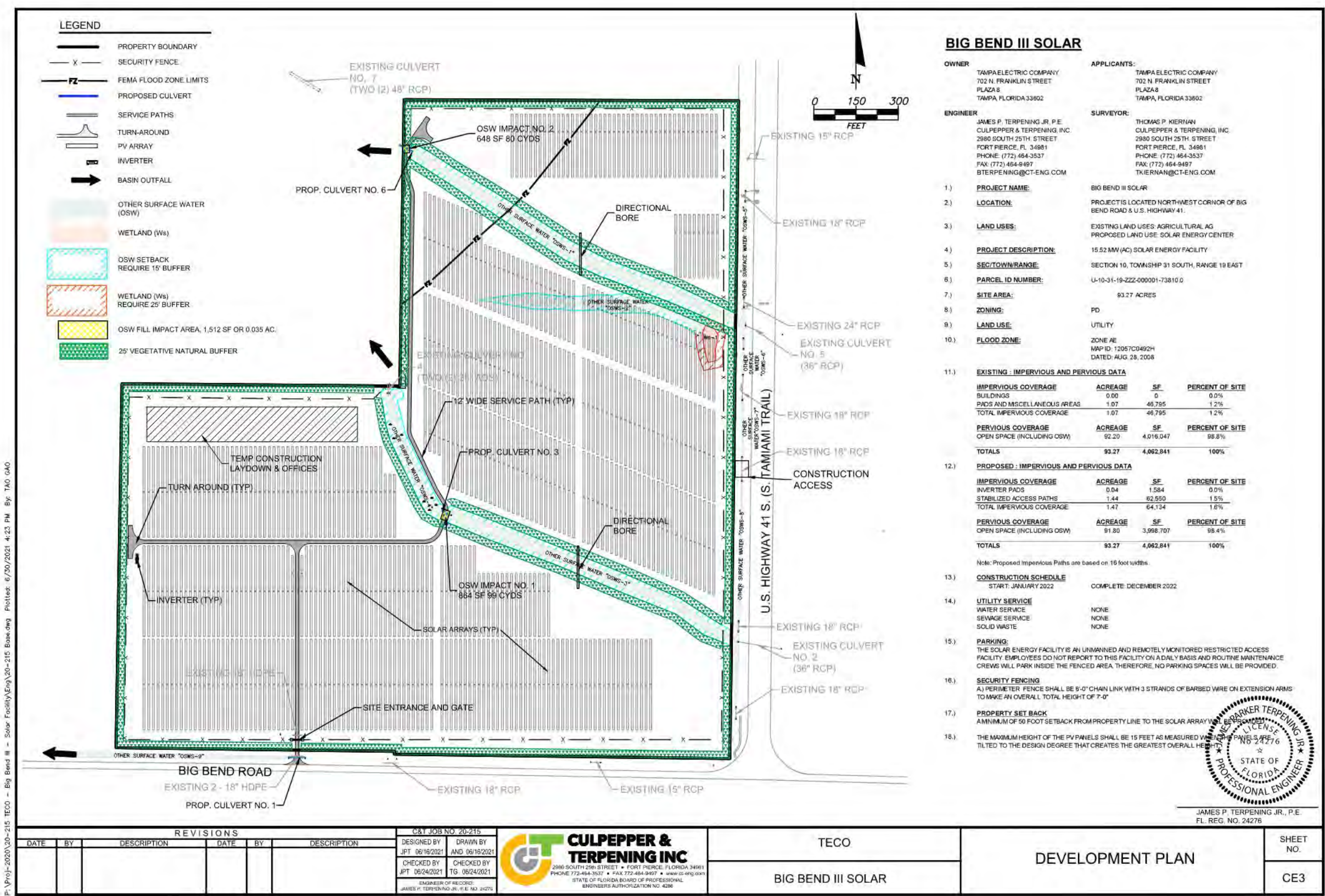
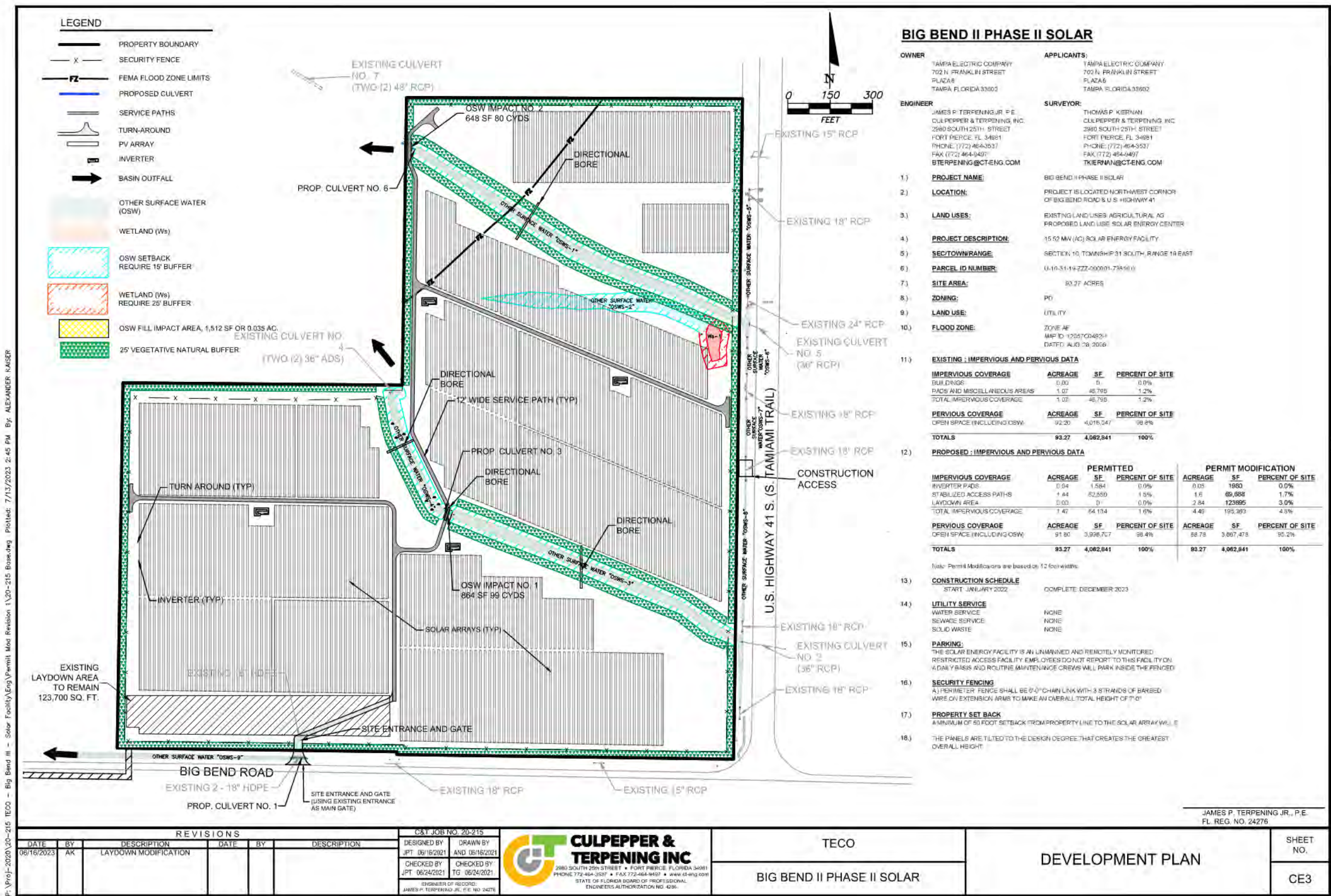


Figure 4 – Proposed-Development Map



SECTION 2 – STORMWATER ANALYSIS

The Facility will be designed pursuant to FDEP ERP No. 29-0126191-023 such that no adverse water quantity or quality to the receiving waters will occur as a result of the modifications to the Facility, as required by the Southwest Florida Water Management District (the “SWFWMD”) regulations and under Section 62-330.304 of the Florida Administrative Code.

2.1 Water Quantity

- Pursuant to FDEP ERP No. 29-0126191-023, the site will be analyzed on a permitted-development versus proposed-development for water quantity.
- The permitted drainage patterns are preserved in the Proposed-Development Condition;
- The hydraulic connectivity and outfalls are all preserved in the Proposed-Development Condition;
- The site ultimately discharges into Tampa Bay; and,
- Tailwater conditions are based on oceanic tidal conditions.

2.2 Water Quality

- Pursuant to FDEP ERP No. 29-0126191-023, the Facility will be analyzed as a singular drainage basin and analyzed for water quality such that the stormwater treatment volume shall be the runoff volume generated from the first 1.00 inch for the added impervious areas; and,
- All semi-impervious areas were considered full impervious for the purpose of the analysis.

2.3 Floodplain Analysis

- The Facility is located within FEMA Flood Map No. 12057C0492J for Hillsborough County, dated October 7, 2021;
- The full site is located within a Floodplain having a FEMA Flood Zone designation of AE, Elevation 11' NAVD;
- As the site lies within a tidal area, there are no anticipated negative impacts to Floodplain as a result of the proposed modifications; and,
- The proposed inverters are elevated above the 200 Year stage on piles to minimize the earthwork within the floodplain.
- A copy of the FEMA Flood Map is included as Figure 2 on page 4.

SECTION 3 – RESULTS

The proposed modifications include: relocation of the site access driveway location, relocation of temporary laydown area and laydown area to become permanent feature of site, increase in the number of inverters and decrease in inverter pad size, and increase in the area of stabilized access paths. The proposed modifications result in a net increase of 3.02 acres of impervious area as shown in Table No. 1 below.

Table No. 1		
Impervious Area Summary		
	FDEP ERP No. 29-0126191-023	Proposed
Stabilized Access Path	1.44 acres	1.60 acres
Inverter Pads	0.04 acres	0.05 acres
Laydown Area	0.00 acres	2.84 acres
Total:	1.47 acres*	4.49 acres
*Difference in addition due to rounding. Acreage was calculated in SF and converted to acres.		

3.1 Water Quantity

The hydraulic connectivity and outfalls are preserved in the Proposed-Development Condition. The site continues to ultimately discharge into Tampa Bay and tailwater conditions are based on oceanic tidal conditions. A permitted-development versus proposed-development analysis is not necessary as the proposed-development conditions will not have a negative impact on the downstream waterbody, the Gulf of Mexico/the Atlantic Ocean.

3.2 Water Quality

The Facility has been designed to utilize the existing, permitted Vegetated Natural Buffers (VNBs) as the primary water quality treatment for the volume of runoff generated from 1 inch over the added impervious areas. The Vegetated Natural Buffers are located along the perimeter of the project site, downstream of the existing (permitted) and proposed impervious features of the site. The VNBs enhance the water quality of the runoff by promoting natural deposition, infiltration, and absorption. A summary of the Water Quality Analysis is shown in Table No. 2 “Water Quality Analysis Summary,” below and the full Water Quality Analysis can be found in Appendix 2.

Table No. 2		
Water Quality Analysis Summary		
Basin	Required Water Quality Volume (ac-ft.)	Proposed Water Quality Volume (ac-ft.)
1	0.37	5.71
Total	0.37	5.71

3.3 Floodplain Analysis

- As the site lies within a tidal area, there are no anticipated negative impacts to Floodplain as a result of the proposed modifications; and,
- The proposed inverters are elevated above the 200 Year stage on piles to minimize the earthwork within the floodplain.

The Remainder of Page is Intentionally Blank

SECTION 4 – CONCLUSIONS

- The proposed modification is pursuant to FDEP ERP No. 29-0126191-023 and in turn, is consistent with all requirements of FDEP, SWFWMD and Hillsborough County. Stormwater attenuation, water quantity and quality have been addressed and satisfied within this report.
- All State, Local and Federal flood protection requirements have been satisfied;
- There is a net increase of 3.02 acres of impervious area proposed. The site's Permitted-Development versus Proposed-Development impervious area is as follows:

Table No. 1		
Impervious Area Summary		
	FDEP ERP No. 29-0126191-023	Proposed
Stabilized Access Path	1.44 acres	1.60 acres
Inverter Pads	0.04 acres	0.05 acres
Laydown Area	0.00 acres	2.84 acres
Total:	1.47 acres*	4.49 acres
*Difference in addition due to rounding. Acreage was calculated in SF and converted to acres.		

- The site is hydrologically analyzed as (1) drainage basin;
- The site ultimately discharges to Tampa Bay;
- The 100 year Design Flood Elevation (DFE), based on the FEMA Flood Map is Elevation 11' NAVD.
- The 200 year Design Flood Elevation (DFE), based on the Hillsborough County's flood model is Elevation 11.41' NAVD.
- Tailwater conditions are based on oceanic tidal conditions. Thus, a permitted-development versus proposed-development analysis is not necessary as the proposed-development conditions will not have a negative impact on the downstream waterbody;
- The sites water quality volume provided by Vegetated Natural Buffers exceeds the required water quality volume;
 - o Total Site Required Water Quality Volume = 0.37 ac-ft.
 - o Total Site Provided Water Quality Volume = 5.71 ac-ft.
- As the site lies within a tidal area, there are no anticipated negative impacts to Floodplain as a result of the proposed modifications.

Big Bend II Phase II Drainage Calculations

I, James P. Terpening, PE, do certify that the application for Big Bend II Phase II Solar has been designed in full compliance with the requirements of the Southwest Florida Water Management District, Hillsborough County and the Florida Department of Environmental Protection. All plans, calculations, reports, or other documents that have been submitted in support of the application bearing my signature and seal have been prepared in full recognition of and compliance with these requirements.

Submitted by:

James P. Terpening, PE Date
Florida Registration #24276
EOR Responsibility – 100% Pages 1-33

Appendix 1 – FDEP ERP No. 29-0126191-023



FLORIDA DEPARTMENT OF Environmental Protection

Southwest District Office
13051 North Telecom Parkway #101
Temple Terrace, Florida 33637-0926

September 22, 2021

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

Tampa Electric Company
c/o Stanley Kroh
P.O. Box 111
Tampa, FL 33601
smkroh@tecoenergy.com

NOTIFICATION OF COMPLIANCE

Licensee: Tampa Electric Company
Big Bend Power Station
Site Certification No: PA 79-12A (Environmental Resource Tracking No: 29-0126191-023)

Post Certification Compliance Review

Pursuant to PPSA Rule 62-17.191, F.A.C., within 90 days after complete information is submitted for post-certification review, the Department shall give written notification to the Licensee of its assessment of whether there is reasonable assurance of compliance with the Conditions of Certification.

The Department of Environmental Protection (DEP) received a post-certification submittal from Tampa Electric Company (TECO) pursuant to PA 79-12A Conditions of Certification (COC) Section A, I.C and XXX.C. The submittals were dated August 13, 2020. The construction of a new photovoltaic (PV) solar energy generating facility on a 92.7-acre site area were received by the Department on July 14, 2021. The Department authorization for the construction is dated 8/9/2021.

The Southwest District has reviewed your submittal and determined that there is sufficient reasonable assurance of compliance with the Conditions of Certification.

Post Certification Compliance Requirements

The Licensee shall continue to comply with all requirements within the Conditions of Certification (PA 79-12A) including but not limited to, Section A, XXX.A.1 thru 10, as well as applicable rules.

www.FloridaDEP.gov

Appendix 1 – FDEP ERP No. 29-0126191-023

File Name: Big Bend Solar III
FDEP File No.: 29-0126191-023-SA
Page 2 of 2

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Michael Lynch
Program Administrator
Permitting and Waste Cleanup Program
Southwest District

Attachments:

Project Drawings and Design Specs., 13 pages

cc:

Anthony Arcuri, Environmental Consulting & Technology, Inc., tarcuri@ectinc.com
Nate Alcoz, Tampa Electric Company, ajalcoz@tecoenergy.com
Siting Coordination Office, sco@dep.state.fl.us
Southwest District, SW_ERP@floridadep.gov
Greg Alba, Southwest District, greg.alba@floridadep.gov

www.FloridaDEP.gov

STORMWATER MANAGEMENT PLANS
FOR
BIG BEND III SOLAR
IN
SECTION 10, TOWNSHIP 31 SOUTH, RANGE 19 EAST
HILLSBOROUGH COUNTY, FLORIDA
PREPARED FOR
TAMPA ELECTRIC COMPANY



LOCATION MAP N.T.S.
SECTION 10, TOWNSHIP 31 SOUTH, RANGE 19 EAST



VICINITY MAP N.T.S.

INDEX TO SHEETS	
CE0	COVER SHEET
CE1	GENERAL NOTES
CE2	DEMOLITION PLAN
CE3	DEVELOPMENT PLAN
CE4	DRAINAGE PLAN
CE5	EROSION CONTROL PLAN
CE6-7	EROSION CONTROL DETAILS
CE8	T-LINE PLAN
CE9-12	DETAILS AND TYPICAL SECTIONS

NOTE:
DRAWING PREPARED IN AN 11X17 FORMAT. THE SCALE OF
THESE PLANS MAY HAVE CHANGED DUE TO
REPRODUCTION.

PERMIT PLANS
JUNE 30, 2021

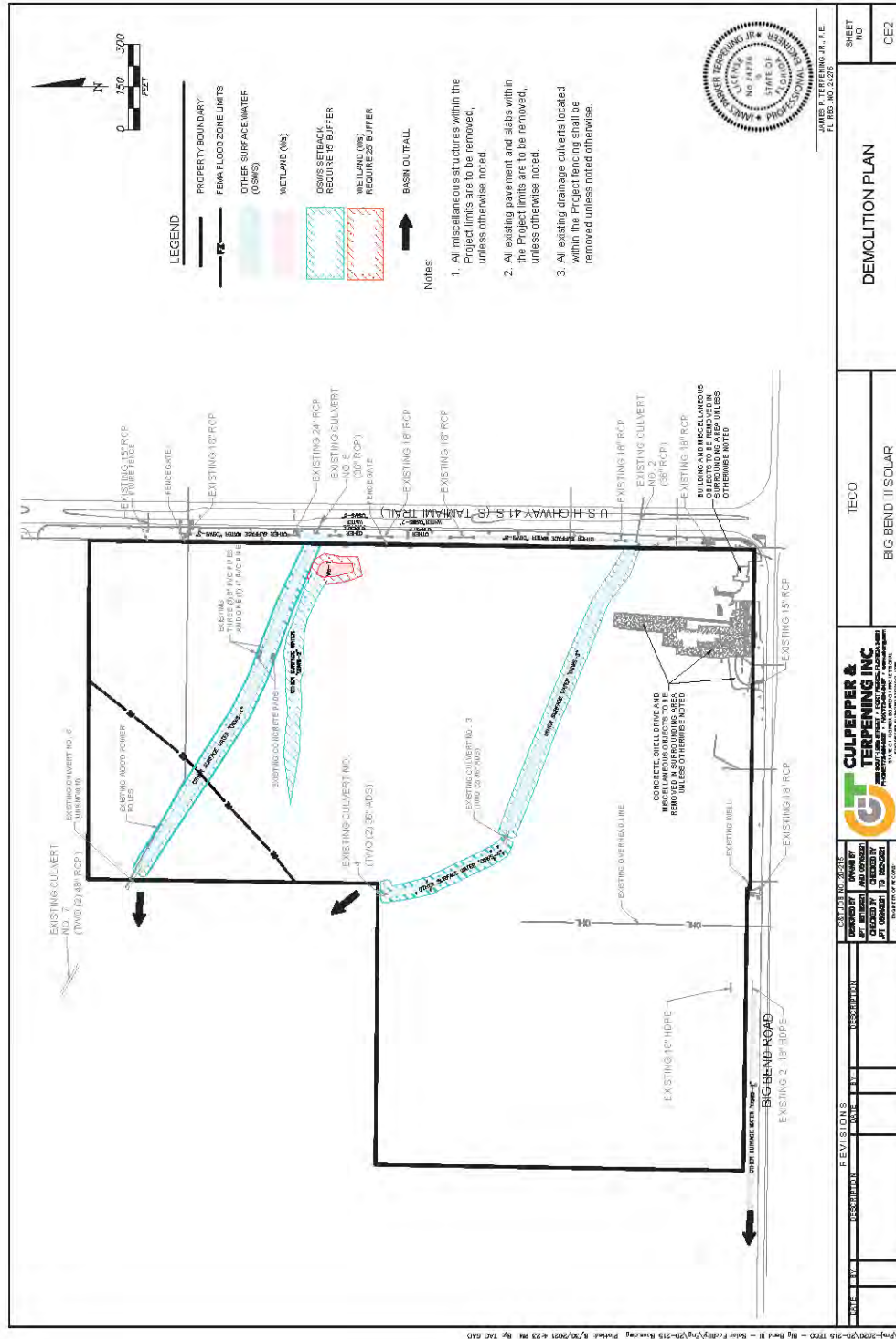


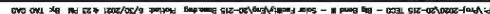
This form has been digitally signed and
sealed by James Parker Terpening, PE on
06/30/2021 using a Digital Signature.
Printed copies of this document and the
original electronic file must be retained.
SHA authentication code must be verified
on any electronic copies.

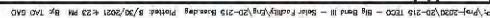


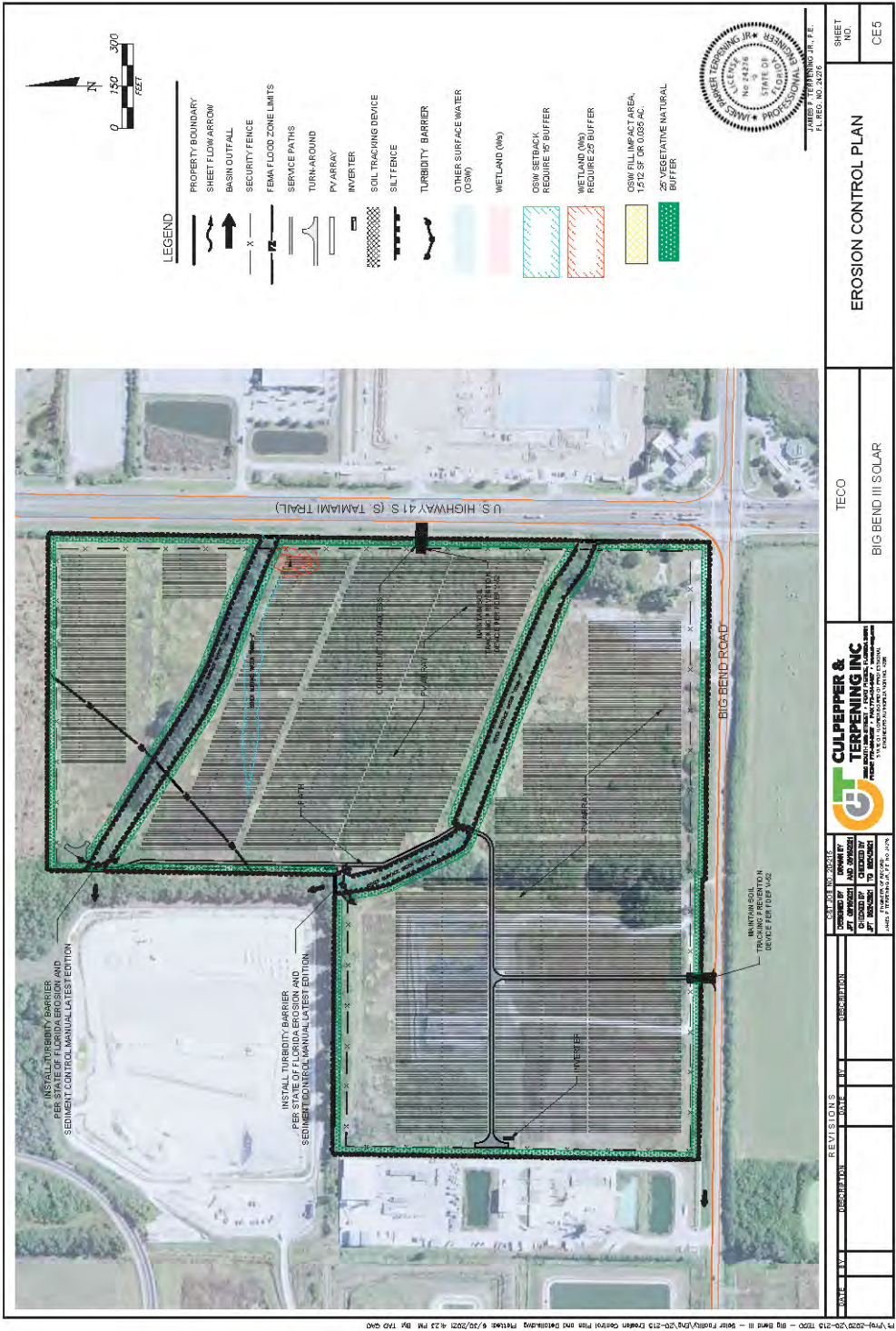
DATE: 06/30/2021
TOWNSHIP SHOWN ON THE PLANS ARE NORTH
AMERICAN VERTICAL DATUM OF 1988 (NAD 1988)
FILE NAME: 20-215 COVER.DWG

1/6 PERMITS/ISSUES
CE1 PROJECT NO. 20-215 SHEET 01 OF 011

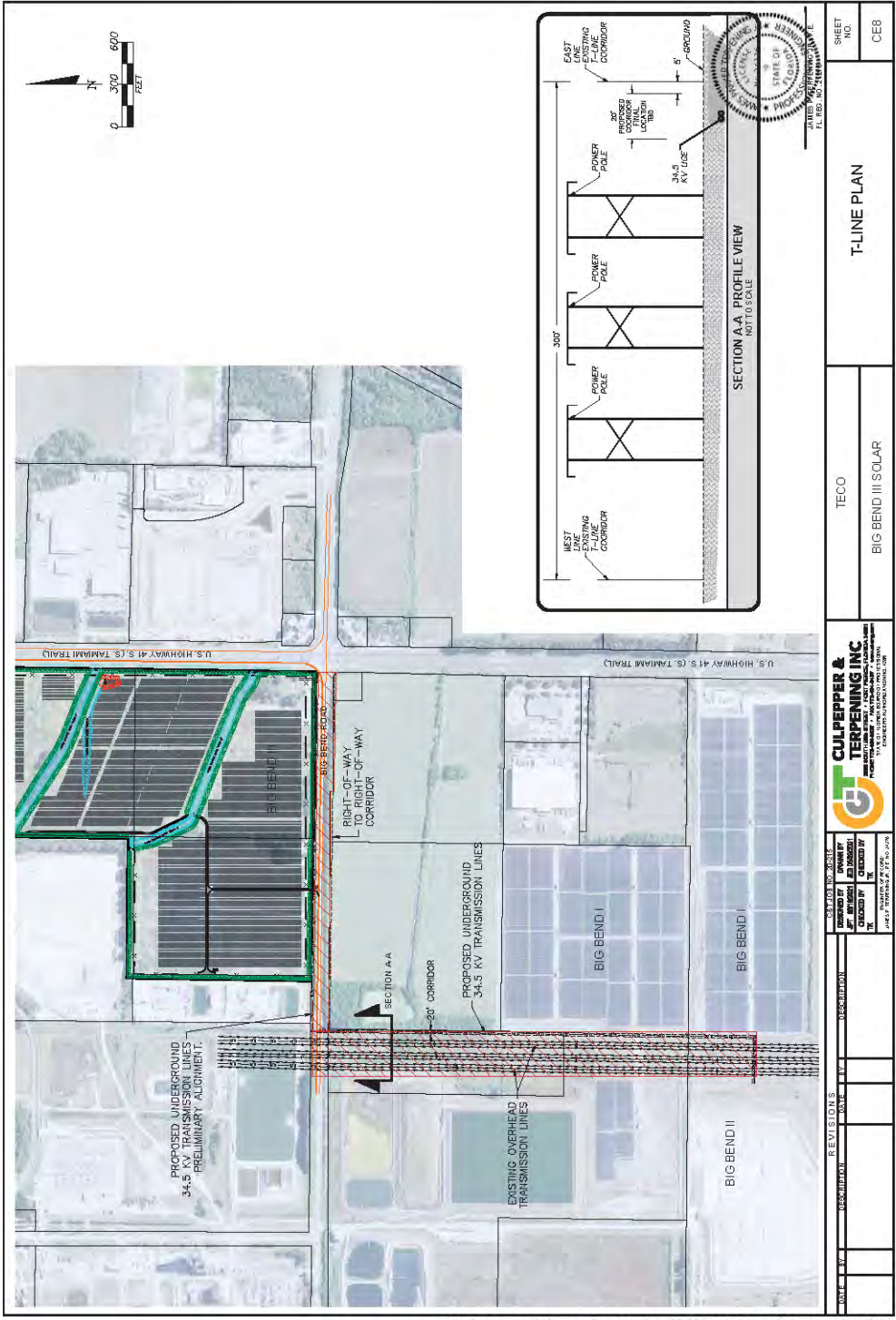


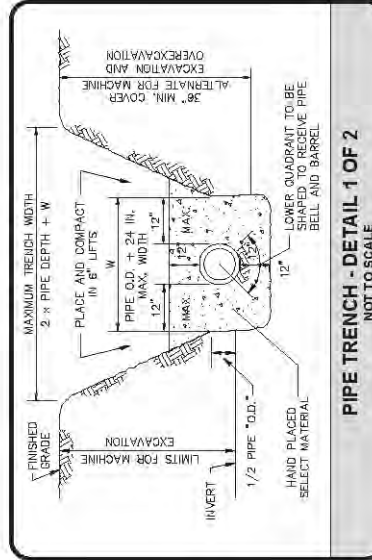
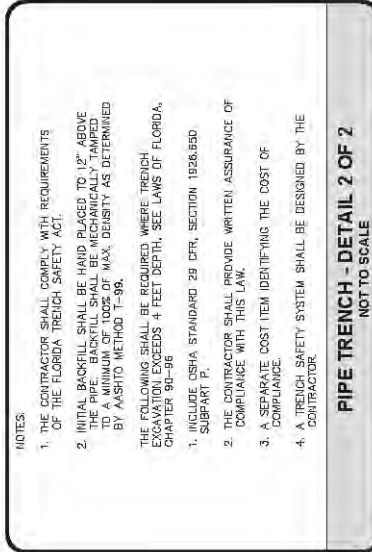


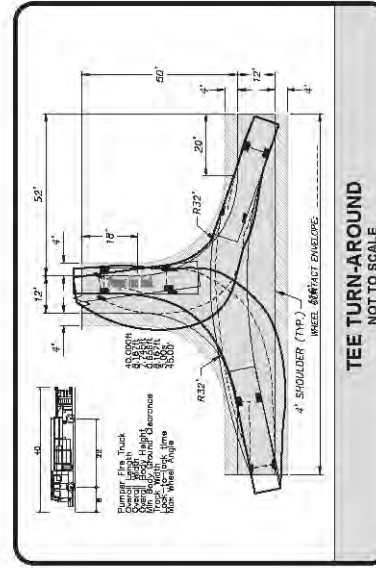
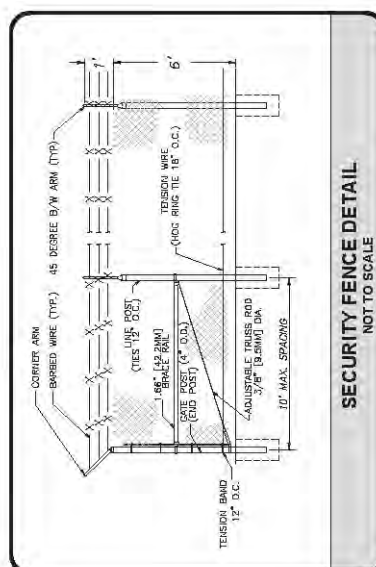




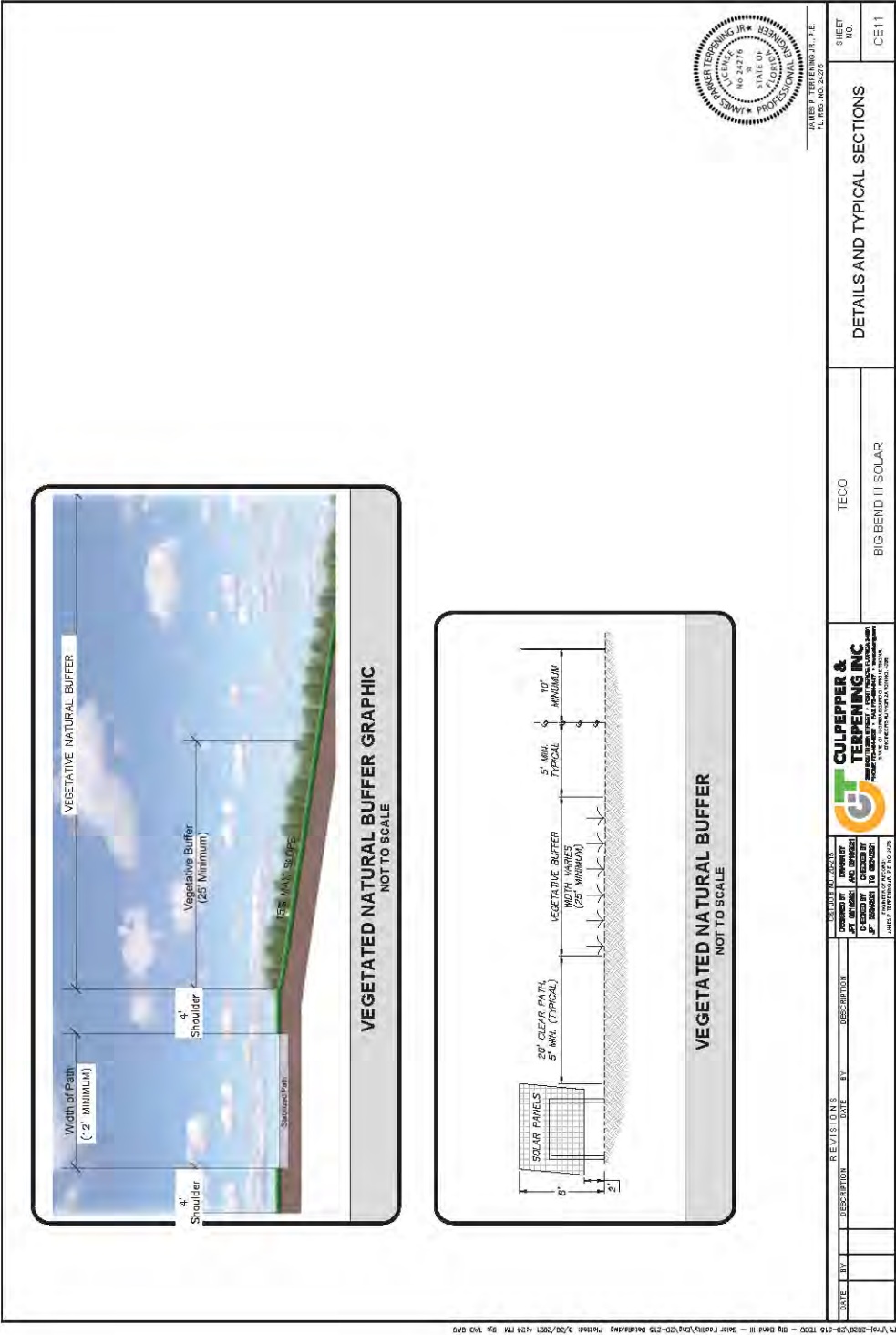
[illegible]



[illegible]



 GULPEPPER & TERPENING INC. 10000 W. 10TH AVE. SUITE 100 DENVER, CO 80202 (303) 751-1000 • FAX (303) 751-1001 • WWW.GULPEPPER-TERPENING.COM 5700 EASTMAN AVENUE, SUITE 200, DENVER, CO 80231		PROJECT: TECO BIG BEND III SOLAR		SHEET NO. CE10
JOSEPH P. TERPENING, JR., P.E. LICENSE NO. 4265				
DETAILS AND TYPICAL SECTIONS				



Appendix 2 – Proposed Development Analysis

**Big Bend II Phase II
Solar Energy Center
Permitted-Development
Basin 1**

Land Use Summary	
Description	Acres
<u>Impervious</u>	
Stabilized Access Path	1.44
Inverter Pads	0.04
Laydown Area	0.00
Total Impervious	1.47
<u>Pervious</u>	
Open Space	91.80
Total Pervious	91.80
Total Area	93.27
Basin Area	93.27
Percent Impervious	2%
Percent Pervious	98%

**Big Bend II Phase II
Solar Energy Center
Proposed-Development
Basin 1**

Land Use Summary	
Description	Acres
<u>Impervious</u>	
Stabilized Access Path	1.60
Inverter Pads	0.05
Laydown Area	2.84
Total Impervious	4.49
<u>Pervious</u>	
Open Space	88.78
Total Pervious	88.78
Total Area	93.27
Basin Area	93.27
Percent Impervious	5%
Percent Pervious	95%

Appendix 2 – Proposed-Development Analysis

Big Bend II Energy Center Energy Center Basin 1

SCS Curve Number, Soil Storage, & Tc Derivation:

1) Permitted Condition:

- a) Drainage Area = 93.27 acre
b) Impervious Area = 1.47 acre
c) % Impervious = 2% 98 CN
d) %Pervious = 98% 49 CN
e) Soil Type:

	Percentage	Num.	Name	Soil Group	Curve Number
1)	100%	57	Wabasso Fine Sand	A/D	49

*Soil Group from USDA Hillsborough County Soil Survey
Pervious Curve numbers from TR 55 Table 2-2c Other Agricultural Lands - Grassland (good condition)
Due to existing onsite drainage improvements the first letter of the Dual Hydrologic Soil Group was utilized.*

f) Weighted Calculation:

$$\text{CN} = 50$$

g) Soil Storage: (S)

$$S = (1000/\text{CN}) - 10 = 10.09 \text{ in}$$

2) Proposed Condition:

Pervious Curve numbers from TR 55 Table 2-2c Other Agricultural Lands - Grassland (good condition)

	Percentage	Num.	Name	Soil Group	Curve Number
1)	100%	57	Wabasso Fine Sand	A/D	39

- a) Drainage Area = 93.27 acre
b) Impervious Area = 4.49 acre
c) % Impervious = 5% 98 CN
d) Pervious Area = 88.78 acre 39 CN
e) Weighted Calculation:

$$\text{CN} = 42$$

f) Soil Storage: (S)

$$S = (1000/\text{CN}) - 10 = 13.90 \text{ in}$$

Appendix 2 – Proposed-Development Analysis

Big Bend II Phase II Solar Energy Center

WATER QUALITY ANALYSIS

Basin 1

1 FDEP/SFWMD Water Quality Criteria:

- a. As per an agreement with FDEP, water quality treatment will be provided for the added impervious areas, i.e. pathways, inverter pads and substation yard. Per the SWFWMD AHB V.II Section 3.5 a water quality treatment volume must be provided for one-inch of runoff from the contributing area.

2 Required Water Quality Treatment Volume:

a. Rainfall, P	=	1.00	in						
Rainfall, P	=	0.08	ft						
b. WQ Added Impervious Area	=	Stabilized Access Path	+	Inverters	+	Laydown	=		
WQ Added Impervious Area	=	1.60	+	0.05	+	2.84	=	4.49	
c. WQ Required Volume Ac-ft)	=	P (ft)	x	WQ Area	x	1.00	=		
WQ Required Volume Ac-ft)	=	0.08	x	4.49	x	1.00	=	0.37	
Required WQ Volume	=	0.37	ac-ft						

Appendix 2 – Proposed-Development Analysis

3 Provided Water Quality Treatment Volume:

a. Soil Storage (ft)	=	(1000/CN) - 10	/	12	
Soil Storage (ft)	=	(1000/42)-10	/	12	
Soil Storage (ft)	=	1.16	ft		
b. Available Soil Storage (ft)	=	Soil Storage (ft)	-	(Rainfall) (ft)	
Available Soil Storage (ft)	=	1.16	-	0.08	
Available Soil Storage (ft)	=	1.08	ft		
c. Vegetated Natural Buffer Area (Ac)	=	WQ Required Volume Ac-ft	/	Available Soil Storage (ft)	
Vegetated Natural Buffer Area (Ac)	=	0.37	/	1.08	
Vegetated Natural Buffer Area (Ac)	=	0.35	Ac		
d. VNB Required Width (ft)	=	VNB Area*43560	/	Length (ft)	
VNB Required Width (ft)	=	15161	/	9000	
VNB Required Width (ft)	=	1.7	ft		
e. Provided WQ Volume (ac-ft)	=	Provided VNB Width (ft)	*	Length (ft)	Available Soil Storage (ft) /
Provided WQ Volume (ac-ft)	=	25		9248	* 1.08
Provided WQ Volume (ac-ft)	=	5.71	ac-ft		