

# BUCKNAM ROAD SOLAR

## BUCKNAM ROAD

### RICHMOND, RHODE ISLAND

**DEVELOPER**

**RICHMOND SOLAR 1, LLC**  
**260 WEST EXCHANGE ST, SUITE 102A**  
**PROVIDENCE, RHODE ISLAND**

**OWNER**

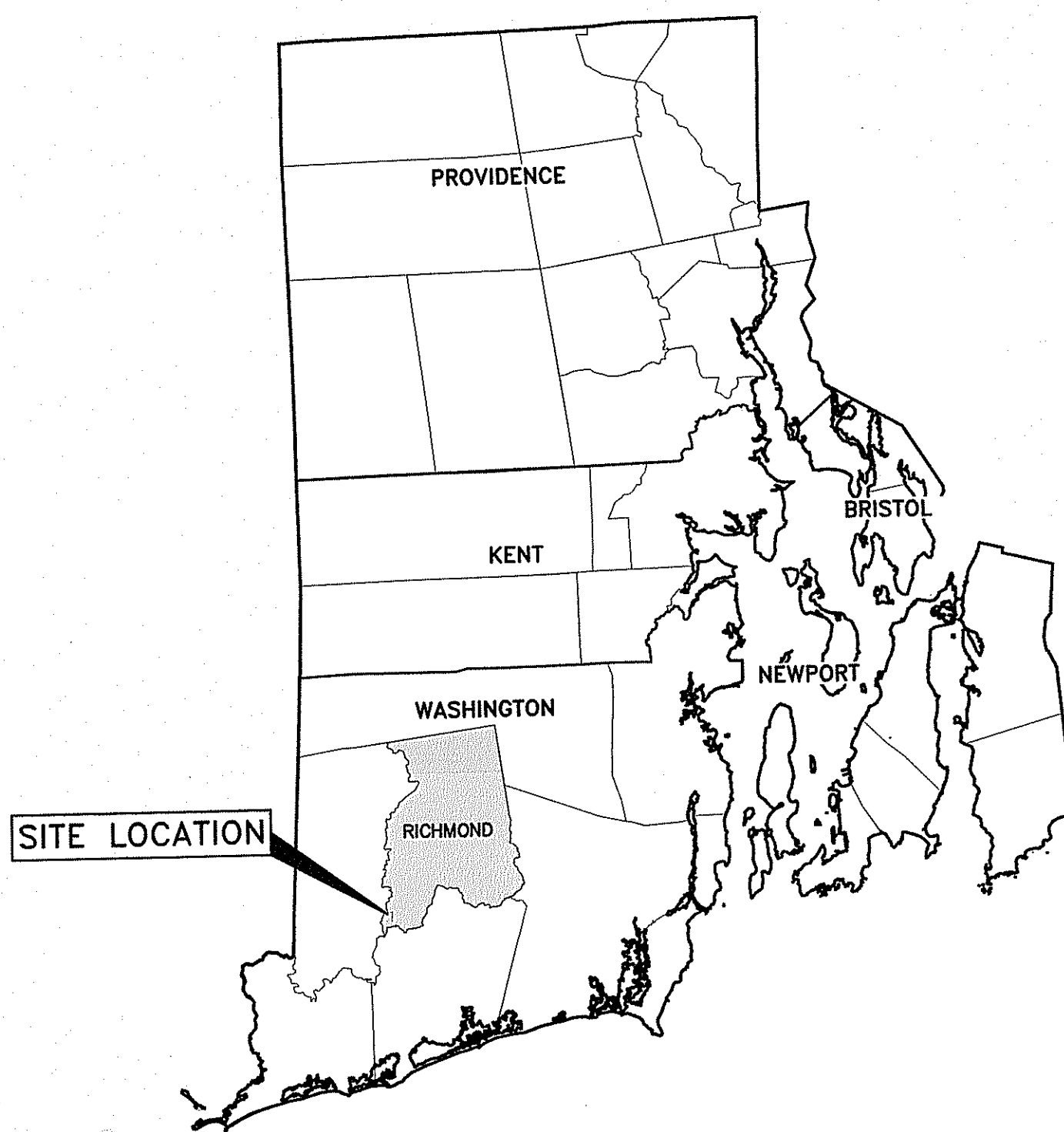
**GILLIGAN, KEVIN J.**  
**334 CHURCH STREET**  
**WOOD RIVER JCT, RI 02894**

**PROPERTY**

**A.P. 11A LOT 24**

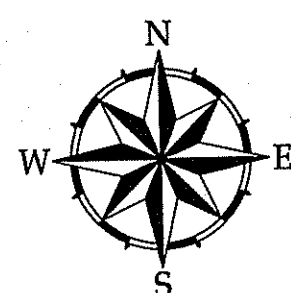
**AUGUST 2017**

**REV. DECEMBER 2017**



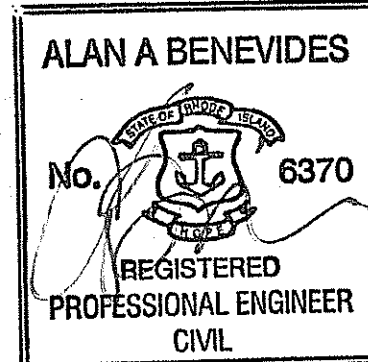
**SITE LOCATION MAP**

SCALE: N.T.S.

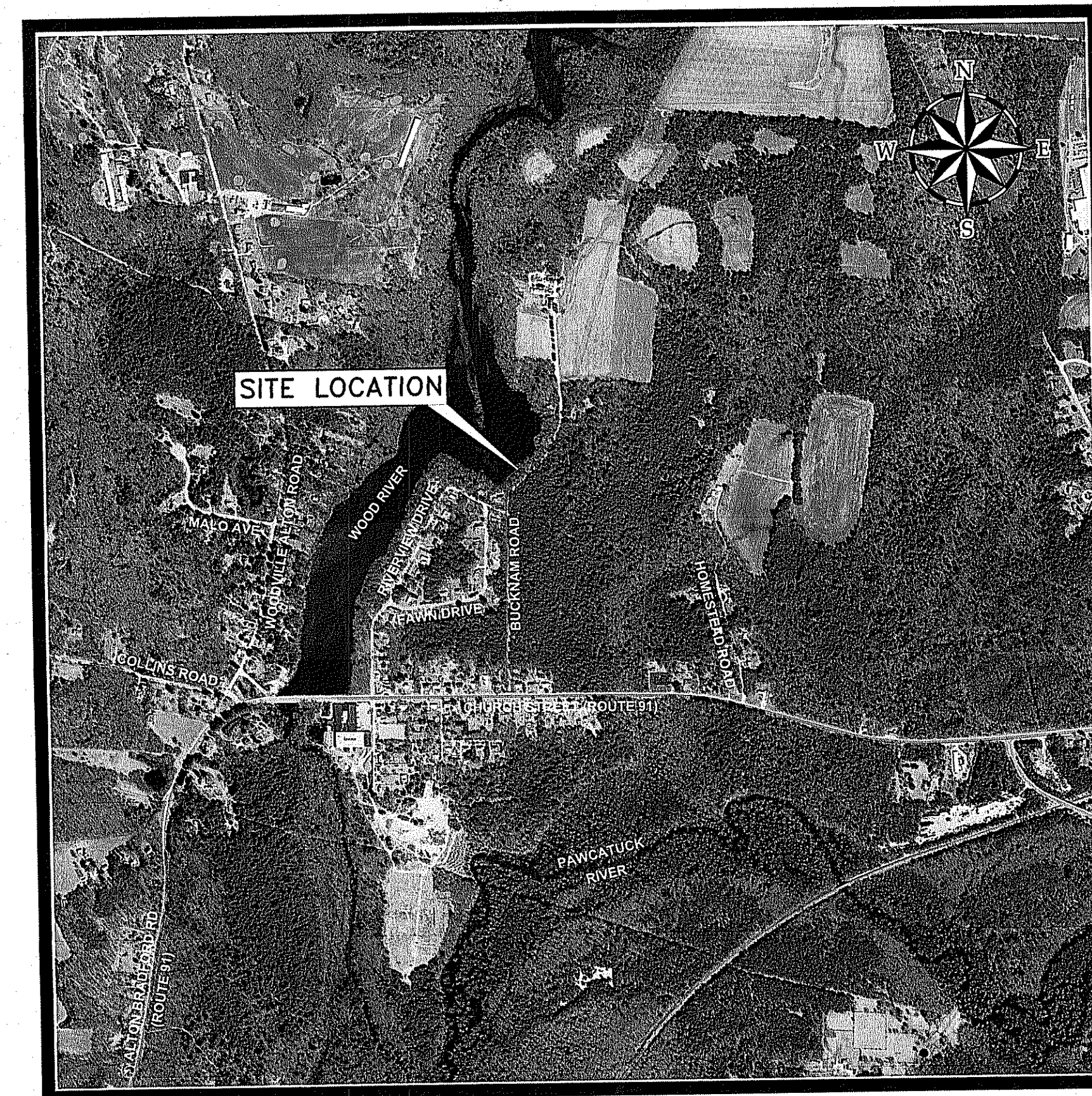


SHEET INDEX	
	SHEET DESCRIPTION
C-100	EXISTING CONDITIONS
C-101	500-FOOT RADIUS PLAN
C-102	SOIL EROSION AND SEDIMENT CONTROL PLAN
C-200	PROPOSED SITE PLAN
C-201	DETENTION POND 1 PLAN AND SECTION
C-202	DETENTION POND 2 PLAN AND SECTION
C-203	DETENTION POND 3 PLAN AND SECTION
C-204	SOLAR ARRAY GRADING PLAN
C-301	CIVIL DETAILS - 1
C-302	CIVIL DETAILS - 2

**ENGINEER**



33 Broad Street, Floor 7  
 Providence, Rhode Island 02903  
 800.985.7897 | www.woodardcurran.com  
 COMMITMENT & INTEGRITY DRIVE RESULTS



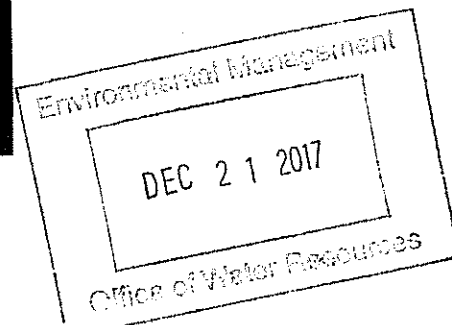
REFERENCE: 2014 USGS DIGITAL TRUE COLOR ORTHOPHOTOGRAPHY; HTTP://WWW.RIGIS.ORG/

**SITE LOCATION AERIAL PHOTO**

SCALE: 1" = 1000'  
 1000 0 1000 2000  
 FEET

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JAN 16 2018 FILE # 17-03191  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

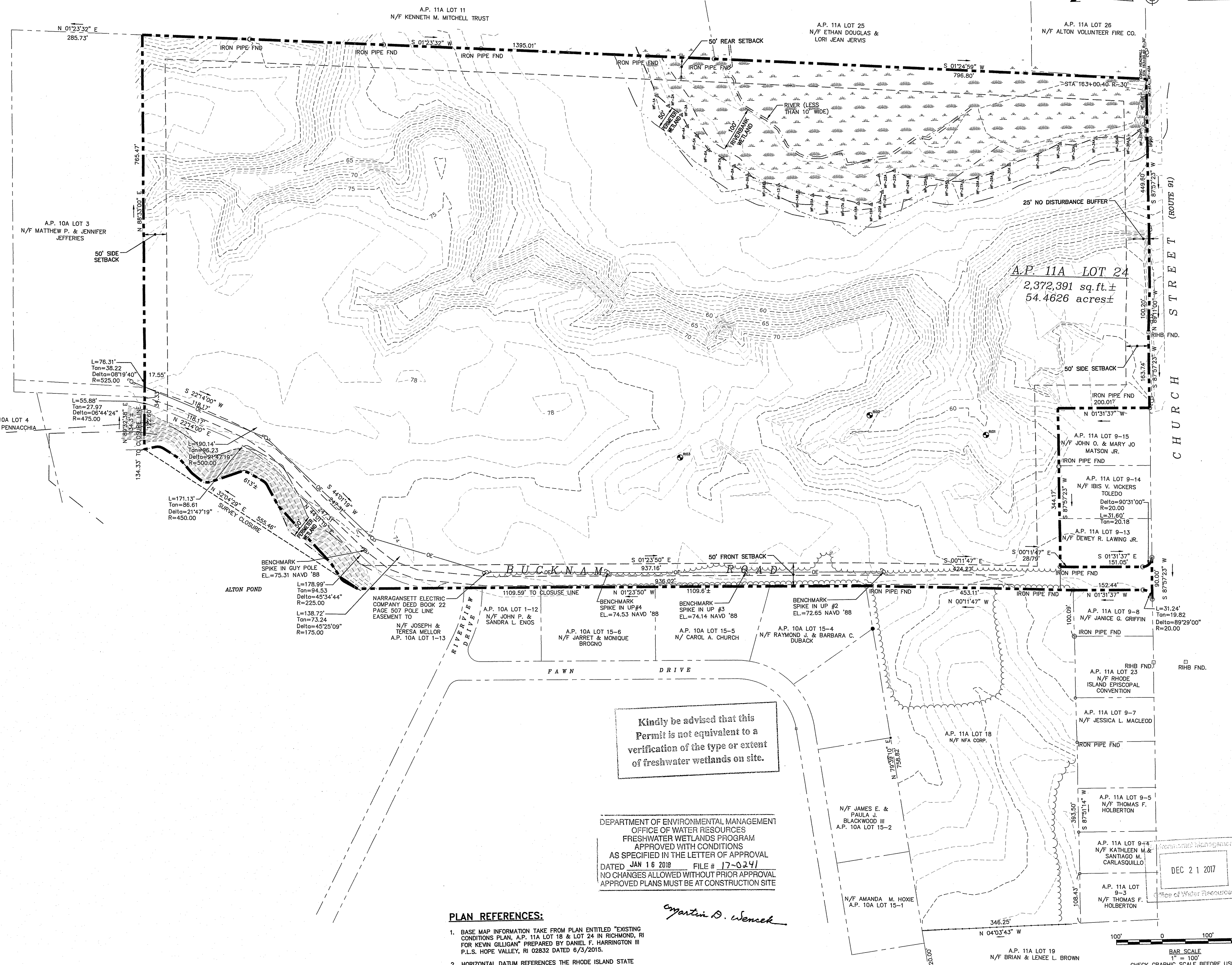
*Kevin J. Gilligan*



\\we\shared\Projects\0228794.02\_rdp - richmond design permit\w\response to ridem\Drawings\GENERAL\228794.02\_0-000.dwg, Dec 19, 2017 - 9:26am

**LEGEND**

- EXISTING**
- INDEX CONTOUR
  - INTERVAL CONTOUR
  - SAWCUT LINE
  - PROPERTY LINE
  - EASEMENT
  - ABUTTER
  - SETBACK
  - WETLAND
  - RIVER
  - 100' RIVERBANK WETLAND
  - 50' PERMETER WETLAND SETBACK
  - STONE WALL
  - TREE LINE
  - OVERHEAD WIRES
  - STORMDRAIN
  - FENCE
  - EDGE OF PAVEMENT
  - GRAVEL DRIVE
  - NON-COMMUNITY WELLHEAD PROTECTION AREA
  - USDA SOIL TYPES
  - IRON PIN FOUND
  - SIGN
  - UTILITY POLE
  - WETLAND FLAG
  - WETLAND HATCH

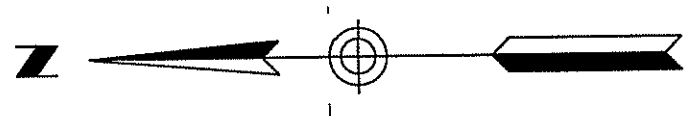


Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JAN 16 2018 FILE # 17-0241  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

- PLAN REFERENCES:**
1. BASE MAP INFORMATION TAKE FROM PLAN ENTITLED "EXISTING CONDITIONS PLAN, A.P. 11A LOT 18 & LOT 24 IN RICHMOND, RI FOR KEVIN GILLIGAN" PREPARED BY DANIEL F. HARRINGTON III P.L.S. HOPE VALLEY, RI 02832 DATED 6/3/2015.
  2. HORIZONTAL DATUM REFERENCES THE RHODE ISLAND STATE PLANE COORDINATE SYSTEM (NAD83), THE VERTICAL DATUM REFERENCES NAVD83.
  3. WETLAND INFORMATION PROVIDED BY KATHLEEN MANGAN, SOIL EVALUATIONS & WETLAND PERMITTING SERVICES IN JUNE 2015.

*martin D. Wencsek*



BAR SCALE  
1" = 100'  
CHECK GRAPHIC SCALE BEFORE USING

**NOT FOR CONSTRUCTION**

95 Cedar Street, Suite 100  
Providence, Rhode Island 02903  
800.965.7897 | www.woodardcurran.com

**WOODARD & CURRAN**

COMMITMENT & INTEGRITY DRIVE RESULTS

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN, INC. AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

---

**ALAN A. BENEVIDES**  
No. 6370  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL

REV	DATE	DESCRIPTION
3	12/15/17	RIEM COMMENTS
2	12/14/2017	NEW ADDRESS DESIGNATION
1	11/16/2017	PLANNING BOARD CONDITIONS OF APPROVAL

DESIGNED BY: AB  
CHECKED BY: JBC  
DRAWN BY: JBC

---

**EXISTING CONDITIONS**

RICHMOND SOLAR 1, LLC  
260 W. EXCHANGE ST., SUITE 102A  
PROVIDENCE, RI

BUCKNAM ROAD SOLAR  
BUCKNAM ROAD  
RICHMOND, RI

---

JOB NO.: 228794.02  
DATE: AUGUST 2017  
SCALE: 1" = 100'  
SHEET: 1 OF 10

**C-100**

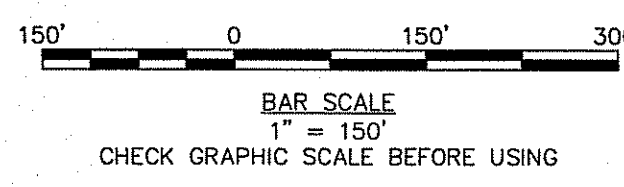
C:\Users\jgilligan\Documents\Projects\228794.02\228794.02\228794.02.dwg, Dec 19, 2017 - 9:26am

LEGEND

- EXISTING**
- INDEX CONTOUR ----- 160
  - INTERVAL CONTOUR ----- 159
  - SAWCUT LINE -----
  - PROPERTY LINE -----
  - EASEMENT -----
  - ABUTTER -----
  - SETBACK -----
  - WETLAND -----
  - RIVER -----
  - 100' RIVERBANK WETLAND -----
  - 50' PERIMETER WETLAND SETBACK -----
  - STONE WALL -----
  - TREE LINE -----
  - OVERHEAD WIRES -----
  - STORMDRAIN -----
  - FENCE -----
  - EDGE OF PAVEMENT -----
  - GRAVEL DRIVE -----
  - NON-COMMUNITY WELLHEAD PROTECTION AREA -----
  - USDA SOIL TYPES -----
  - IRON PIN FOUND -----
  - SIGN -----
  - UTILITY POLE -----
  - WETLAND FLAG -----
  - WETLAND HATCH -----
  - 25' NO DISTURBANCE BUFFER -----



Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JAN 16 2018 FILE # 17-0241  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Matthew D. Wenczek*

NOT FOR CONSTRUCTION

C:\wshored\Projects\0228794.02.sdp - richmond design permit\wp responses to richmond\Drawings\CIVIL\228794.02-C-200.dwg, Dec 19, 2017 - 9:26am

PLAN REFERENCES:

1. BASE MAP INFORMATION TAKE FROM PLAN ENTITLED "EXISTING CONDITIONS PLAN, A.P. 11A LOT 18 & LOT 24 IN RICHMOND, RI FOR KEVIN GILLIGAN" PREPARED BY DANIEL F. HARRINGTON III P.L.S. HOPE VALLEY, RI 02832 DATED 6/3/2015.
2. HORIZONTAL DATUM REFERENCES THE RHODE ISLAND STATE PLANE COORDINATE SYSTEM (NAD83). THE VERTICAL DATUM REFERENCES NAVD88.
3. WETLAND INFORMATION PROVIDED BY KATHLEEN MANGAN, SOIL EVALUATIONS & WETLAND PERMITTING SERVICES IN JUNE 2015.
4. AERIAL IMAGE PROVIDED BY 2017 DIGITALGLOBE BING MAPS INTEGRATED WITHIN AUTODESK CIVIL 3D SOFTWARE.
5. NON-COMMUNITY WELLHEAD PROTECTION AREA PROVIDED BY RIGIS. <http://www.rigis.org/>

95 Cedar Street, Suite 100  
 Providence, Rhode Island 02903  
 800.995.7897 | www.woodardcurran.com

**WOODARD  
& CURRAN**

COMMITMENT & INTEGRITY DRIVE RESULTS

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN, INC. AND ITS CLIENT. REPRODUCTION OR MODIFICATION, WITHOUT WRITTEN PERMISSION IS PROHIBITED.

ALAN A. BENEVIDES  
 No. 6370  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL

REV.	DESCRIPTION	DATE
3	IRON COMMENTS	12/15/17
2	NEW ADDRESS DESIGNATION	12/14/2017
1	PLANNING BOARD CONDITIONS OF APPROVAL	11/16/2017

RICHMOND SOLAR 1, LLC  
 260 W. EXCHANGE ST., SUITE 102A  
 PROVIDENCE, RI

BUCKNAM ROAD SOLAR  
 BUCKNAM ROAD  
 RICHMOND, RI

JOB NO.: 228794.02  
 DATE: AUGUST 2017  
 SCALE: 1"=150'  
 SHEET: 2 OF 10

C-101

**LEGEND**

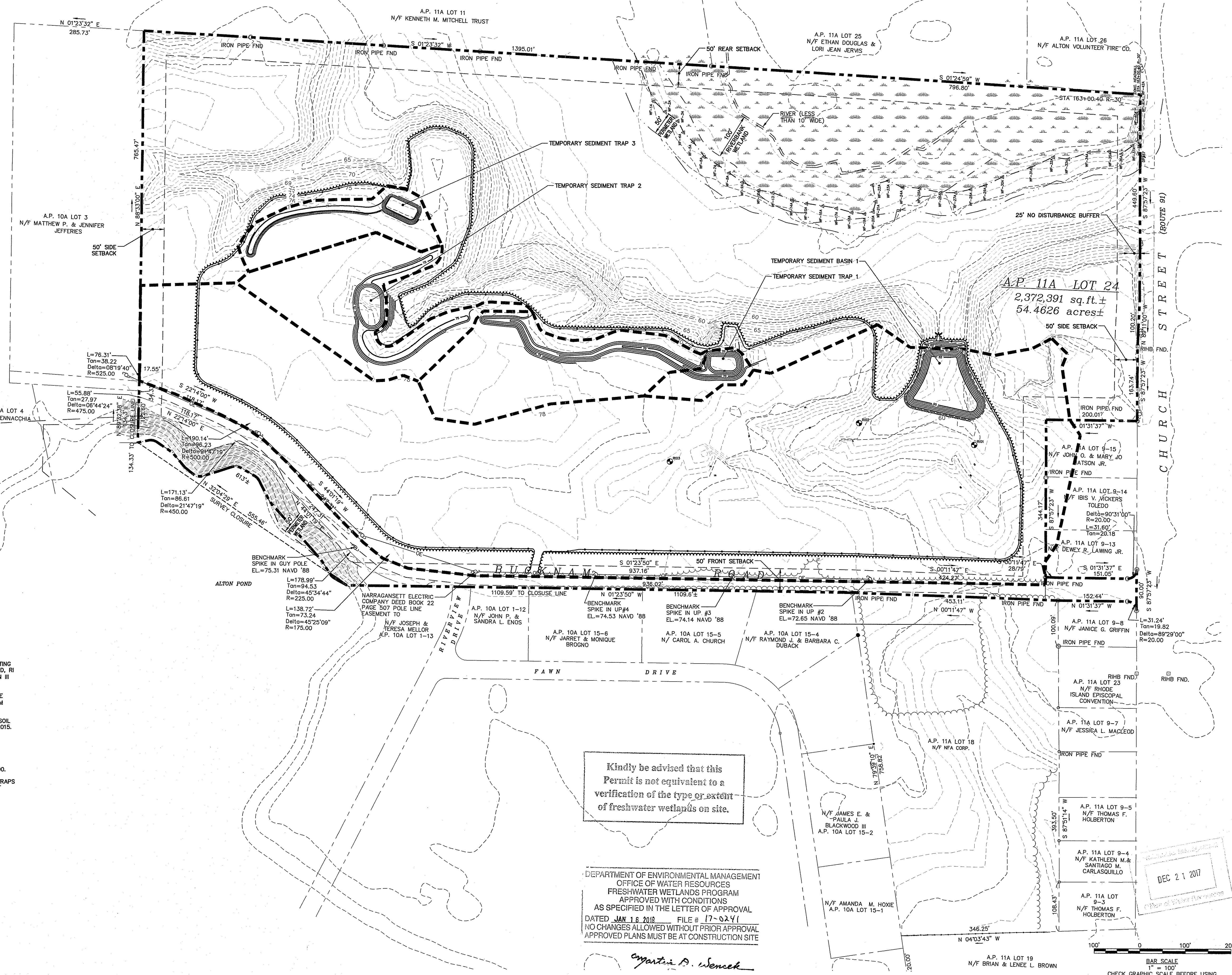
- EXISTING**
- INDEX CONTOUR 160
  - INTERVAL CONTOUR 159
  - SAWCUT LINE
  - PROPERTY LINE
  - EASEMENT
  - ABUTTER
  - SETBACK
  - WETLAND
  - RIVER
  - 100' RIVERBANK WETLAND
  - 50' PERIMETER WETLAND SETBACK
  - STONE WALL
  - TREE LINE
  - OVERHEAD WIRES
  - STORMDRAIN
  - FENCE
  - EDGE OF PAVEMENT
  - GRAVEL DRIVE
  - NON-COMMUNITY WELLHEAD PROTECTION AREA
  - USDA SOIL TYPES
  - IRON PIN FOUND
  - SIGN
  - UTILITY POLE
  - WETLAND FLAG WF-21A
  - WETLAND HATCH
  - 25' NO DISTURBANCE BUFFER
- PROPOSED**
- INDEX CONTOUR 160
  - INTERVAL CONTOUR 159
  - TREE LINE/LOD
  - SEDIMENT BARRIER

**PLAN REFERENCES:**

1. BASE MAP INFORMATION TAKE FROM PLAN ENTITLED "EXISTING CONDITIONS PLAN, A.P. 11A LOT 18 & LOT 24 IN RICHMOND, RI FOR KEVIN GILLIGAN" PREPARED BY DANIEL F. HARRINGTON III P.L.S. HOPE VALLEY, RI 02832 DATED 6/3/2015.
2. HORIZONTAL DATUM REFERENCES THE RHODE ISLAND STATE PLANE COORDINATE SYSTEM (NAD83). THE VERTICAL DATUM REFERENCES NAVD88.
3. WETLAND INFORMATION PROVIDED BY KATHLEEN MANGAN, SOIL EVALUATIONS & WETLAND PERMITTING SERVICES IN JUNE 2015.

**NOTES:**

1. CONSTRUCT TEMPORARY SEDIMENT TRAPS, BASINS AND ASSOCIATED SWALES OUTSIDE OF THE FOOTPRINT OF THE PROPOSED PERMANENT SWALES DEPICTED ON SHEET C-200.
2. REMOVE ALL SEDIMENT FROM THE TEMPORARY SEDIMENT TRAPS AND BASINS PRIOR TO CONSTRUCTION OF THE PERMANENT DETENTION BASINS.



Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JAN 16 2018 FILE # 17-0241  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Angela D. Wenczek*

DEC 21 2017

NOT FOR CONSTRUCTION

95 Cedar Street, Suite 100  
Providence, Rhode Island 02903  
800.985.7897 | www.woodardcurran.com

**WOODARD & CURRAN**  
COMMITMENT & INTEGRITY DRIVE RESULTS

ALAN A. BENEVIDES  
No. 6870  
REGISTERED PROFESSIONAL ENGINEER  
DESIGNED BY: ASM  
CHECKED BY: HP  
DRAWN BY: ASM

**SOIL EROSION AND SEDIMENT CONTROL PLAN**

RICHMOND SOLAR 1, LLC  
260 W. EXCHANGE ST., SUITE 102A  
PROVIDENCE, RI

BUCKNAM ROAD SOLAR  
BUCKNAM ROAD  
RICHMOND, RI

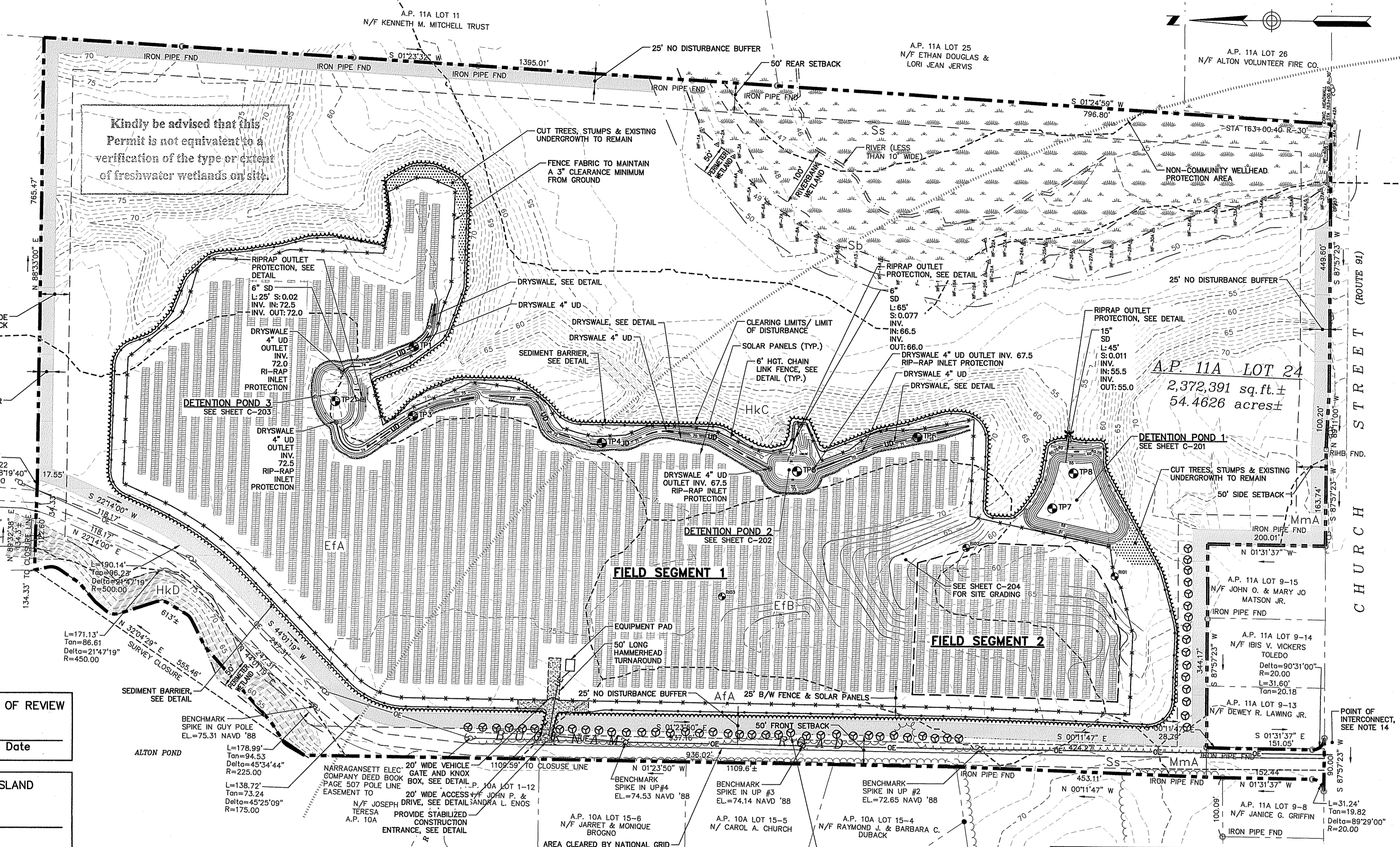
JOB NO.: 228794.02  
DATE: AUGUST 2017  
SCALE: AS NOTED  
SHEET: 3 OF 10

LEGEND

- EXISTING
INDEX CONTOUR
INTERVAL CONTOUR
SAWCUT LINE
PROPERTY LINE
EASEMENT
ABUTTER
SETBACK
WETLAND
RIVER
100' RIVERBANK WETLAND
50' PERIMETER WETLAND SETBACK
STONE WALL
TREE LINE
OVERHEAD WIRES
STORMDRAIN
FENCE
EDGE OF PAVEMENT
GRAVEL DRIVE
NON-COMMUNITY WELLHEAD PROTECTION AREA
USDA SOIL TYPES
IRON PIN FOUND
SIGN
UTILITY POLE
WETLAND FLAG

SOLAR INFORMATION

Table with 2 columns: Field Segment, Total Panels, and Combined Total Panels. Values include 14,777 panels (5.10 MW DC) for Segment 1 and 2,178 panels (751.41 kW DC) for Segment 2, totaling 16,955 panels (5.85 MW DC).



PROPOSED

- INDEX CONTOUR
INTERVAL CONTOUR
TREE LINE/L0D
SEDIMENT BARRIER
CHAIN LINK FENCE
OVERHEAD ELECTRIC
UNDERGROUND ELECTRIC
STORMDRAIN
UNDERDRAIN
EASEMENT
LIMIT OF WORK
UTILITY POLE
STONE CHECK DAM
TREE
RIPRAP
SOLAR PANEL
PEA GRAVEL DIAPHRAGM
CUT TREES, STUMPS & EXISTING UNDERGROWTH TO REMAIN
FUTURE TEST PIT (REFER TO GENERAL NOTE 20)

APPROVED BY THE ZONING BOARD OF REVIEW

Approval table with columns for Chairperson/Secretary and Date.

TOWN OF RICHMOND, RHODE ISLAND RECEIVED FOR RECORD

DATE:
AT: M:
MAP# SLIDE#

Sarah S. Rapose
Town Clerk

PARCEL OWNER INFORMATION

A.P. 11A, LOT 24
KEVIN J. GILLIGAN
334 CHURCH STREET
WOOD RIVER JCT, RI 02894

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JAN 16 2018 FILE # 17-0241
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

PLAN REFERENCES:

- 1. BASE MAP INFORMATION TAKE FROM PLAN ENTITLED "EXISTING CONDITIONS PLAN, A.P. 11A LOT 18 & LOT 24 IN RICHMOND, RI FOR KEVIN GILLIGAN" PREPARED BY DANIEL F. HARRINGTON III P.L.S. HOPE VALLEY, RI 02832 DATED 6/3/2015.
2. HORIZONTAL DATUM REFERENCES THE RHODE ISLAND STATE PLANE COORDINATE SYSTEM (NAD83). THE VERTICAL DATUM REFERENCES NAVD83.
3. WETLAND INFORMATION PROVIDED BY KATHLEEN MANGAN, SOIL EVALUATIONS & WETLAND PERMITTING SERVICES IN JUNE 2015.
4. NON-COMMUNITY WELLHEAD PROTECTION AREA PROVIDED BY RIGIS. <http://www.rigis.org/>
5. USDA SOIL TYPES PROVIDED BY NRCS WEB SOIL SURVEY.

GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE RHODE ISLAND FIRE SAFETY CODE, AND LIFE SAFETY CODE, AS AMENDED AND MOST CURRENT.
2. CONTRACTOR SHALL OBTAIN CONSTRUCTION PERMITS PRIOR TO START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO ELECTRICAL, BUILDING, DEMOLITION, AND CURB CUT PERMITS.
3. A NOTICE OF INTENT (NOI) TO COMPLY WITH RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIDDES) SHALL BE FILED FOR THIS PROJECT. CONTRACTOR SHALL ADHERE TO REQUIREMENTS OF SOIL EROSION AND SEDIMENT CONTROL PLAN AND CONDITIONS OF THE NOI.
4. STABILIZATION MEASURES (I.E. EROSION & SEDIMENT CONTROL) MUST BE IN PLACE PRIOR TO DISTURBANCE OF SOILS, INSPECTED & MAINTAINED DURING CONSTRUCTION ACTIVITIES & UNTIL SITE IS PERMANENTLY STABILIZED. EROSION CONTROL BARRIERS SHALL BE REMOVED ONCE SITE IS STABILIZED & GRASS AREAS REACH 90% COVER. SOIL EROSION AND SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, AS AMENDED.
5. ALL CONSTRUCTION STAGING & MATERIAL STOCKPILES MUST BE LOCATED WITHIN THE PANEL AREA. ALL STOCKPILES SHALL BE SURROUNDED BY EROSION CONTROL DEVICES TO MINIMIZE SEDIMENT TRANSPORT DURING CONSTRUCTION.

- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY DISPOSING OF ALL CONSTRUCTION WASTE INCLUDING CLEARING DEBRIS IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
7. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBING ACTIVITIES AND SHALL BE INSPECTED BY CONTRACTOR ON A WEEKLY BASIS AND AFTER STORM EVENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL FEATURES DURING CONSTRUCTION. SEDIMENT THAT HAS ACCUMULATED TO 1/2 THE HEIGHT OF THE SEDIMENT BARRIER SHALL BE REMOVED. REPAIRS AND REPLACEMENTS SHALL BE MADE PROMPTLY AS NEEDED.
8. LOAM AND SEED SHALL BE APPLIED WITHIN PROJECT LIMITS AND DISTURBED AREAS, UNLESS OTHERWISE NOTED, AND STABILIZED UPON COMPLETION OF CONSTRUCTION. THE AREA OF SOILS EXPOSED AT ANY ONE TIME SHALL BE MINIMIZED TO THE GREATEST EXTENT PRACTICABLE.
9. ALL AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO ITS EXISTING CONDITION, OR AS NOTED.
10. THE UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND REQUIRE FIELD VERIFICATION BY THE CONTRACTOR PRIOR TO CONSTRUCTION ACTIVITY. NOT ALL EXISTING UTILITIES MAY BE SHOWN.
11. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK, ALLOWING SUFFICIENT TIME TO LOCATE AND MARK LOCATION OF BURIED UTILITIES.
12. PROTECT ALL EXISTING MONUMENTS STONE WALLS AND PINS. PROPERTY MARKERS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF RHODE ISLAND.
13. CONTRACTOR SHALL PROVIDE ADDITIONAL GRAVEL AS NECESSARY FOR TEMPORARY CONSTRUCTION ACCESS AND RE-VEGETATE UPON COMPLETION OF CONSTRUCTION.
14. ELECTRICAL CONNECTION AND DISTRIBUTION LINES TO BE UNDERGROUND, EXCEPT LINES BETWEEN THE SYSTEM AND UTILITY CONNECTION SHALL BE ABOVE GROUND IF REQUIRED BY UTILITY. EXISTING POLES ALONG BUCKNAM ROAD WILL BE REPLACED WITH NEW POLES PER UTILITY STANDARDS.
15. NO LIGHTING WILL BE PROVIDED UNLESS OTHERWISE APPROVED BY TOWN OF RICHMOND AND COMPLIANT WITH INTERNATIONAL DARK SKY ASSOCIATION.

- 16. THE SOLAR PANELS AND ASSOCIATED COMPONENTS WILL BE REMOVED AND THE SITE RESTORED WITHIN 90 DAYS OF CESSATION OF SYSTEM OPERATIONS.
17. ALL TOP SOIL AND PRIME AGRICULTURAL SOIL SHALL REMAIN ON SITE. TOP SOIL AND PRIME AGRICULTURAL SOILS FROM EXCAVATION OF PONDS, DITCHES, AND GRADING SHALL BE EVENLY DISTRIBUTED OVER THE SITE. ALL DISTURBED AREAS SHALL BE REVEGETATED.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY DISPOSING OF ALL CONSTRUCTION WASTE IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
19. CONTRACTOR SHALL PROTECT TREES FROM DAMAGE BY CONSTRUCTION EQUIPMENT. THE AREA WITHIN THE DRUPLINE OF TREES TO BE RETAINED SHALL BE PROTECTED BY FENCES OR ROPED OFF.
20. SEASONAL HIGH GROUNDWATER TABLE (SHGT) HAS NOT BEEN DETERMINED FOR THE SITE DESIGN DUE TO THE DENSE UNDERBRUSH ASSOCIATED WITH THE EXISTING WOODLAND AREAS WHERE STORMWATER MANAGEMENT FEATURES ARE PROPOSED. TEST PITS TO DETERMINE SHGT SHALL BE CONDUCTED BY THE CONTRACTOR PRIOR TO CONSTRUCTION IN THE LOCATIONS SPECIFIED ON THE SITE PLAN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 1 WEEK PRIOR TO TEST PITS AND COORDINATE TO HAVE ENGINEER ON SITE TO OBSERVE THE TESTS. IF GROUNDWATER IS ENCOUNTERED WITHIN THREE FEET OF THE BOTTOM OF THE SYSTEM, AN IMPERMEABLE LINER SHALL BE PROVIDED.
21. THE SEED MIX FOR ALL SWALES AND DETENTION PONDS SHALL BE "NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES", FROM NEW ENGLAND WETLAND PLANTS, INC. (OR APPROVED EQUAL) WITH A MINIMUM APPLICATION RATE OF 1250 SF/ LB. SEE SPECIFICATIONS FOR ALL OTHER SEED MIXTURES AND ADDITIONAL REQUIREMENTS.
22. BASED ON TOWN GIS DATA, THE PROJECT PARCEL IS LOCATED WHOLLY WITHIN THE GROUNDWATER RECHARGE AREA AND PARTIALLY WITHIN THE NON-COMMUNITY WELLHEAD PROTECTION AREA.
23. PER FEMA FIRM PANEL 0154H, THE PROJECT PARCEL IS NOT LOCATED WITHIN A FLOOD ZONE.
24. BASED ON AVAILABLE RIGIS DATA AND CORRESPONDANCE WITH RIDEM IN JUNE 2017, THE PROJECT PARCEL IS NOT LOCATED WITHIN A NATURAL HERITAGE AREA.

USDA SOIL TYPE SUMMARY

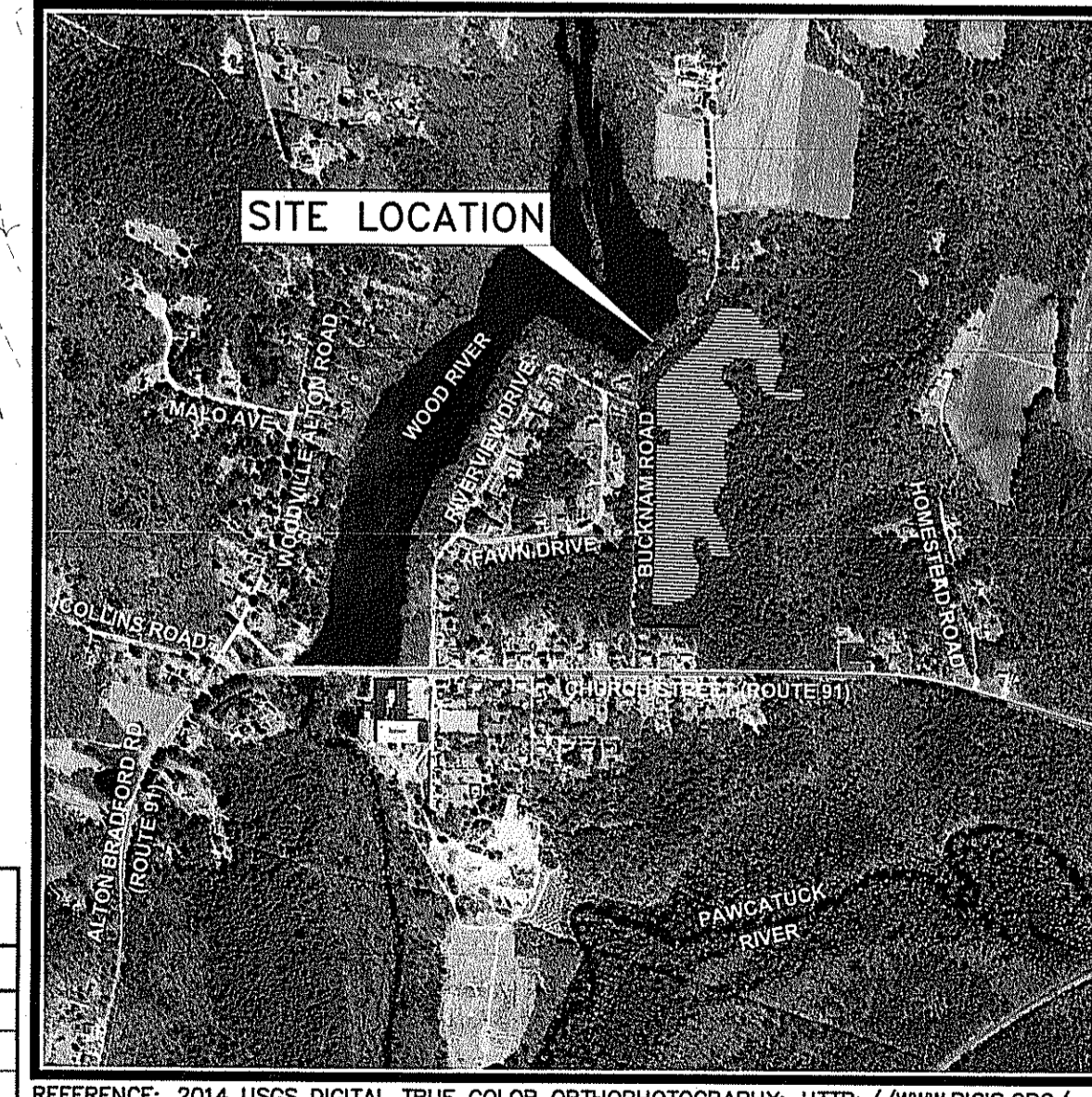
Table with columns: MAP UNIT SYMBOL, MAP UNIT NAME, RATING, ACRES IN AOI, PERCENT OF AOI. Lists soil types like AFA, EFA, EFB, HkC, HkD, MmA, Sb, Ss, W.

AREA SUMMARY

Table with columns: PARCEL SIZE, WETLAND AREA, 50' PERIMETER WETLAND AREA, PERIMETER WETLAND DISTURBANCE, STRUCTURE AREA, AREA OF DISTURBANCE.

ZONE: R-3 RESIDENTIAL AND AGRICULTURAL OVERLAY DISTRICT

Table with columns: VARIABLE, REQUIRED, PROPOSED. Lists yard setbacks and solar height requirements.



SITE LOCATION AERIAL PHOTO
REFERENCE: 2014 USGS DIGITAL TRUE COLOR ORTHOPHOTOGRAPHY; HTTP://WWW.RIGIS.ORG/



WOODARD & CURRAN
95 Cedar Street, Suite 100
Providence, Rhode Island 02903
800.985.7897 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

ALAN A. BENEVIDES
No. 6370
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Table with columns: REVISION, DATE, DESCRIPTION. Lists revision 1 for planning board conditions of approval.

DESIGNED BY: DUC/RFP
DRAWN BY: JBC
CHECKED BY: AB
28894-02-C-200.dwg

PROPOSED SITE PLAN
DEC 21 2017

260 W. EXCHANGE ST., SUITE 102A
PROVIDENCE, RI

BUCKNAM ROAD SOLAR
BUCKNAM ROAD
RICHMOND, RI

JOB NO.: 228794.02
DATE: AUGUST 2017
SCALE: 1" = 100'
SHEET: 4 OF 10
C-200

NOT FOR CONSTRUCTION

A

B

C

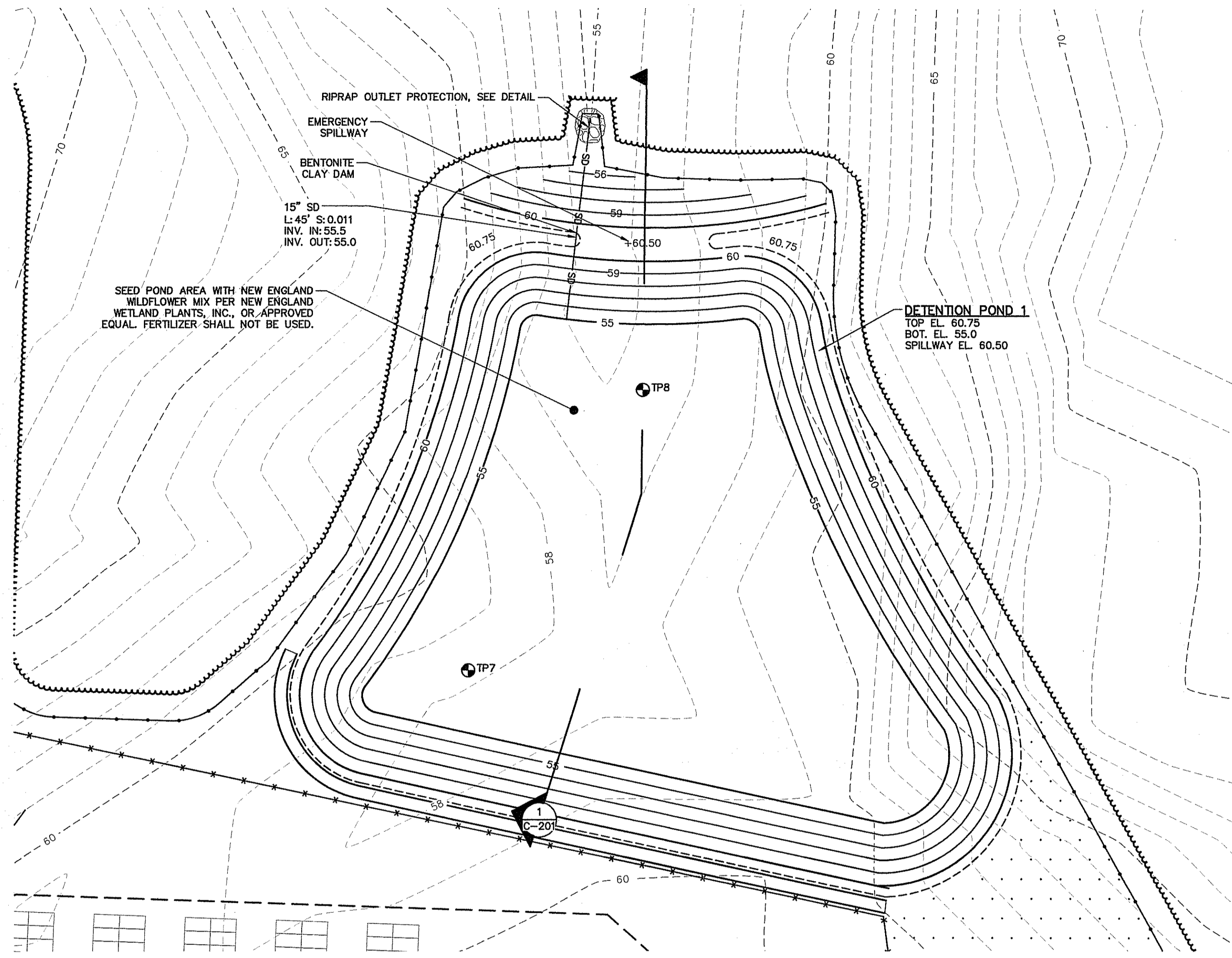
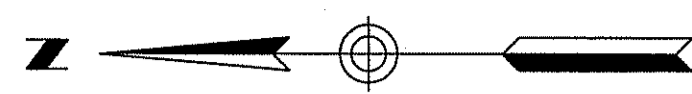
D

A

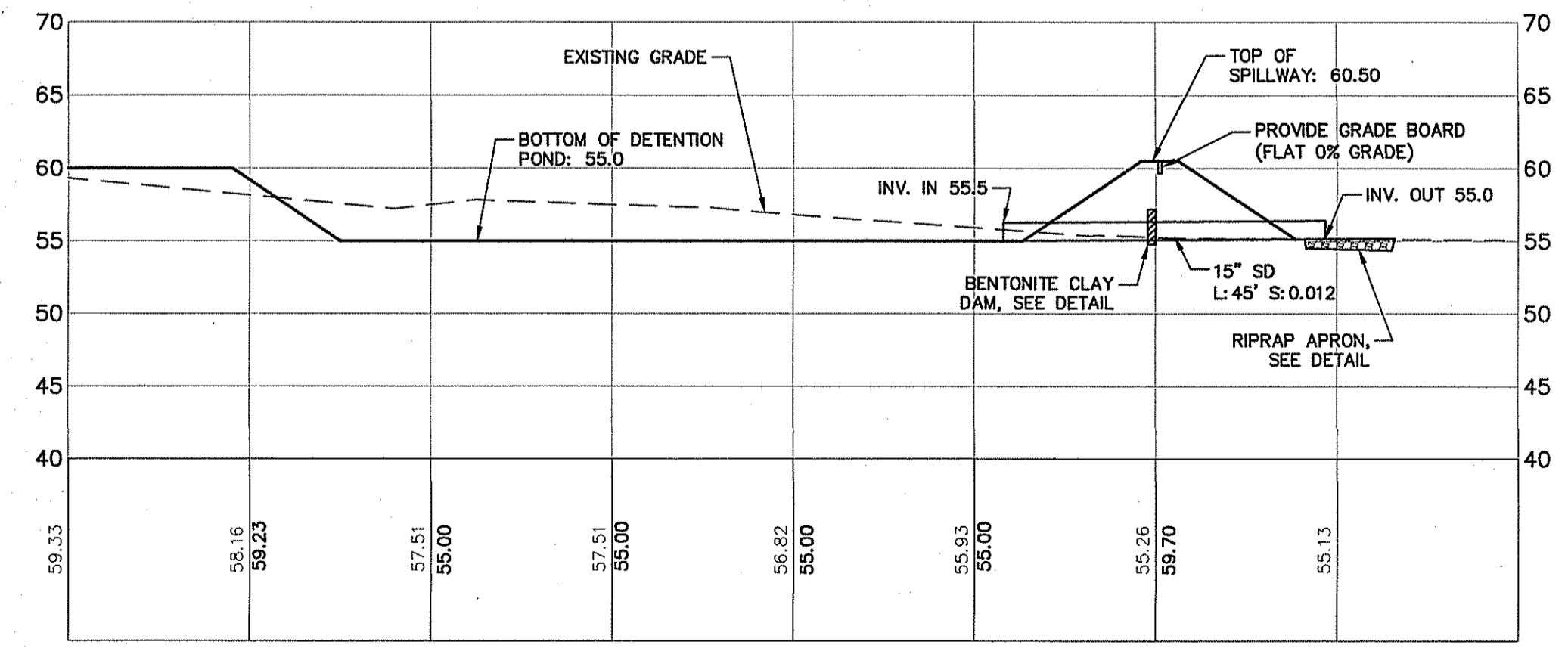
B

C

D



DETENTION POND 1 PLAN  
SCALE: 1" = 20'

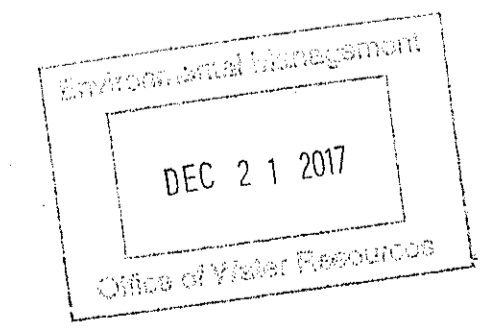


DETENTION POND 1 SECTION 1  
HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: 1" = 10'

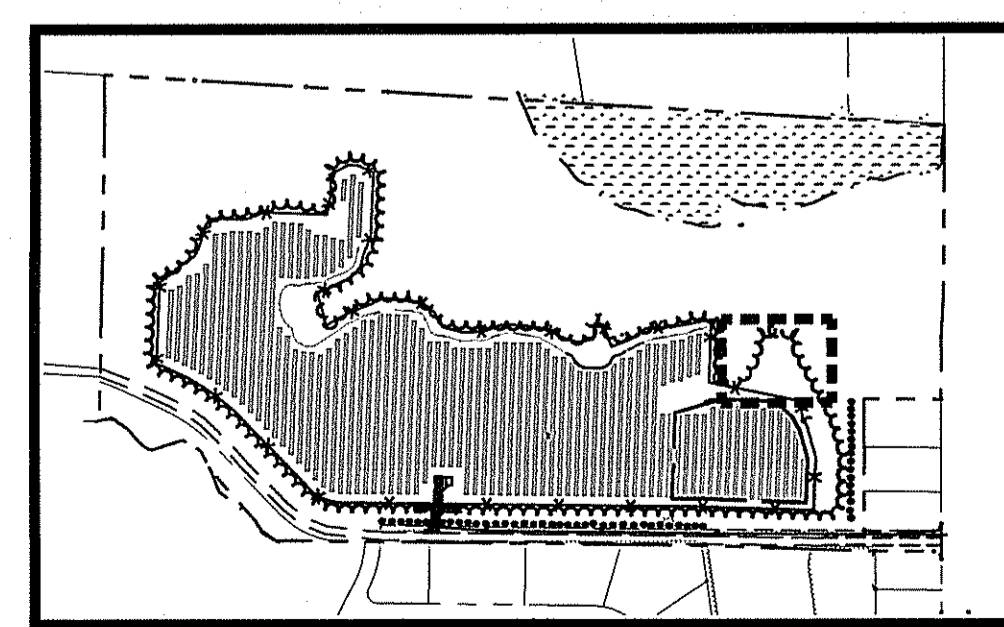
NOTE: SPILLWAYS SHALL BE INSTALLED WITH A LEVEL INSTRUMENT. CONSTRUCT SPILLWAYS TO 0% GRADE TO ENSURE UNIFORM SHEET FLOW

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JAN 16 2018 FILE # 17-0241  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Matthew D. Wenczek*

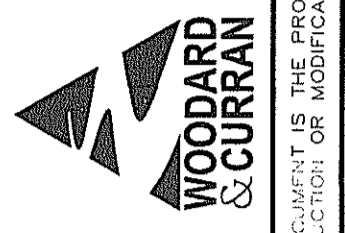


BAR SCALE  
1" = 20'  
CHECK GRAPHIC SCALE BEFORE USING



KEY PLAN  
SCALE: 1" = 500'

95 Cedar Street, Suite 100  
Providence, Rhode Island 02903  
800.985.7897 | www.woodardcurran.com  
COMMITMENT & INTEGRITY DRIVE RESULTS



ALAN A. BENEVIDES  
No. 6370  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL

3	REVISION COMMENTS	12/15/17	DATE
2	NEW ADDRESS DESIGNATION	12/14/2017	DATE
1	PLANNING BOARD CONDITIONS OF APPROVAL	11/16/2017	DATE
DESIGNED BY:	BY: JBC	CHECKED BY:	AB
DRAWN BY:	JBC		228794.02-C-201.dwg

DETENTION POND 1 PLAN AND SECTION

RICHMOND SOLAR 1, LLC  
260 W. EXCHANGE ST. SUITE 102A  
PROVIDENCE, RI

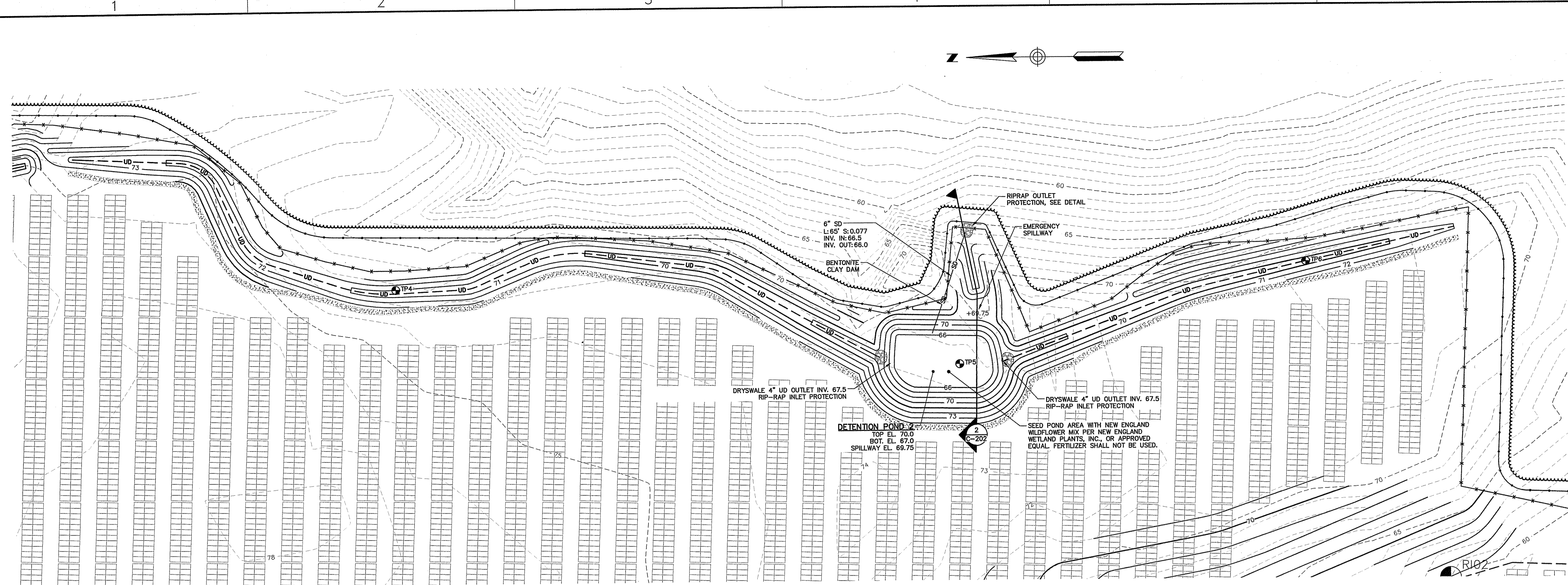
BUCKNAM ROAD SOLAR  
BUCKNAM ROAD  
RICHMOND, RI

JOB NO.: 228794.02  
DATE: AUGUST 2017  
SCALE: AS NOTED  
SHEET: 5 OF 10

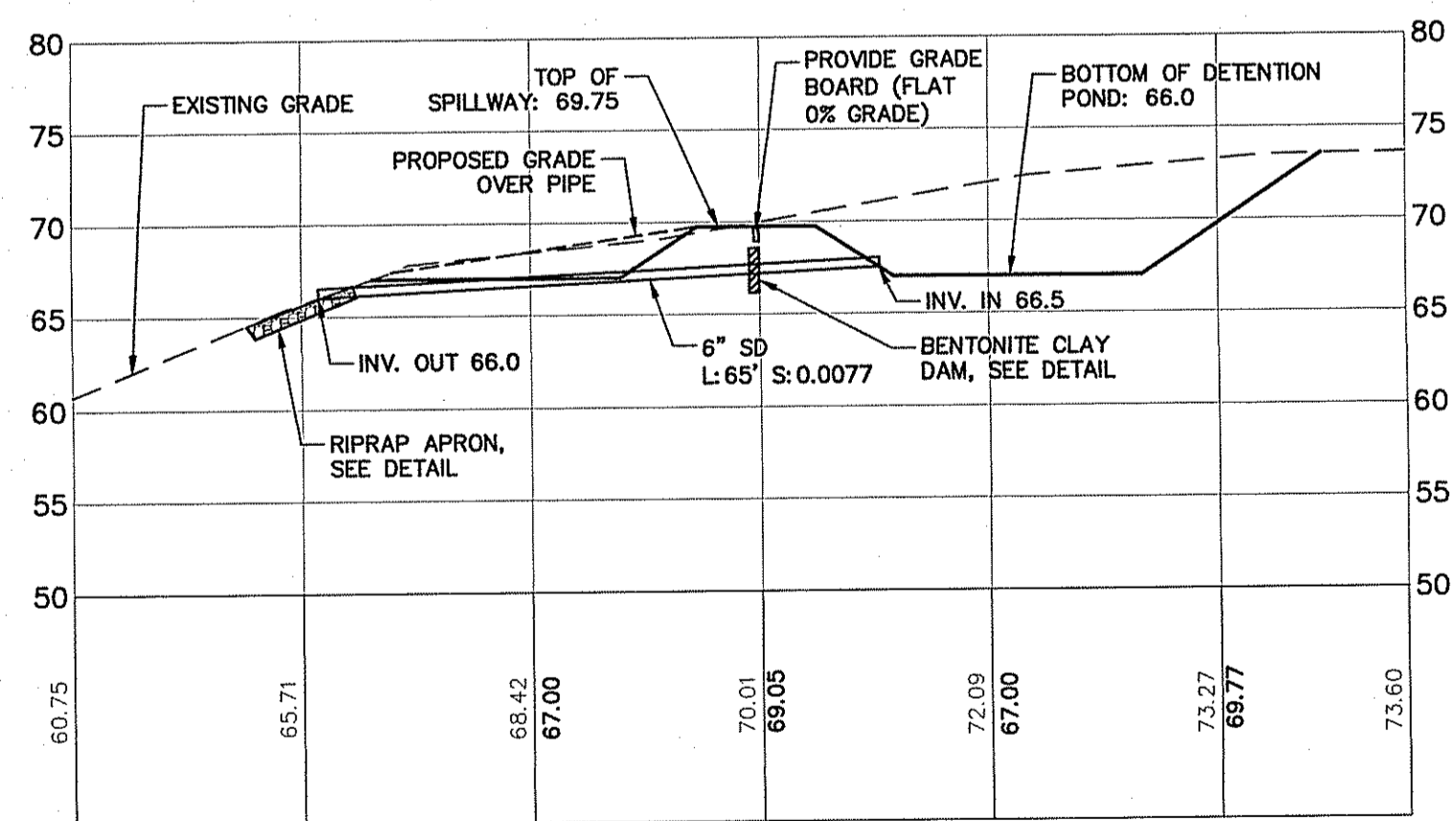
C-201

NOT FOR CONSTRUCTION

\\ve\libored\Projects\228794.02 sub - richmond design permit\wp\_response to richmond\Drawings\CIVIL\228794.02-C-200.dwg, Dec 19, 2017 - 9:27am



**DETENTION POND 2 PLAN**  
SCALE: 1" = 30'

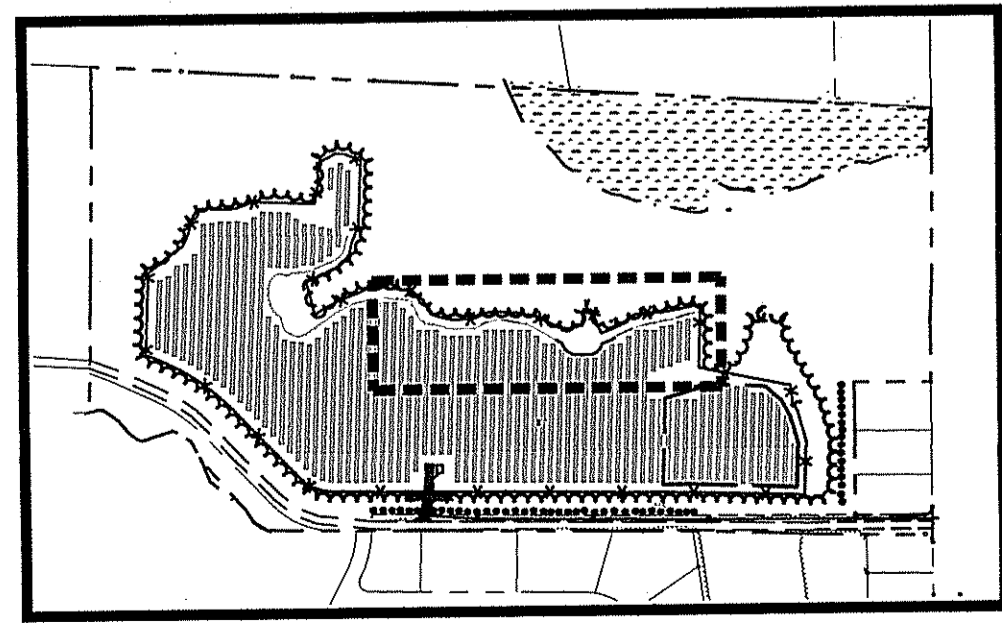
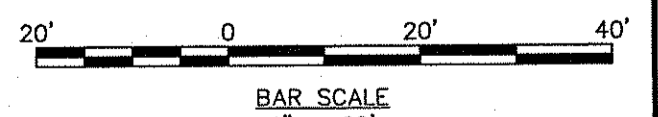
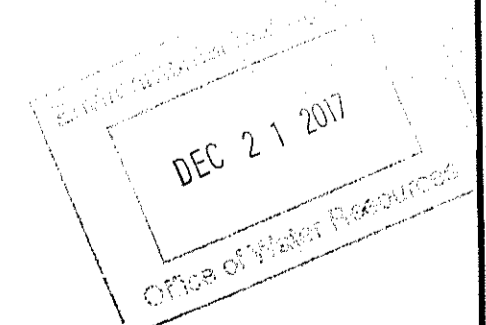


**DETENTION POND 2 SECTION**  
HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: 1" = 10'

NOTE: SPILLWAYS SHALL BE INSTALLED WITH A LEVEL INSTRUMENT. CONSTRUCT SPILLWAYS TO 0% GRADE TO ENSURE UNIFORM SHEET FLOW

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JAN 16 2018 FILE # 17-0241  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Martin D. Wenczek*



**KEY PLAN**  
SCALE: 1" = 500'

95 Cedar Street, Suite 100  
Providence, Rhode Island 02903  
800.357.8971 | www.woodardcurran.com

**WOODARD & CURRAN**

COMMITMENT & INTEGRITY DRIVE RESULTS

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN, INC. AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

ALAN A. BENEVIDES  
No. 6370  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL

3	REVISION COMMENTS	12/15/17
2	NEW ADDRESS DESIGNATION	12/14/2017
1	PLANNING BOARD CONDITIONS OF APPROVAL	11/19/2017
REV	DESCRIPTION	DATE
DESIGNED BY:	B7/D/LC	CHECKED BY: AB
DRAWN BY:	JBC	228794.02-C-200.dwg

**DETENTION POND 2 PLAN AND SECTION**

RICHMOND SOLAR 1, LLC  
260 W. EXCHANGE ST., SUITE 102A  
PROVIDENCE, RI

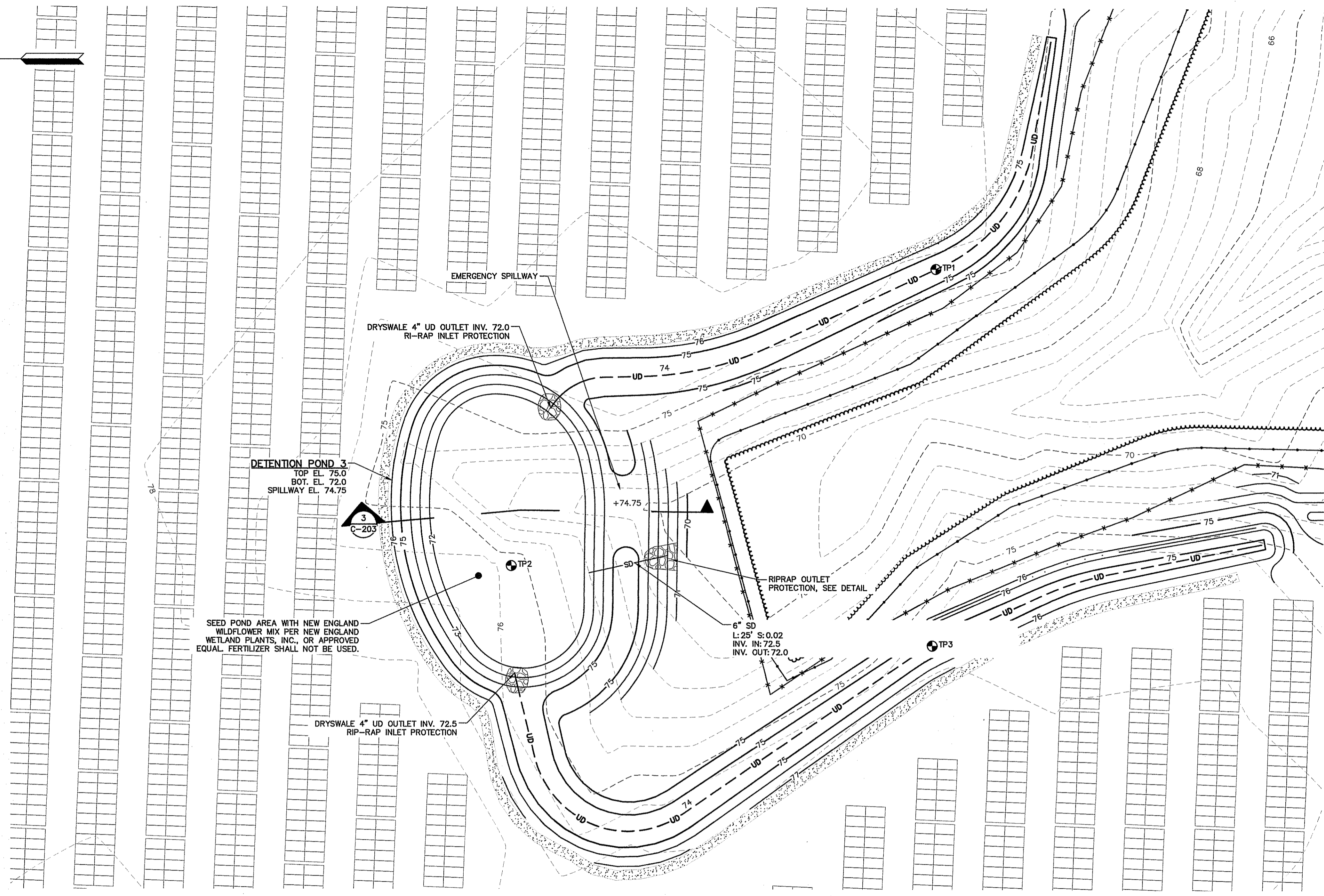
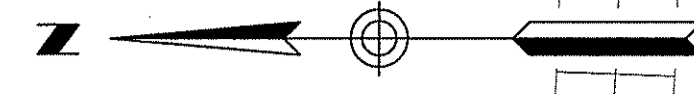
BUCKNAM ROAD SOLAR  
BUCKNAM ROAD  
RICHMOND, RI

JOB NO.: 228794.02  
DATE: AUGUST 2017  
SCALE: AS NOTED  
SHEET: 6 OF 10

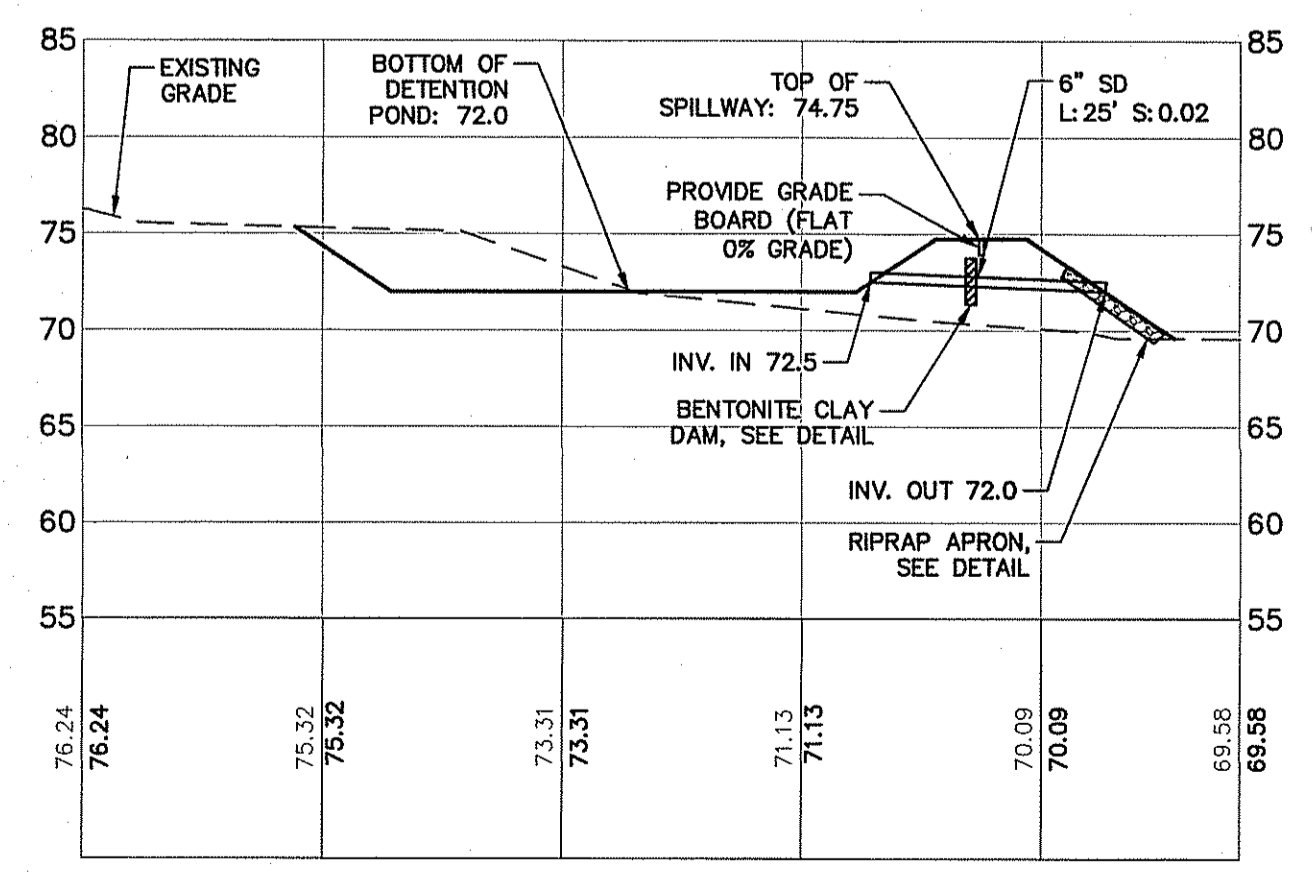
**C-202**

NOT FOR CONSTRUCTION

\\va\shares\Projects\0228794.02.dwg - Richmond design permit\with response to idem\Drawings\Civil\228794.02-C-200.dwg, Dec 19, 2017 - 9:27am



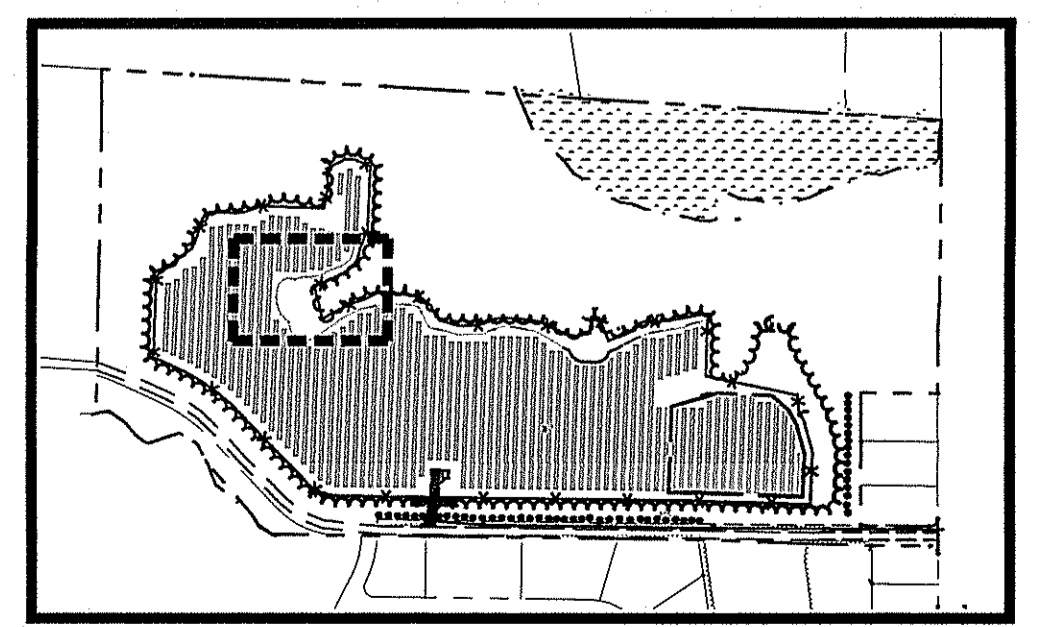
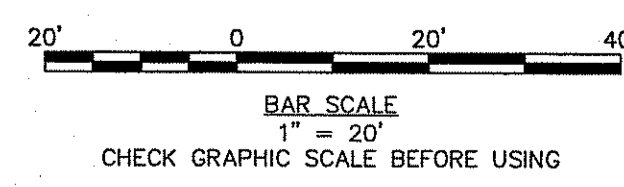
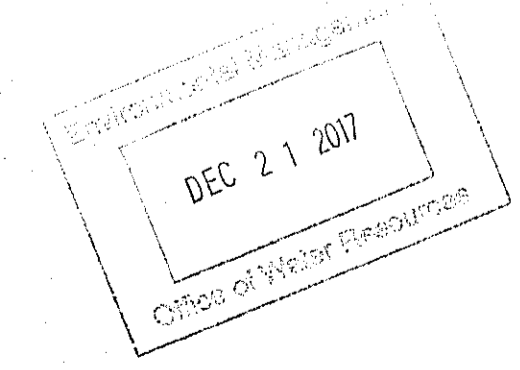
**DETENTION POND 3 PLAN**  
SCALE: 1" = 20'



**DETENTION POND 3 SECTION 3**  
HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: 1" = 10'

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JAN 16 2018 FILE # 17-024/  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Martin D. Wenczek*



**KEY PLAN**  
SCALE: 1" = 500'

\\c:\shared\projects\228794.02\ep - richmond design permit\wp\responses to rident\Drawings\Civil\228794.02-C-200.dwg, Dec 19, 2017 - 9:27am

95 Cedar Street, Suite 100  
Providence, Rhode Island 02903  
800.985.7897 | www.woodardcurran.com

**WOODARD & CURRAN**  
COMMITMENT & INTEGRITY DRIVE RESULTS  
THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN, INC. AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

**ALAN A. BENEVIDES**  
No. 6670  
REGISTERED PROFESSIONAL ENGINEER  
PROFESSIONAL CIVIL

3	BREW COMMENTS	12/15/17
2	NET ADDRESS DESIGNATION	12/7/2017
1	PLANNING BOARD CONDITIONS OF APPROVAL	11/16/2017
REV	DESCRIPTION	DATE
DESIGNED BY: AB		CHECKED BY: AB
DRAWN BY: JBC		228794.02-C-200.dwg

**DETENTION POND 3 PLAN AND SECTION**

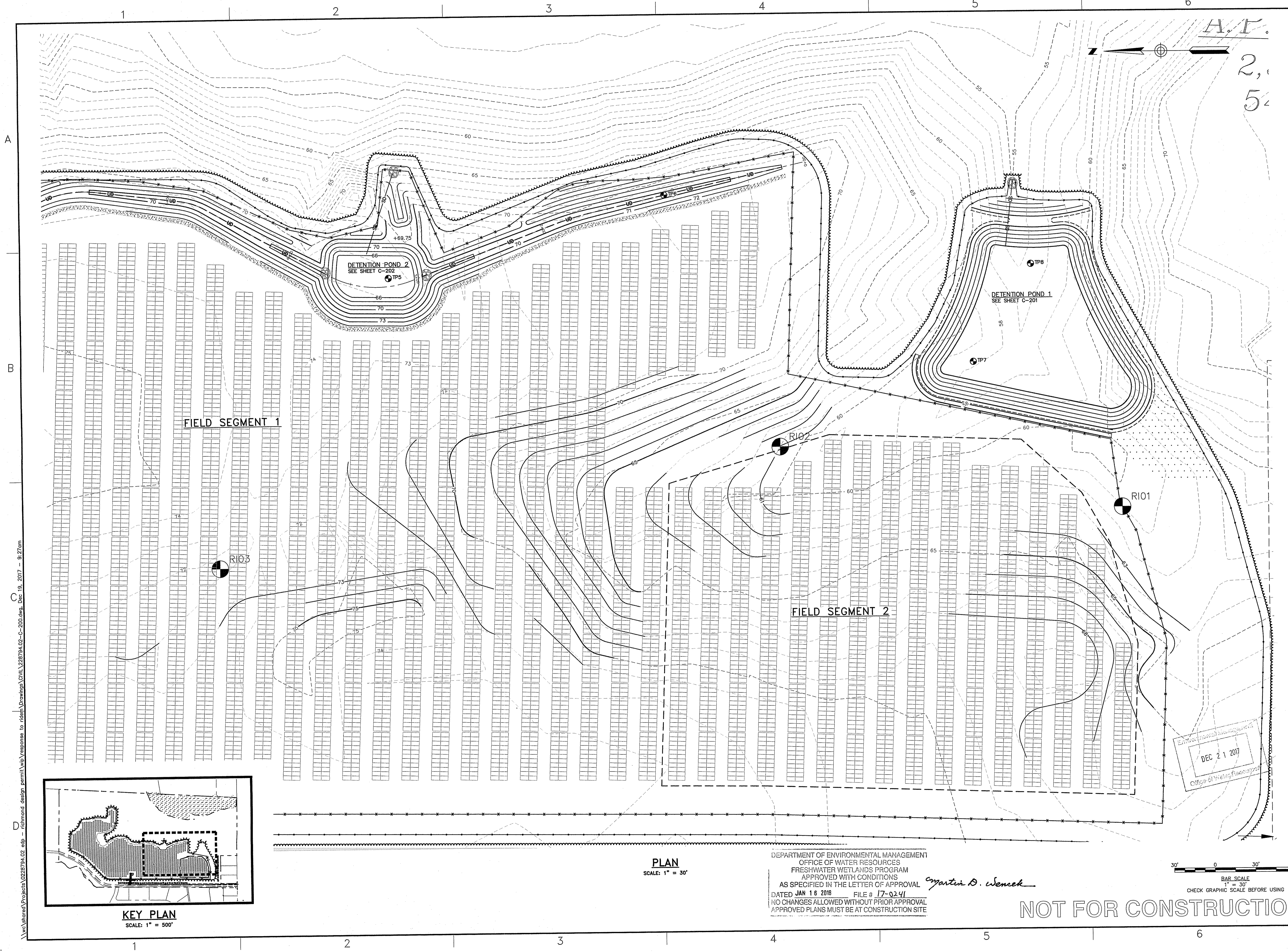
RICHMOND SOLAR 1, LLC  
260 W. EXCHANGE ST., SUITE 102A  
PROVIDENCE, RI

BUCKNAM ROAD SOLAR  
BUCKNAM ROAD  
RICHMOND, RI

JOB NO.: 228794.02  
DATE: AUGUST 2017  
SCALE: AS NOTED  
SHEET: 7 OF 10

NOT FOR CONSTRUCTION

C-203



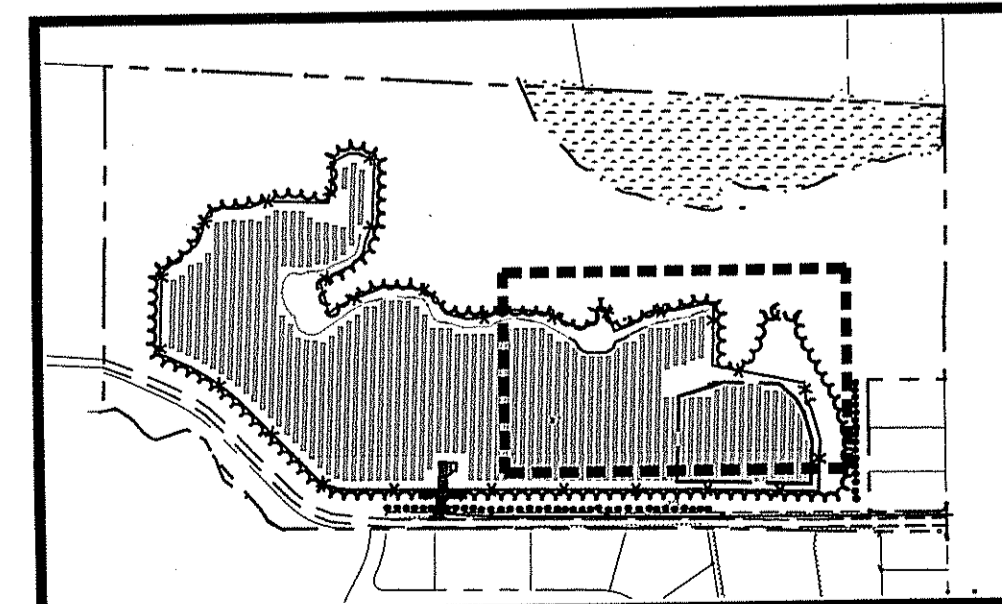
A.T.  
2,  
5

FIELD SEGMENT 1

FIELD SEGMENT 2

DETENTION POND 2  
SEE SHEET C-202

DETENTION POND 1  
SEE SHEET C-201



**KEY PLAN**  
SCALE: 1" = 500'

**PLAN**  
SCALE: 1" = 30'

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL *Martin D. Wenczek*  
DATED JAN 16 2018 FILE # 17-0241  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

BAR SCALE  
1" = 30'  
CHECK GRAPHIC SCALE BEFORE USING

DEC 21 2017  
Office of Water Resources

95 Cedar Street, Suite 100  
Providence, Rhode Island 02903  
800.985.7897 | www.woodardcurran.com

**WOODARD & CURRAN**

COMMITMENT & INTEGRITY DRIVE RESULTS

ALAN A. BENEVIDES  
No. 6870  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL

3	REVISION COMMENTS	12/15/17
2	NEW ADDRESS DESIGNATION	12/4/2017
1	PLANNING BOARD CONDITIONS OF APPROVAL	11/16/2017
REV	DESCRIPTION	DATE
DESIGNED BY: JBC	CHECKED BY: AB	
DRAWN BY: JBC	DATE: 2018.05.20.04m	

**SOLAR ARRAY GRADING PLAN**

RICHMOND SOLAR 1, LLC  
260 W. EXCHANGE ST., SUITE 102A  
PROVIDENCE, RI

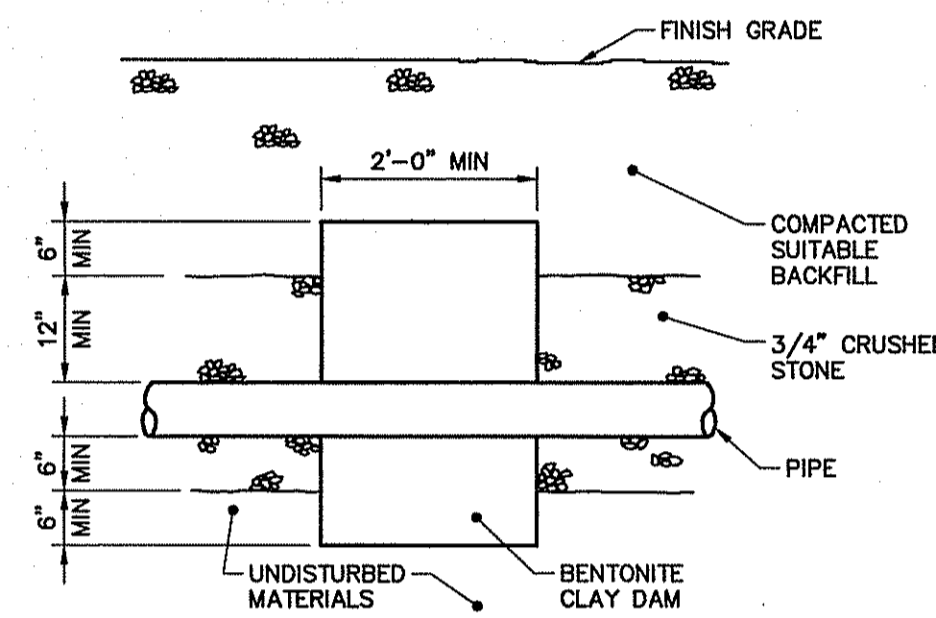
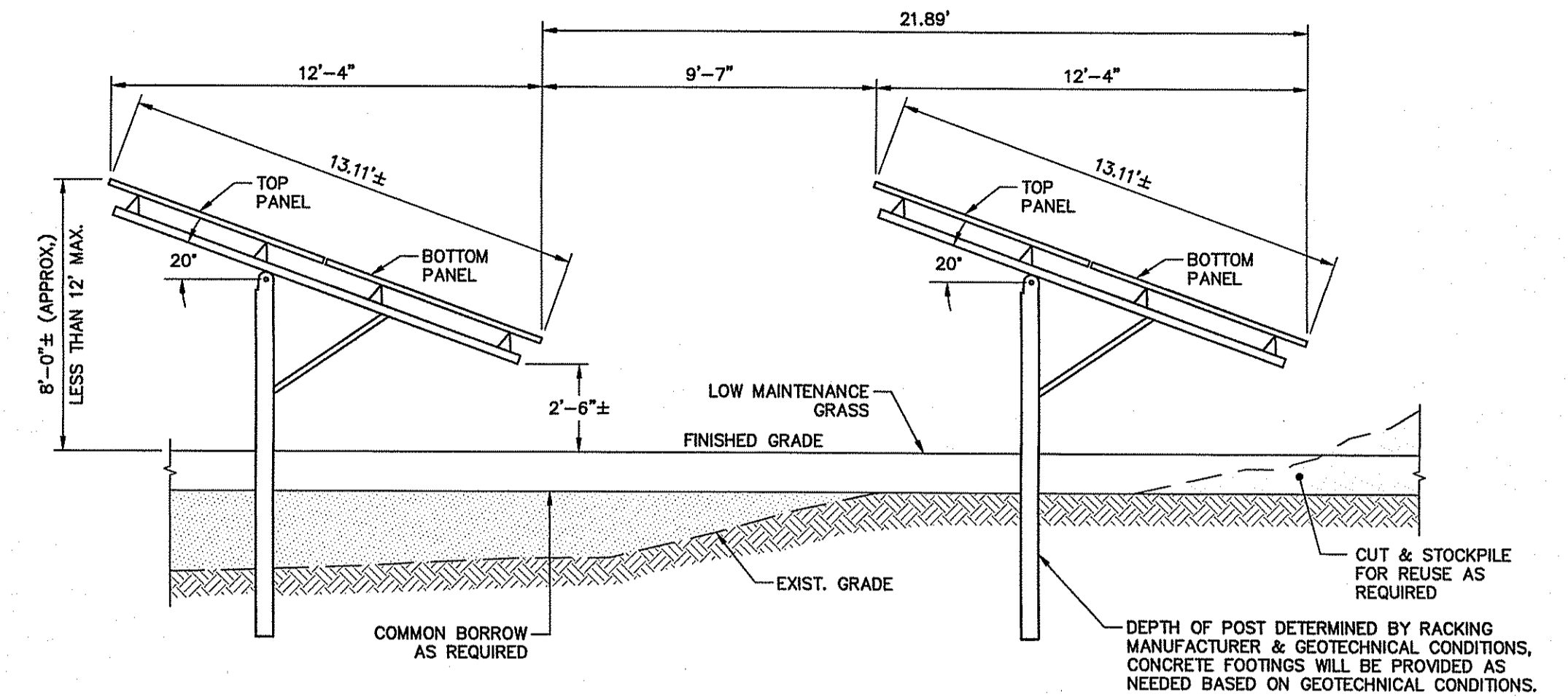
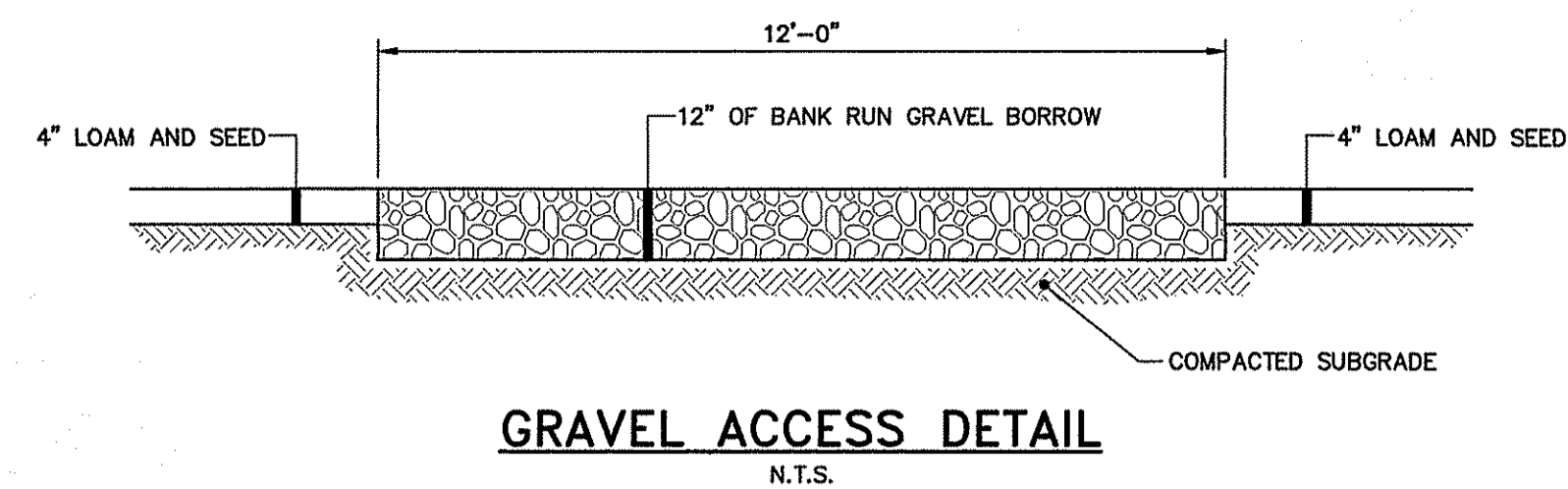
BUCKNAM ROAD SOLAR  
BUCKNAM ROAD  
RICHMOND, RI

JOB NO.: 228794.02  
DATE: AUGUST 2017  
SCALE: 1" = 30'  
SHEET: 8 OF 10

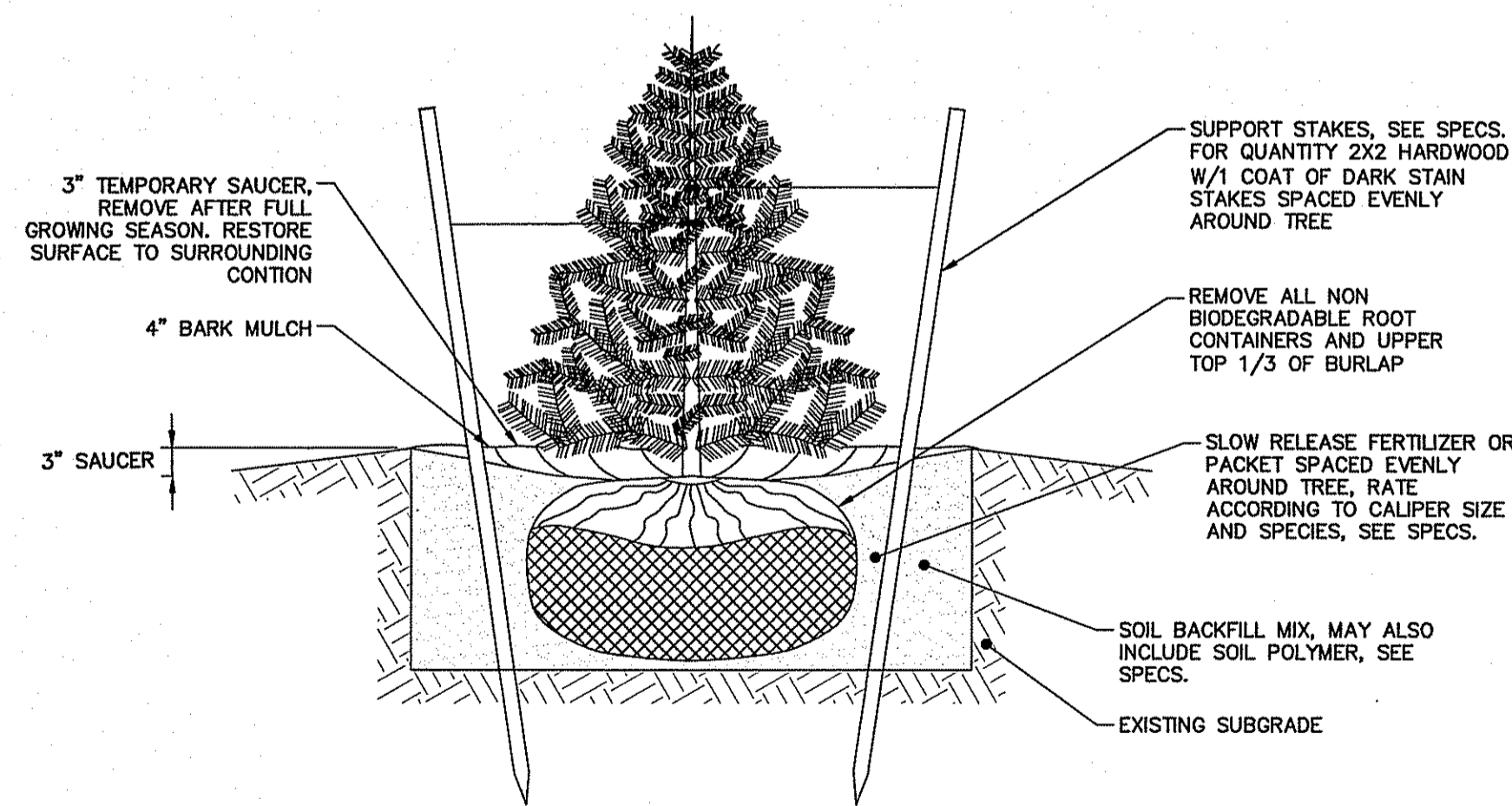
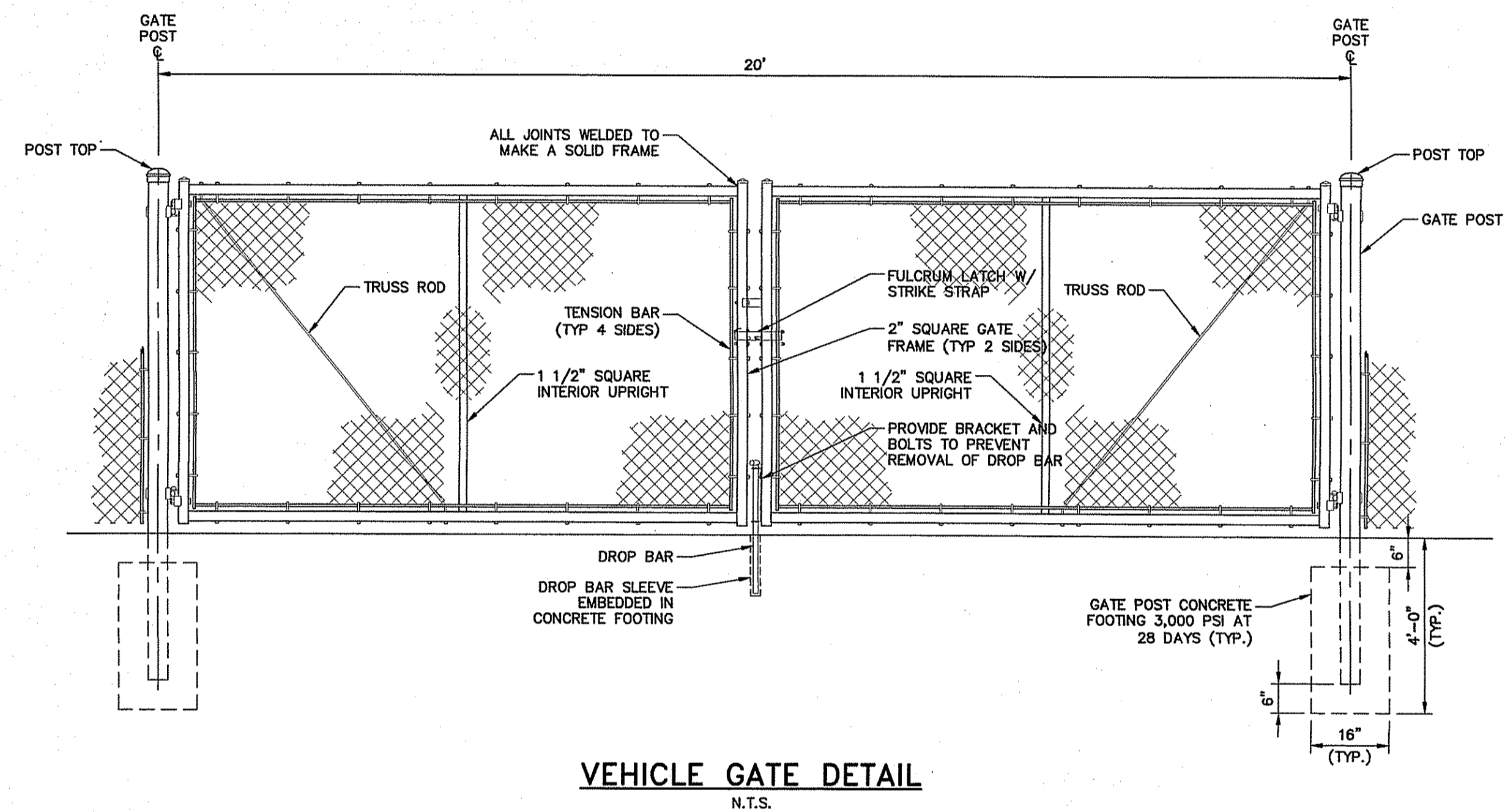
**C-204**

**NOT FOR CONSTRUCTION**

\\wa\shared\Projects\0228794.02 - richmond design permit\wp\responses to rfd\Drawings\Civil\228794.02-C-200.dwg, Dec 19, 2017 - 9:27am



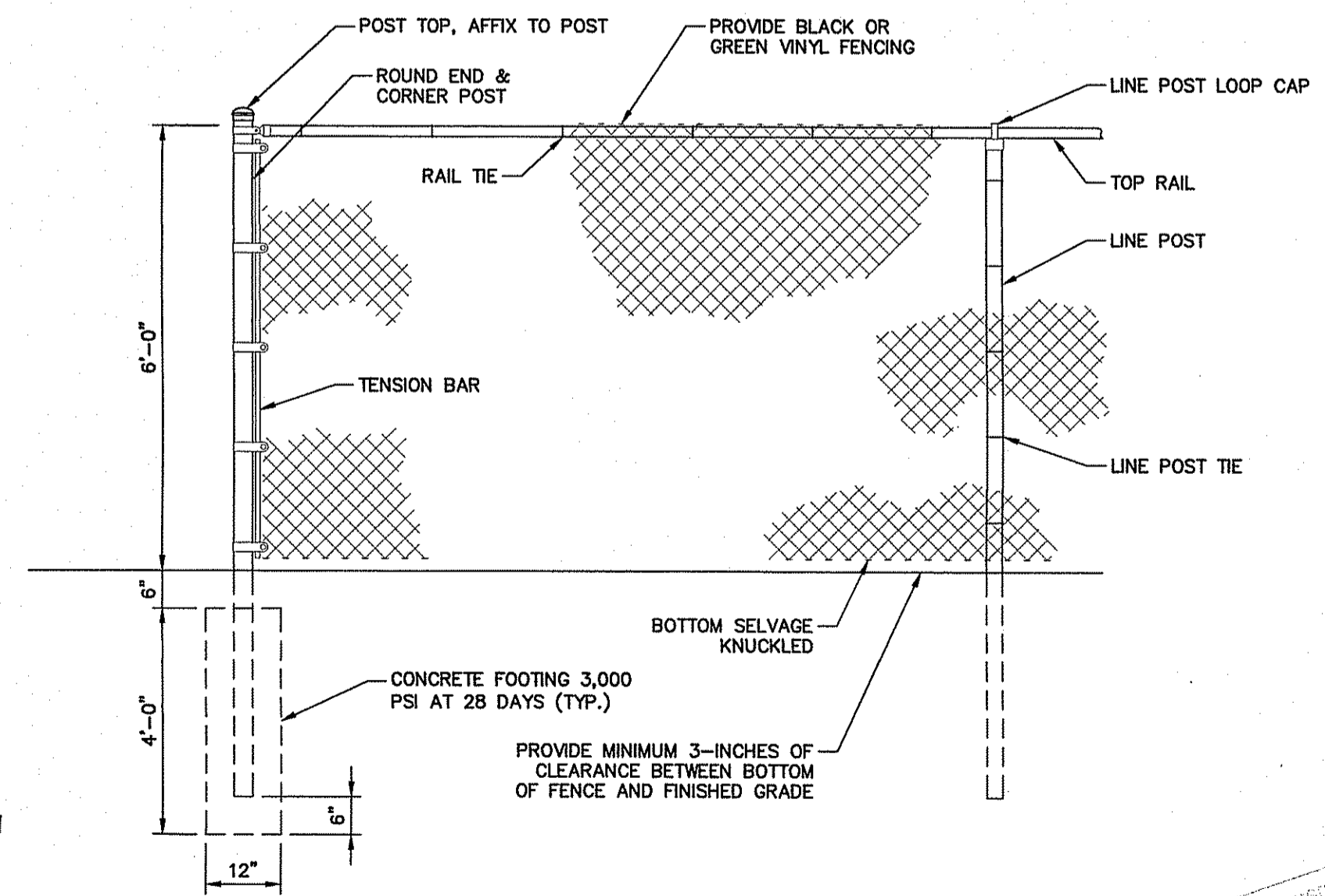
**NOTES:**  
 1. BENTONITE CLAY DAM SHALL EXTEND THE FULL WIDTH OF PIPE TRENCH, BUTTING TO UNDISTURBED SOILS ON EACH EDGE OF THE TRENCH WIDTH.  
 2. PROVIDE BENTONITE CLAY DAM EVERY 50 LF ALONG PIPE TRENCH. PROVIDE MIN. OF 1 BENTONITE CLAY DAM AT THE END OF EACH TRENCH.



**NOTES:**  
 1. NEVER CUT OUT CENTRAL LEADER, PRUNE OUT BROKEN, DEAD OR CONFLICTING BRANCHES  
 2. SEE SPECS. FOR ADDITIONAL REQUIREMENTS  
 3. TREE GUYS SHALL BE GUYING CHAIN, WEB STRAPPING OR TIE WIRE, RUBBER HOSE AND TURNBUCKLES

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JAN 16 2018 FILE # 17-0241  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Christopher D. Weneck*



**CHAIN LINK FENCE DETAIL**  
 N.T.S.

DEC 21 2017  
 Office of Water Resources

NOT FOR CONSTRUCTION

95 Cedar Street, Suite 100  
 Providence, Rhode Island 02903  
 800.957.7897 | www.woodardcurran.com  
**WOODARD & CURRAN**  
 COMMITMENT & INTEGRITY DRIVE RESULTS

ALAN A. BENEVIDES  
 No. 6370  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL

REV	DATE	DESCRIPTION	CHECKED BY: AB	DRAWN BY: JBC
3	12/15/17	RIEM COMMENTS		
2	12/14/2017	NEW ADDRESS DESIGNATION		
1	11/16/2017	PLANNING BOARD CONDITIONS OF APPROVAL		

DESIGNED BY: BT/DLC  
 DRAWN BY: JBC  
 228794-C-300.dwg

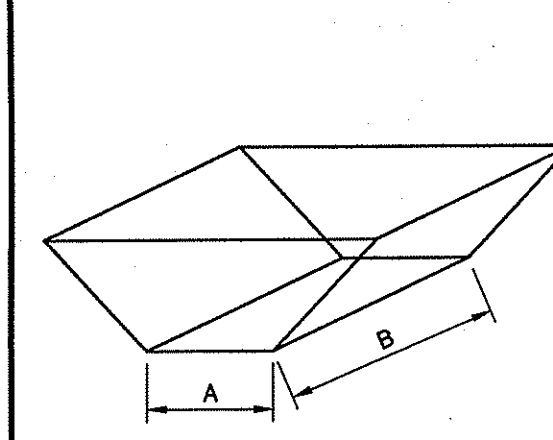
**CIVIL DETAILS - 1**

RICHMOND SOLAR 1, LLC  
 260 W. EXCHANGE ST., SUITE 102A  
 PROVIDENCE, RI  
 BUCKNAM ROAD SOLAR  
 BUCKNAM ROAD  
 RICHMOND, RI

JOB NO.: 228794.02  
 DATE: AUGUST 2017  
 SCALE: AS NOTED  
 SHEET: 9 OF 10

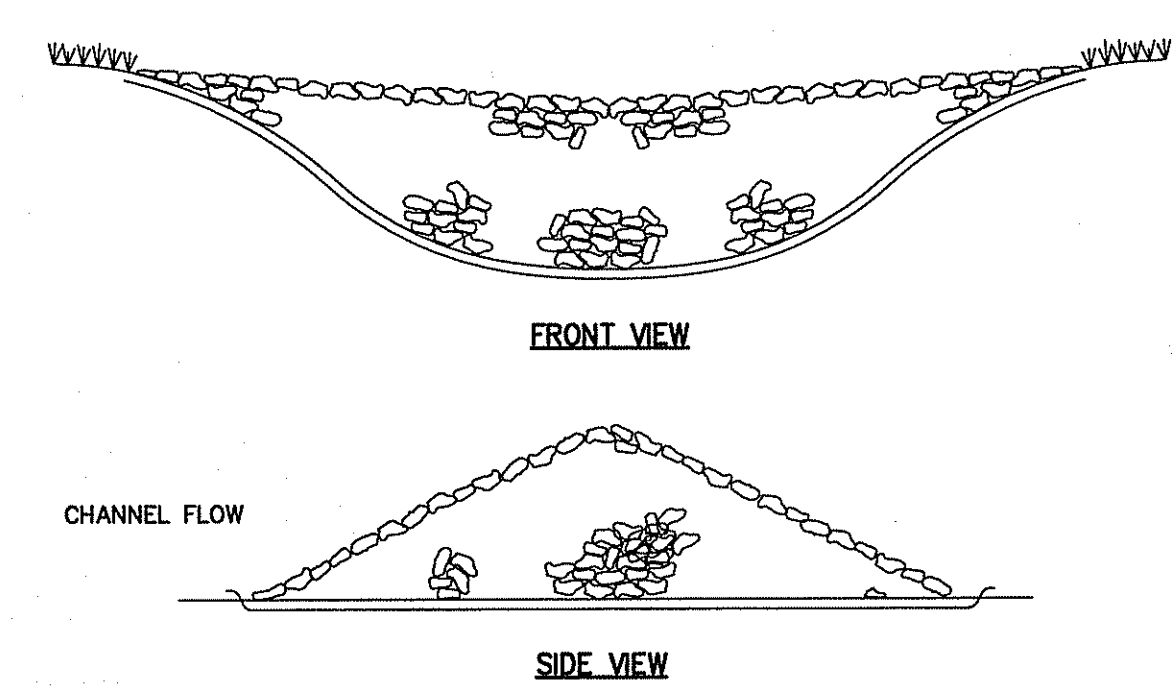
C-301

\\vc\shares\Projects\228794.02.esd - Richmond design permit\with responses to rider\Drawings\Civil\228794.02-C-300A.dwg, Dec 19, 2017 - 9:27am

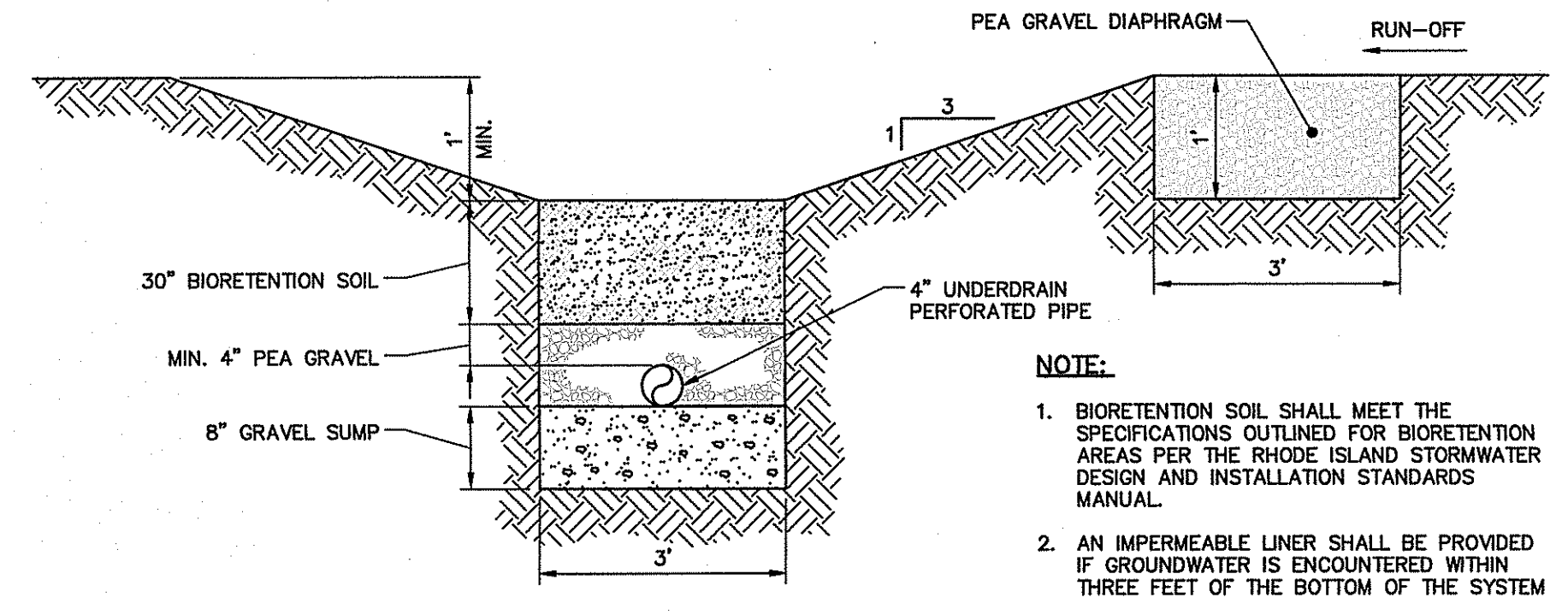


DETENTION POND No.	A	B
1	3'	25'
2	3'	21'
3	3'	21'

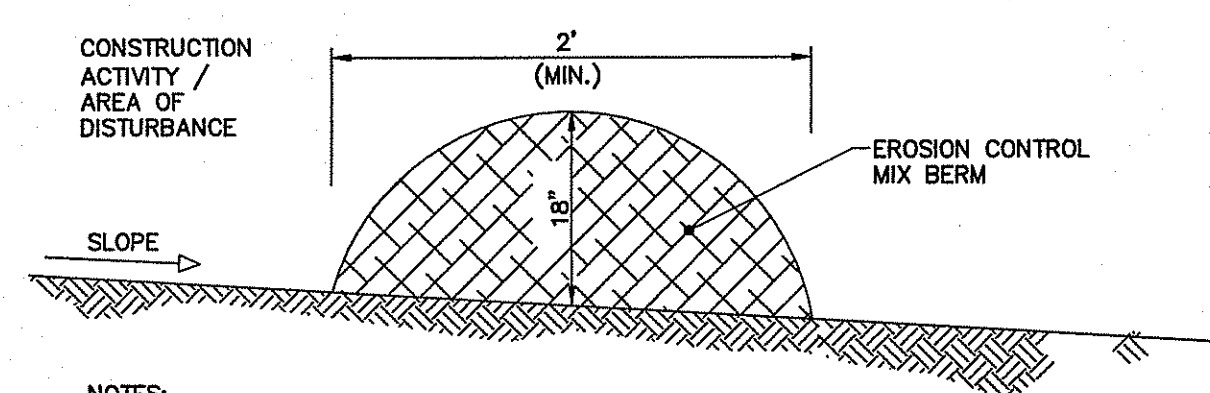
**BROAD CRESTED RECTANGULAR WEIR**  
N.T.S.



**STONE CHECK DAM**  
N.T.S.



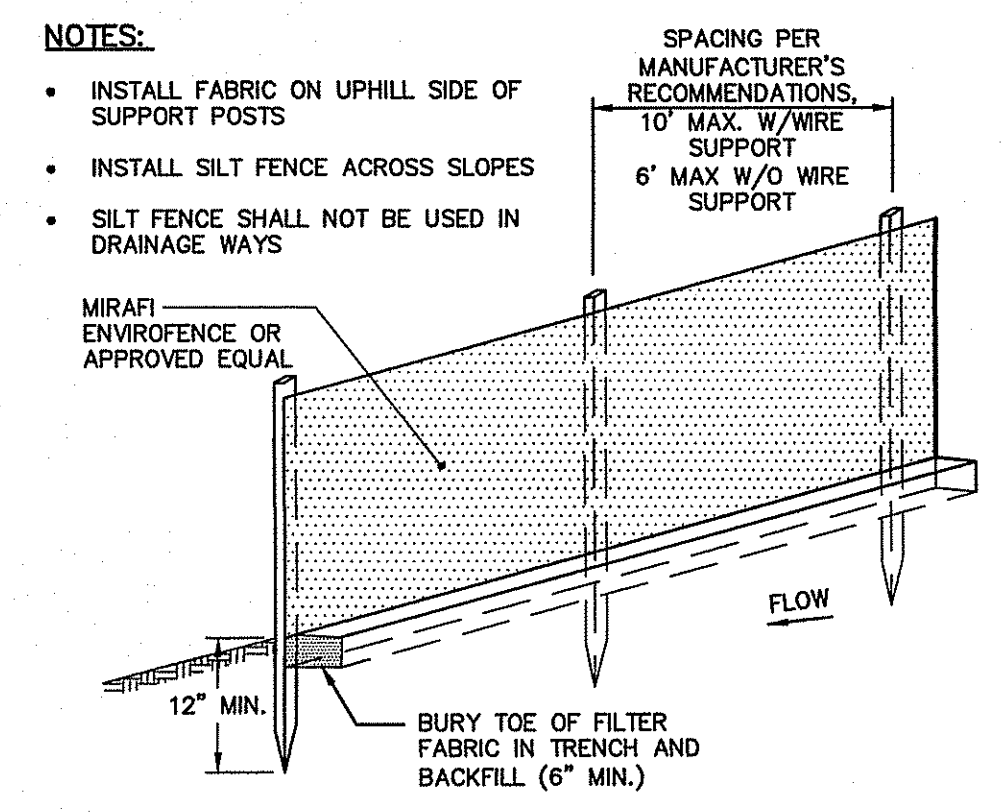
**DRY SWALE DETAIL**  
N.T.S.



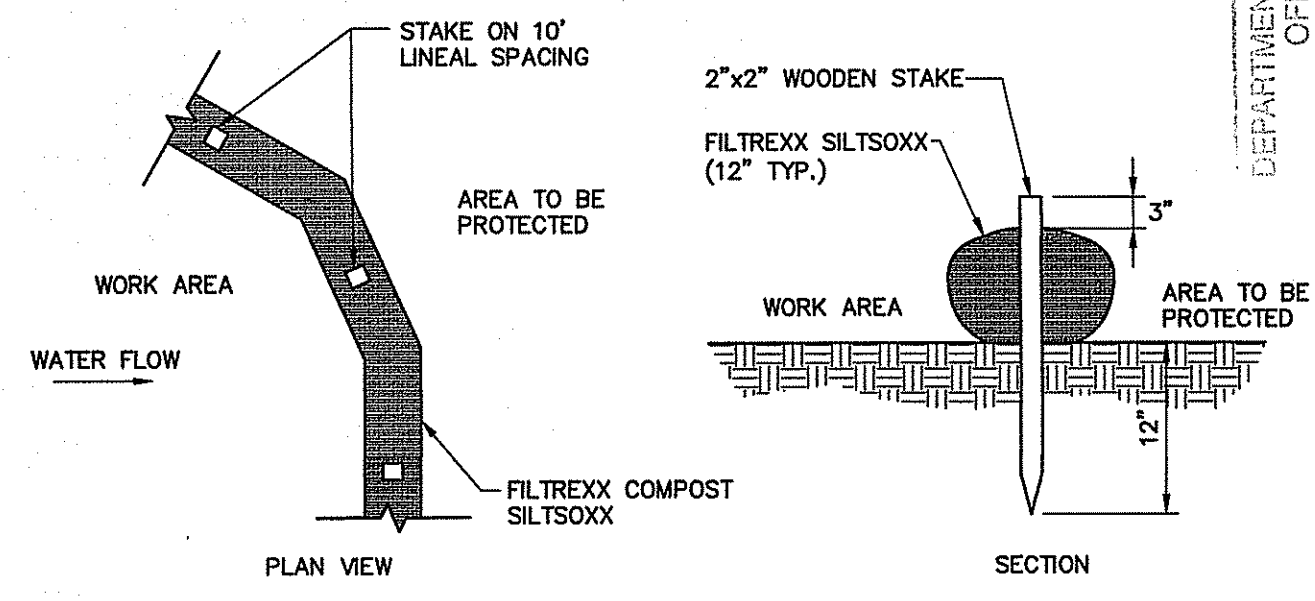
**NOTES:**  
EROSION CONTROL MIX BERM MUST CONSIST PRIMARILY OF ORGANIC MATERIAL AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.  
**COMPOSITION:**  
EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:

- THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80 AND 100% DRY WEIGHT BASIS.
- PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN AND A MINIMUM OF 70% MAXIMUM OF 85% PASSING A 0.75" SCREEN.
- THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
- LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
- SOLUBLE SALTS CONTENT SHALL BE < 4.0 MMHOS/CM.
- THE PH SHOULD FALL BETWEEN 5.0 AND 8.0.

**SEDIMENT BARRIER - EROSION CONTROL MIX BERM (OPTION)**  
N.T.S.



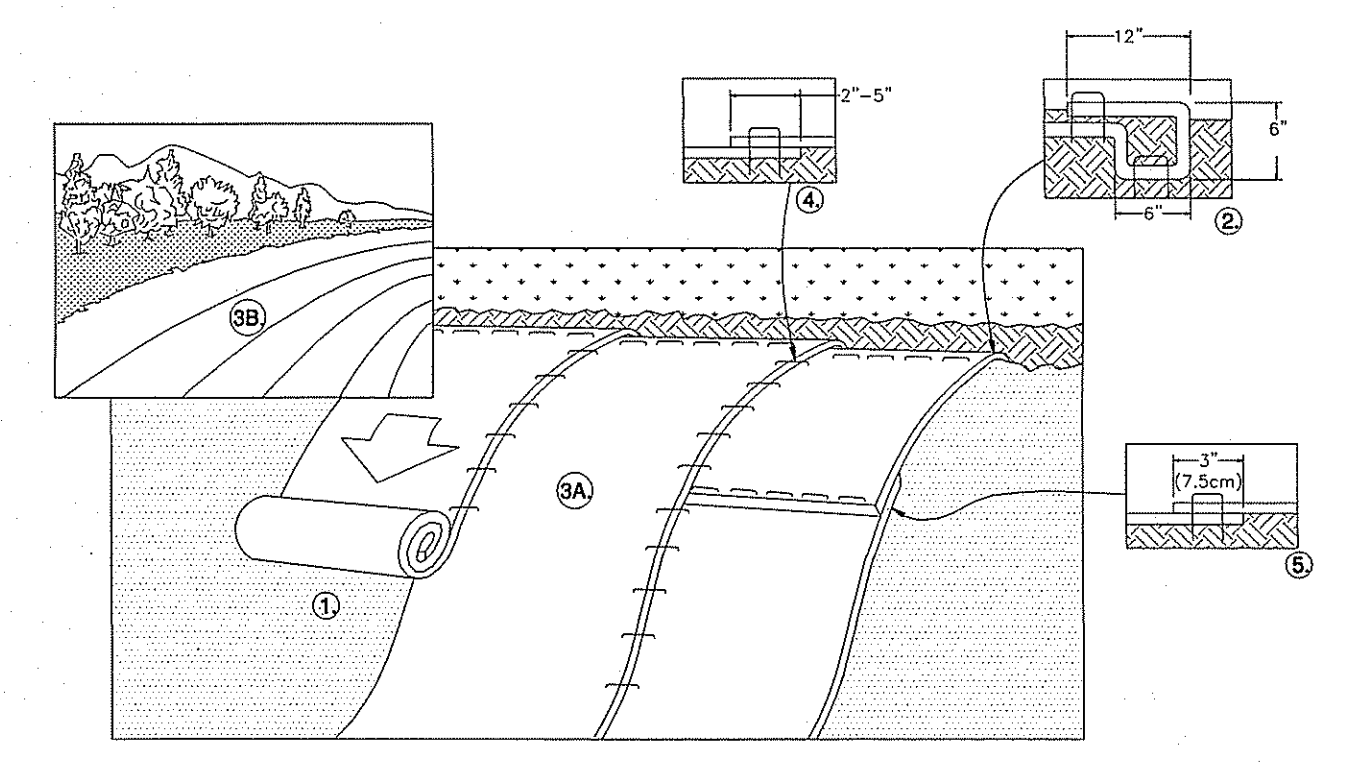
**SEDIMENT BARRIER - SILTATION FENCE DETAIL (OPTION)**  
N.T.S.



**SEDIMENT BARRIER - SILTISOXX (OPTION)**  
N.T.S.

**EROSION & SEDIMENTATION CONTROL NOTES**

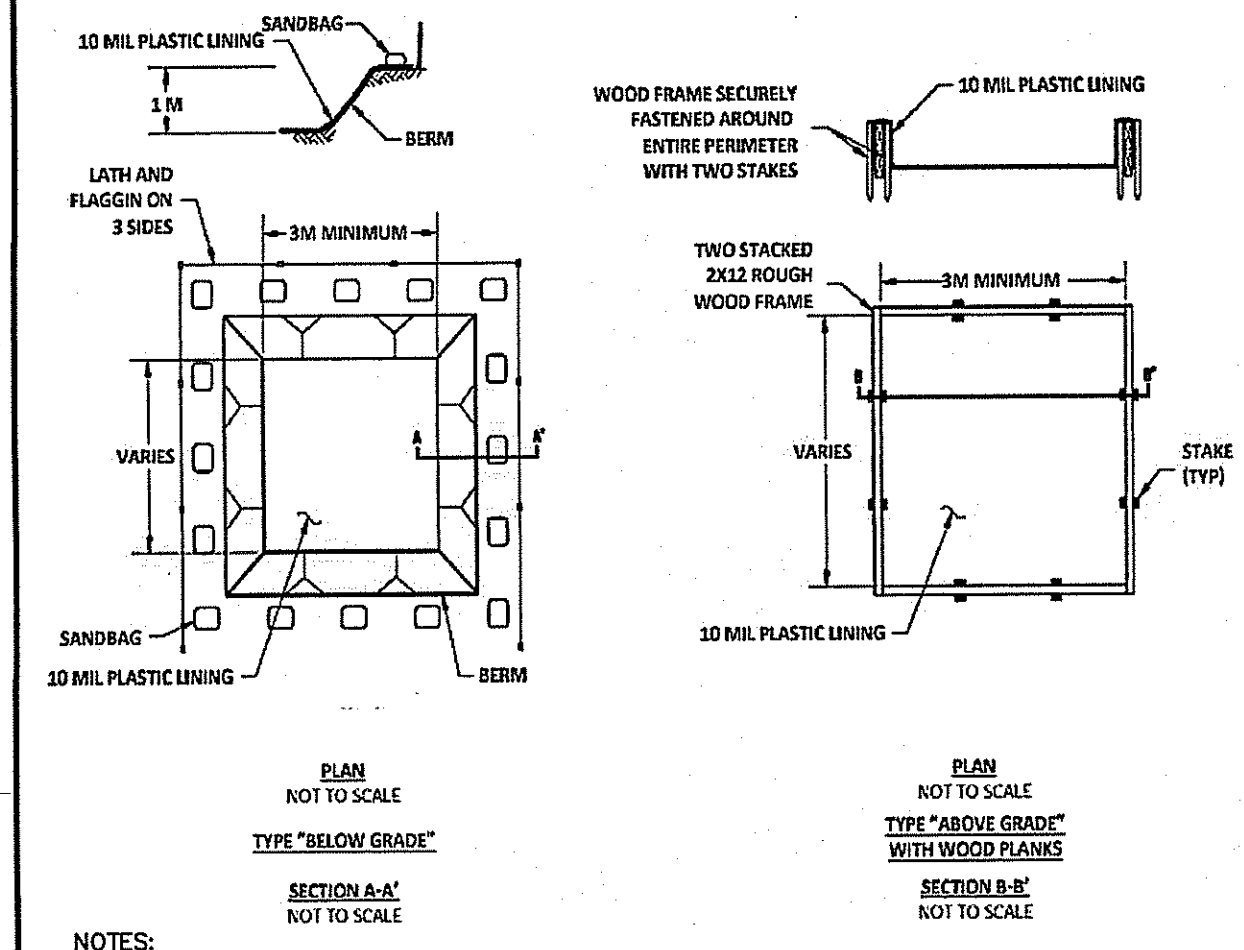
1. PROVIDE EROSION AND SEDIMENTATION CONTROL BMP'S PER RHODE ISLAND SOIL EROSION & SEDIMENTATION CONTROL HANDBOOK, AS AMENDED.
2. PHYSICAL MARKERS SUCH AS TAPE, SIGNS, OR ORANGE CONSTRUCTION FENCE SHALL BE INSTALLED TO MARK THE LIMITS OF NO LAND DISTURBANCE ON THE SITE; MARKERS SHALL BE INSPECTED DAILY.
3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES.
4. SEDIMENT SHALL BE REMOVED ONCE THE VOLUME REACHES 1/4 TO 1/2 THE HEIGHT OF THE SEDIMENT BARRIER, OR ONCE THE BARRIER SHOWS SIGNS OF FAILURE.
5. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROLS WHEN STORAGE CAPACITY HAS BEEN REDUCED BY AT LEAST 50 PERCENT.
6. OFF-SITE TRANSPORT OF SEDIMENT, INCLUDING OFF-SITE VEHICLE TRACKING, SHALL BE PREVENTED.
7. DUST AND DEBRIS SHALL BE CONTROLLED AT THE SITE.
8. SOIL STOCKPILES SHALL BE STABILIZED OR COVERED AT THE END OF EACH WORKDAY. STOCKPILE SLOPES SHALL NOT BE GREATER THAN 2:1. ALL STOCKPILES SHALL BE SURROUNDED BY SEDIMENT CONTROLS.
9. DISCHARGES OF WASTEWATER FROM WASHOUT OF CONCRETE, PAINT, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS; FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING ARE PROHIBITED ON THE CONSTRUCTION SITE.
10. STABILIZATION MEASURES SHALL BE IMPLEMENTED ON DISTURBED AREAS AS SOON AS PRACTICABLE, BUT NO MORE THAN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED. DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS OF REMOVAL.
11. PERMANENT SEEDING SHALL BE UNDERTAKEN IN THE SPRING FROM MARCH THROUGH MAY, AND IN LATE SUMMER AND EARLY FALL FROM SEPTEMBER TO OCTOBER 15.
12. THE SEQUENCE AND TIMING OF ACTIVITIES SHALL BE AS FOLLOWS:
  - a. MARK LIMITS OF NO LAND DISTURBANCE ON THE SITE WITH TAPE, SIGNS, OR ORANGE CONSTRUCTION FENCE
  - b. INSTALL EROSION AND SEDIMENT CONTROL MEASURES
  - c. INSTALL SOLAR PHOTOVOLTAIC ARRAY AND ASSOCIATED INTERCONNECTION SYSTEM
  - d. STABILIZE SITE
  - e. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES
13. THE CONTRACTOR SHALL CONDUCT INSPECTIONS AT LEAST ON A 7 DAY INTERVAL AND WITHIN 24 HOURS AFTER ANY RAINFALL EVENT OF 0.25" OR MORE.
14. DURING CONSTRUCTION, THE INSTALLATION, MAINTENANCE AND OPERATION OF EROSION CONTROL MEASURES SHALL BE SUBJECT TO INSPECTION AND ENFORCEMENT BY THE TOWN OF RICHMOND AND RIDEM.



**ROLLED EROSION CONTROL BLANKET**  
N.T.S.

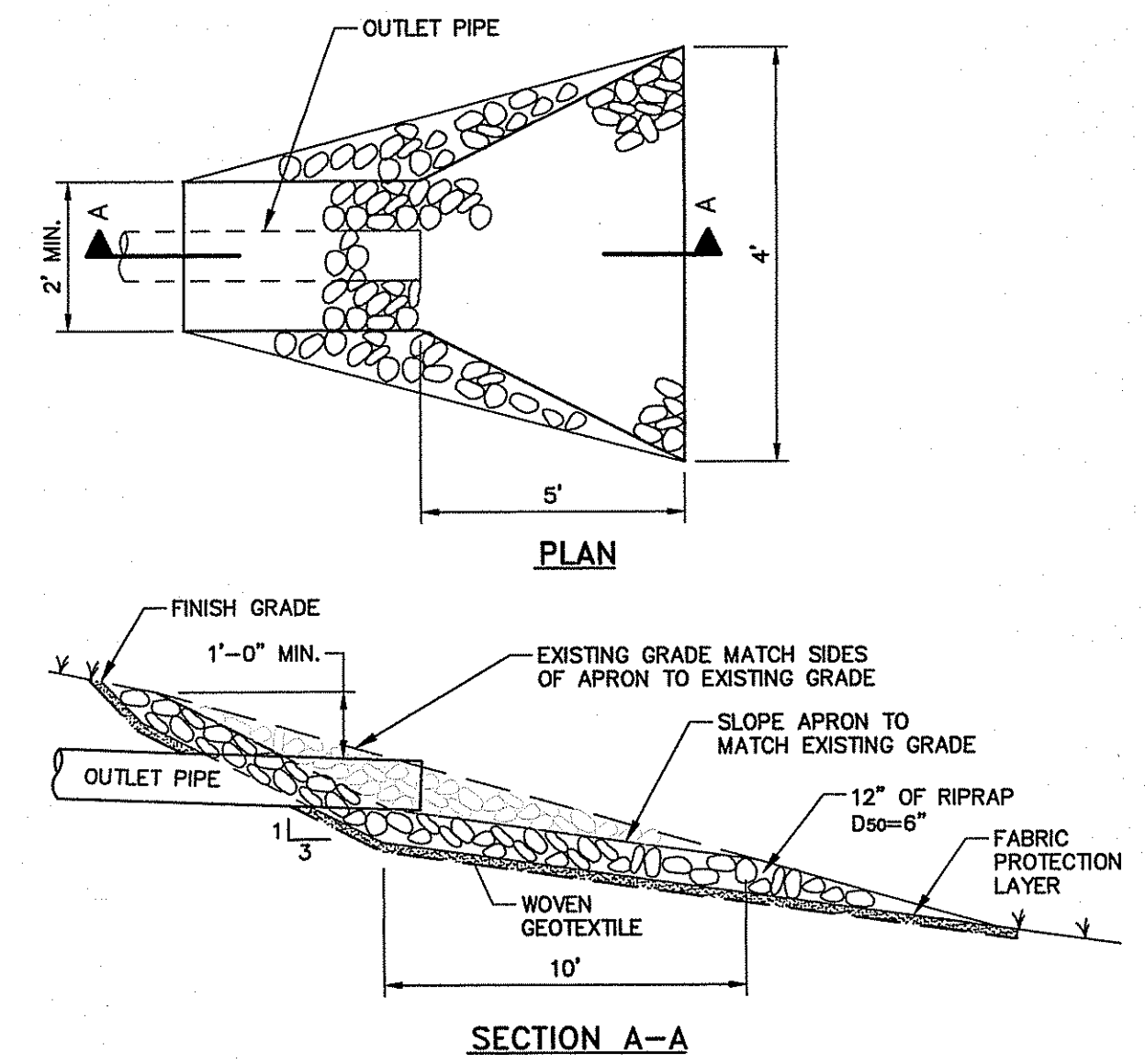
**ROLLED EROSION CONTROL BLANKET NOTES:**

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED AS WELL AS REMOVING ANY PROTRUDING ROCKS, STUMPS OR ROOTS. DURING THE GROWING SEASON (APRIL 15- SEPTEMBER 15) USE RECP'S ON THE BASE OF GRASSED WATERWAYS; SOIL SLOPES HAVING A GRADE GREATER THAN 15% OR ANYWHERE WHERE HAY MULCH HAS PROVEN TO BE INEFFECTIVE AT CONTROLLING SHEET EROSION. RECP'S ARE A MANUFACTURED COMBINATION OF MULCH AND NETTING DESIGNED TO PREVENT EROSION AND RETAIN SOIL MOISTURE.
2. FOR OVER WINTER PROTECTION, APPLY RECP'S ON THE BASE AND SIDE SLOPES OF GRASSED WATERWAYS AND ON SLOPES STEEPER THAN AN 8X GRADE.
3. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S.
4. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
5. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON RECP'S TYPE.
6. CONSECUTIVE RECP'S SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP'S WIDTH. NOTE: \*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.
7. UNTIL GRASS IS ABUNDANT, INSPECT PERIODICALLY AND AFTER EACH RAINSTORM TO CHECK FOR EROSION. IMMEDIATELY REPAIR AND ADD MORE MULCH UNTIL GRASSES ARE FIRMLY ESTABLISHED.
8. DO NOT MOW THE FIRST YEAR.
9. DETAIL SHALL BE CONSIDERED GENERAL GUIDANCE FOR RECP INSTALLATION; CONTRACTOR SHALL INSTALL RECP IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

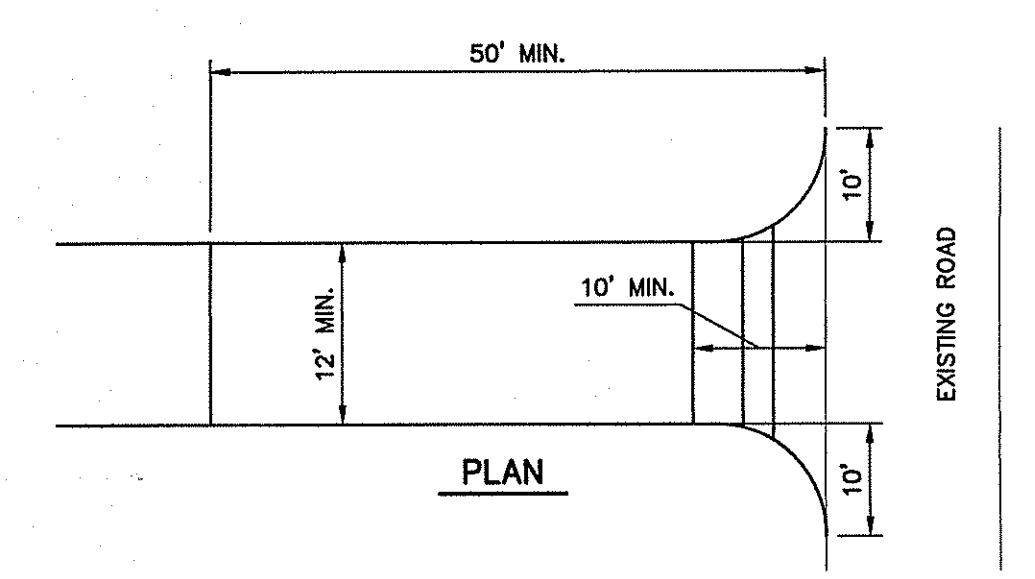


- NOTES:**
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
  2. FOR REFERENCE PURPOSES ONLY. NOT FOR CONSTRUCTION PURPOSES.
  3. INSPECT AND MAINTAIN IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.

**TEMPORARY CONCRETE WASHOUT FACILITY**  
N.T.S.

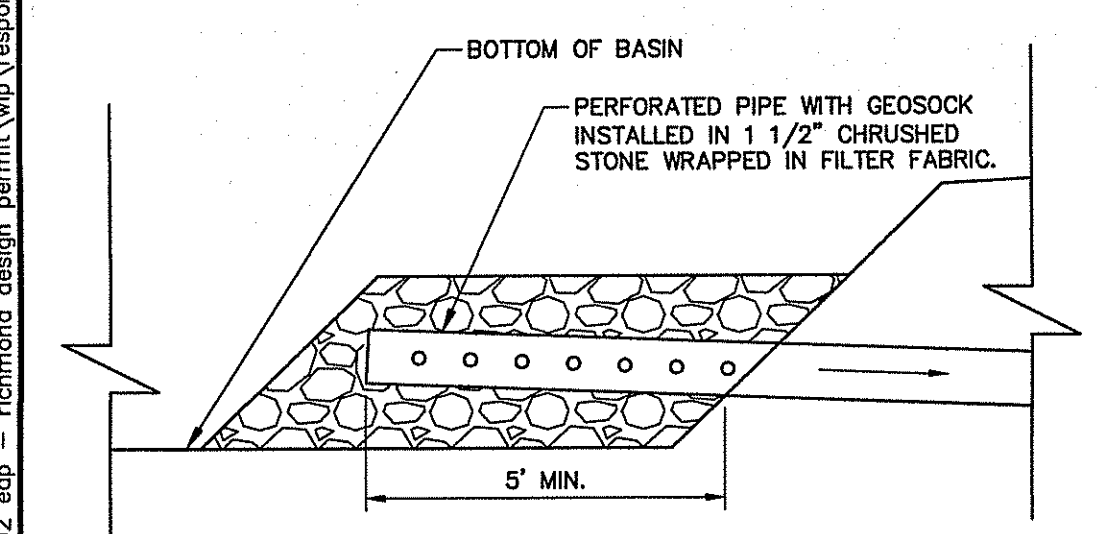


**RIPRAP OUTLET PROTECTION**  
N.T.S.



- NOTES:**
- CONSTRUCTION ENTRANCES MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
  - WHEEL WASH PITS MAY ALSO BE USED, IF APPROVED.
- MAINTENANCE:** INSPECT FOR EFFECTIVE REMOVAL OF SOIL FROM VEHICLES PRIOR TO LEAVING THE SITE. SWEEP ANY SOIL FROM ADJACENT ROADWAYS.
- REMOVAL:** AT LEAST ONE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL ALL AREAS OF THE SITE ARE STABILIZED.

**STABILIZED CONSTRUCTION ENTRANCE DETAIL**  
N.T.S.



- NOTES:**
1. SHALL BE INSTALLED AT EACH PROPOSED BASIN.
  2. PERFORATED PIPE SIZE IN ACCORDANCE WITH SHEET C-200.
  3. A MINIMUM 6-INCHES OF CRUSHED STONE SHALL SURROUND PIPE ON ALL SIDES.

**BASIN OUTLET PIPE**  
N.T.S.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JAN 16 2008 FILE # 17-0247  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management  
DEC 21 2017  
Office of Water Resources

95 Cedar Street, Suite 100  
Providence, Rhode Island 02903  
800.965.7897 | www.woodardcurran.com

**WOODARD & CURRAN**  
COMMITMENT & INTEGRITY DRIVE RESULTS  
THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN INC. AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

**ALAN A. BENEVIDES**  
6370  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL

NO.	DESCRIPTION	DATE	CHECKED BY	DRAWN BY
3	REVISION COMMENTS	12/15/17	AB	JBC
2	NEW ADDRESS DESIGNATION	12/4/2017	AB	JBC
1	PLANNING BOARD CONDITIONS OF APPROVAL	11/15/2017	AB	JBC

DESIGNED BY: AB  
DRAWN BY: JBC  
228794-C-300A.dwg

**CIVIL DETAILS - 2**

RICHMOND SOLAR 1, LLC  
260 W. EXCHANGE ST. SUITE 102A  
PROVIDENCE, RI

BUCKNAM ROAD SOLAR  
BUCKNAM ROAD  
RICHMOND, RI

JOB NO.: 228794.02  
DATE: AUGUST 2017  
SCALE: AS NOTED  
SHEET: 10 OF 10

**C-302**

NOT FOR CONSTRUCTION