Exhibit A

Facilities Site Plan

WINDHAM SOLAR - CONNECTICUT SITING BOARD DOCUMENTS

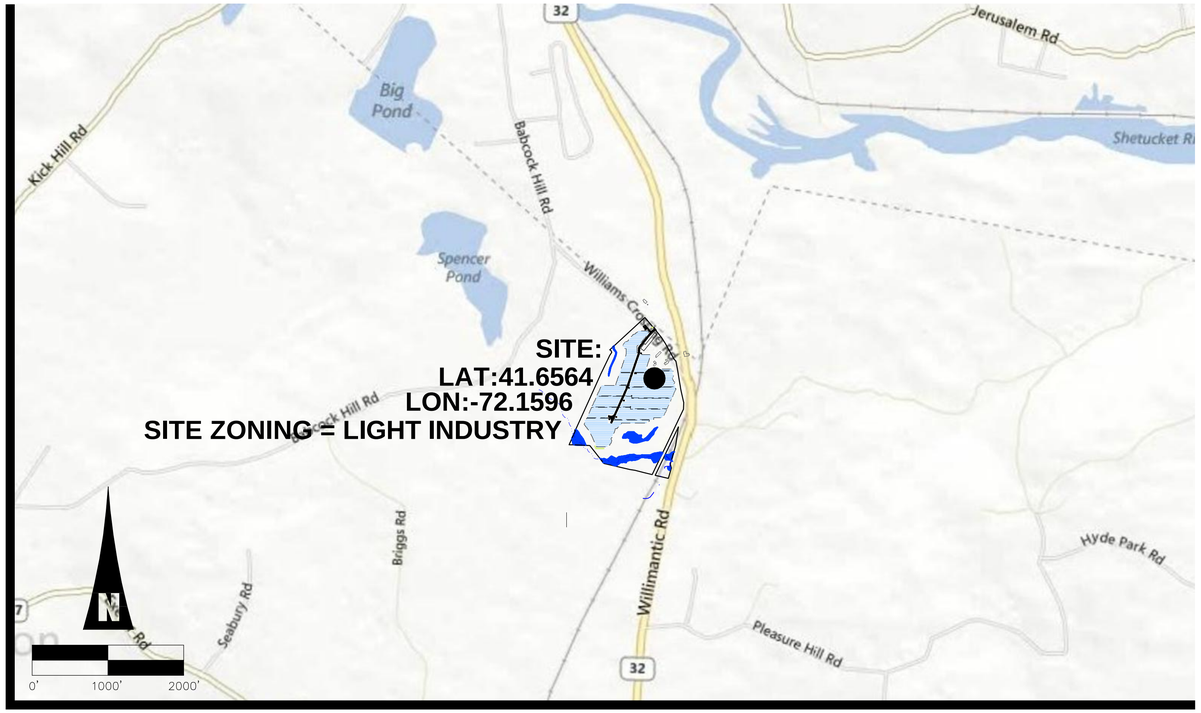
FOR

Site/Electrical Layout, Grading/Drainage/Erosion Control/Landscaping

IN

LEBANON, CONNECTICUT

LOCATION MAP



SHEET INDEX

●		1/20/2015	1	COVER SHEET
●		12/11/2014	2	ALTA SURVEY (BY HELLSTROM LS, LLC)
●		1/20/2015	3	OVERALL SITE PLAN
●		1/20/2015	4	NORTH REMOVAL & EROSION CONTROL PLAN - 1"=50'
●		1/20/2015	5	SOUTH REMOVAL & EROSION CONTROL PLAN - 1"=50'
●		1/20/2015	6	NORTH SITE & GRADING PLAN - 1"=50'
●		1/20/2015	7	SOUTH SITE & GRADING PLAN - 1"=50'
●		1/20/2015	8	OVERALL LANDSCAPE PLAN
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DRAWING INDEX LEGEND

FILLED CIRCLE INDICATES DRAWING INCLUDED WITHIN THIS ISSUE
MOST RECENT REVISION NUMBER
MOST RECENT ISSUE OR REVISION DATE

○	-	X/XX/201X	X	SHEET TITLE

CONTACT INFO:

RECORD LANDOWNER:
PLH, LLC
77 WATER STREET
8TH FLOOR
NEW YORK, NY 10005

OWNER/DEVELOPER:
WINDHAM SOLAR, LLC
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS, MN 55402

CIVIL ENGINEER:
WESTWOOD PROFESSIONAL SERVICES
7699 ANAGRAM DRIVE
EDEN PRAIRIE, MN 55344

SURVEYOR:
ROB HELLSTROM LAND SURVEYING, LLC
P.O. BOX 497
HEBRON, CT 06248

WETLAND DELINEATION:
HIGHLAND SOILS
P.O. BOX 337
STORRS, CT 06268

GEOTECHNICAL ENGINEER:
TERRACON
201 HAMMER MILL ROAD
ROCKY HILL, CT 06067

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STATE OF CONNECTICUT
REGISTERED
CHRISTOPHER J. WILLIAMS
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LICENSED
PROFESSIONAL ENGINEER

Designed: ADC
Checked: SAW
Drawn: SJB
Record Drawing by/date:

Revisions:

#	DATE	DESCRIPTION
-	01/20/2015	SITING BOARD SUBMISSION

Prepared for:

ecos ENERGY
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS, MN 55402

WINDHAM SOLAR

1 WILLIAMS CROSSING DR.
LEBANON, CT 06249
NEW LONDON COUNTY

COVER SHEET

SITING BOARD REVIEW

DATE: 01/20/2015
SHEET: 1 of 10

LEGEND

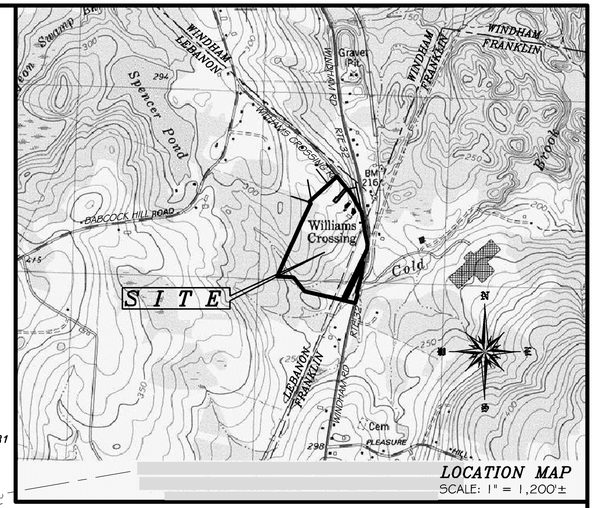
- PROPERTY LINE
- STONE WALL
- WIRE FENCE
- EDGE BRUSH OR CLEARING
- GUARDRAIL
- BOX WIRE FENCE
- TREE WITH WIRE
- FENCE POST WITH WIRE
- ANGLE POINT
- 5/8" REBAR UNLESS NOTED
- CHD MONUMENT FOUND
- DRILL HOLE FOUND
- DRILL HOLE TO BE SET
- SURVEYOR CONTROL POINT

ZONING TABLE TOWN OF FRANKLIN – ZONE 'C2'

MIXED COMMERCIAL & LIGHT INDUSTRIAL
MIN. LOT AREA = 100,000 SQ.FT. W/O SEWERS 60,000 SQ.FT. W SEWERS
MIN. FRONTAGE = 200'
MIN. LOT WIDTH = 200'
BUILDING SETBACKS: FRONT YARD = 100' FROM CL RD 75' FROM ROW SIDE & REAR YARD = 25' (ADDITIONAL 25' BUFFER STRIP MAY BE POSSIBLE WHERE ABUTTING RESIDENTIAL DISTRICT)
MAXIMUM LOT COVERAGE: BUILDINGS, LOADING, STORAGE & ALL PAVED AREAS = 65%

ZONING TABLE TOWN OF LEBANON – ZONE 'I'

ZONE 'I' – LIGHT INDUSTRY
MIN. LOT AREA = 1 ACRE
MIN. FRONTAGE = 200'
BUILDING SETBACKS: FRONT YARD = 50' SIDE YARD = 50' REAR YARD = 25'
MAXIMUM BUILDING COVERAGE = 25%
MAXIMUM BUILDING HEIGHT = 40'
REQUIRED MINIMUM PARKING: INDUSTRIAL BUILDINGS - (1) SPACE PER (4) EMPLOYEES ANY ONE SHIFT



LOCATION MAP
SCALE: 1" = 1,200'±

N/F NORTHEAST OIL AND PROPANE, INC. VOL. 195 / PG 003

N/F NORTHEAST OIL AND PROPANE, INC. VOL. 195 / PG 003

N/F JANET EILEEN KARAGEORGOS VOL. 117 / PG 631

N/F FRANK EDWARDS VOL. 137 / PG 925

N/F FRANK EDWARDS VOL. 140 / PG 96

N/F WILLIAMS CROSSING ASSOC.

N/F STATE OF CONNECTICUT

N/F NEW ENGLAND CENTRAL RAILROAD

N/F NORTHEAST OIL AND PROPANE, INC. VOL. 195 / PG 003

DH FND IN LOOSE ROCK

WHEEL TRACK(TYPICAL)

DENSE BRUSH

WETLANDS

FIELD

EDGE FIELD

CHICKEN COOP

SHED's

FOUNDATION

SIGN

BRIDGE

PAINT LINE (TYP)

CONN. ROUTE 32

TOWN LINE

LEBANON FRANKLIN

ELBANON FRANKLIN

BOUNDARY LINE AGREEMENT REQUIRED PER MAP REF. #2

PARCEL 'A'
TOTAL AREA 1,873,500± SQ.FT.
43.01± ACRES

LEBANON AREA
1,699,700± SQ.FT.
39.02± ACRES

FRANKLIN AREA
173,800± SQ.FT.
3.99± ACRES

PARCEL 'B'
AREA
63,900± SQ.FT.
1.47± ACRES

TOTAL AREA
PARCEL 'A' & 'B'
1,937,400± SQ.FT.
44.48± ACRES

DRAINAGE RIGHTS IN FAVOR OF THE STATE OF CONNECTICUT

DRAINAGE RIGHTS IN FAVOR OF THE STATE OF CONNECTICUT

BENCH MARK
CGS #2205
DISC ON BRIDGE
CONC. ABUTTMENT
ELEV= 256.25
(NAVD 88)

DETAIL
NOT TO SCALE

I HEREBY DECLARE THAT THE WETLANDS SHOWN ON THIS MAP (PLAN) ARE SUBSTANTIALLY CORRECT.

JOHN IANNI
SOIL SCIENTIST

COMMITMENT FOR TITLE INSURANCE NOTE:
OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY OWNER'S POLICY
REFERENCE "File No.: 14-145"
POLICY NUMBER: OX-09442008
DATE OF POLICY: OCT. 30, 2014

SEE SCHEDULE B OF THE POLICY OR POLICIES WHICH CONTAINS EXCEPTIONS, EXCEPTIONS: 1. THROUGH 11.

GENERAL NOTES:

1. THE BOUNDARY LINES ABUTTING THE NEW ENGLAND CENTRAL RAILROAD ARE SHOWN PER MAP REFERENCE #2.
2. PARCEL B IS SUBJECT TO A DRAINAGE RIGHTS AS CONVEYED TO THE STATE OF CONNECTICUT IN VOL 15 / PG 297 OF THE FRANKLIN LAND RECORDS. FOR A MORE PARTICULAR DESCRIPTION OF THESE RIGHTS SEE SAID DEED.
3. PARCEL A IS SUBJECT TO A DRAINAGE RIGHTS AS CONVEYED TO THE STATE OF CONNECTICUT IN VOL 15 / PG 297 OF THE FRANKLIN LAND RECORDS. FOR A MORE PARTICULAR DESCRIPTION OF THESE RIGHTS SEE SAID DEED.
4. THIS PARCEL IS SUBJECT TO A POLE EASEMENT CONVEYED TO THE SOUTHERN NEW ENGLAND TELEPHONE COMPANY IN VOL 10 / PG 391 OF THE FRANKLIN LAND RECORDS. FOR A MORE PARTICULAR DESCRIPTION OF THESE RIGHTS SEE SAID DEED.

MAP STANDARD NOTES:

1. THIS SURVEY (OR MAP) HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THRU 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996; THE TYPE OF SURVEY IS A BOUNDARY SURVEY. BOUNDARY DETERMINATION IS BASED ON A RESURVEY OF PROPERTY AND CONFORMS TO THE 'A-2 CLASS OF ACCURACY.
2. HORIZONTAL DATUM IS BASED ON ON GRID NORTH, CGS 1927 TIED TO MONUMENT 3096 AND STATE OF CONNECTICUT "RANDOM " MONUMENT.
3. TOPOGRAPHIC FEATURES WERE PREPARED IN ACCORDANCE WITH CLASS T-3. ELEVATIONS ARE BASED ON NAVD 88 . BENCH MARK #2205
4. THE INTENDED PURPOSE OF THIS MAP/SURVEY IS TO SHOW BOUNDARY, WETLAND LOCATION AND TOPOGRAPHY.
5. PARCELS ARE NOT LOCATED IN A FLOOD ZONE AS DETERMINED PER THE NATIONAL FLOOD INSURANCE PROGRAM, FIRM, NEW LONDON COUNTY, MAP PANEL 43 OF 554, MAP NO. 09011900007D, EFF. DATE JULY 18, 2011 & MAP NO. 09011100041G WHICH IS LABELED BY FEMA "PANEL NOT PRINTED".

LEBANON TOWN PARCEL REFERENCE:
TOWN OF LEBANON VOL. 227 / PG. 708

FRANKLIN TOWN PARCEL REFERENCE:
TOWN OF FRANKLIN VOL. 70 / PG. 208

MAP REFERENCES:

1. "BOUNDARY PERIMETER SURVEY PREPARED FOR MARION C. & JAMES J. BEAUSOLEIL, WILLIAMS COROSSING RD. & BABCOCK HILL RD., LEBANON,CONNECTICUT", SCALE 1" = 60', SHEET 1 OF 1, DATED NOV. 4, 2008 BY FILIP ASSOCIATES.
2. "BOUNDARY SURVEY PREPARED FOR DSD CEDAR HILL, RTE. 32 & WILLIAMS CROSSING RD., LEBANON/FRANKLIN, CT", SCALE 1" = 100', SHEET 1 OF 1, JOB 04-265, DATED JUNE 21, 2005 BY TOWNE ENGINEERING, INC. (Map # 1493 Lebanon Town Clerk office)
3. CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP, TOWN OF LEBANON, NORWICH-WILLIMANTIC ROAD FROM THE WINDHAM TOWN LINE SOUTHERLY TO THE FRANKLIN TOWN LINE, ROUTE NO 32, SCALE: 1" = 40', NO. 70-02-A, SHEET 1 OF 1, DATE APPROVED; JULY 21, 1947.
4. CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP, TOWN OF FRANKLIN, NORWICH-WILLIMANTIC ROAD FROM THE LEBANON TOWN LINE SOUTHERLY ABOUT 10,000 FEET, ROUTE NO. 32, SCALE: 1" = 40', NO. 52-04-A, SHEET 1 OF 3, DATE APPROVED; JULY 21, 1947.
5. CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP, TOWN OF FRANKLIN, NORWICH-WILLIMANTIC ROAD FROM THE LEBANON TOWN LINE SOUTHERLY ABOUT 10,000 FEET, ROUTE NO. 32, SCALE: 1" = 40', NO. 52-04, SHEET 1 OF 3, DATE APPROVED; JAN 31, 1933.

GRAPHIC SCALE
-40' 0' 40' 80'
(IN FEET)
1 inch = 40 ft.

NO.	DATE	DESCRIPTION

REVISIONS

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

THIS DRAWING IS NOT VALID UNLESS IT BEARS AN ORIGINAL INK SIGNATURE AND EMBOSSED SEAL

ROBERT W. HELLSTROM, L.S. #13626

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(860) 228-9853
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32 MAIN STREET HEBRON, CT., 06248
hellstromsurveying@yahoo.com
www.hellstromlandsurveying.com

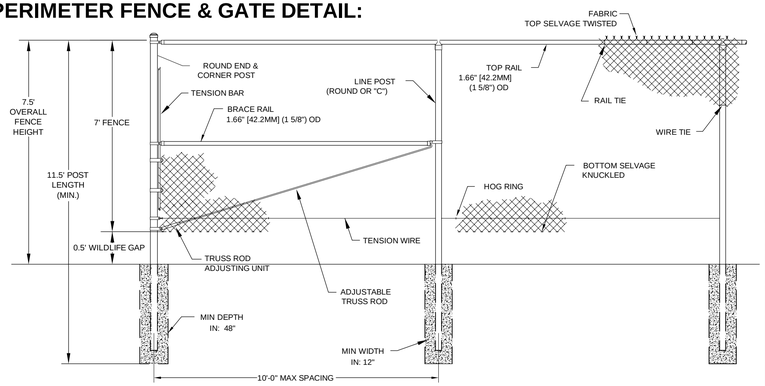
ALTA/ACSM LAND TITLE SURVEY CERTIFICATION:
TO PLH, LLC AN INDIANA LIMITED LIABILITY COMPANY & OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY:

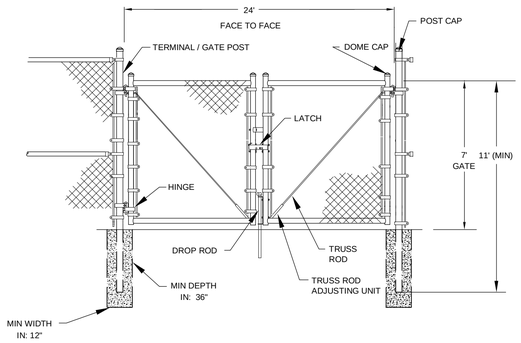
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS IN 2005, AND INCLUDES ITEMS 2 - 8, 11, 13, 18 - 20 & 21 OF TABLE 'A' THEREOF. PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY ALTA AND NSPS AND IN EFFECT ON THE DATE OF THIS CERTIFICATION, UNDERSIGNED FURTHER CERTIFIES THAT IN MY PROFESSIONAL OPINION, AS A LAND SURVEYOR REGISTERED IN THE STATE OF CONNECTICUT, THE RELATIVE POSITIONAL ACCURACY OF THIS SURVEY DOES NOT EXCEED THAT WHICH IS SPECIFIED THEREIN.

BOUNDARY SURVEY
– PREPARED FOR –
ECOS ENERGY LLC
ROUTE 32 & WILLIAMS CROSSING ROAD
LEBANON/FRANKLIN CONNECTICUT

SHEET NO.:	1 OF 1	JOB NO.:	2014-099
DATE:	NOVEMBER 6, 2014	BY: ROBIN H.	SCALE: 1" = 100'
		FILE NO.:	EC14099

PERIMETER FENCE & GATE DETAIL:





LEGEND:

- EXISTING PROPERTY LINE
- PROPOSED PROJECT FENCE
- PROPOSED GRAVEL ACCESS ROAD
- PROPOSED AC DISTRIBUTION
- 100' WETLAND BUFFER AREA
- WETLAND DELINEATION LINE
- 14 x 2 SOLAR MODULE BOCK
- INDIVIDUAL SOLAR FACILITY LIMITS

PROJECT INFORMATION:

EXISTING ZONING:
LIGHT INDUSTRIAL

PROPOSED USE :
SOLAR FACILITY

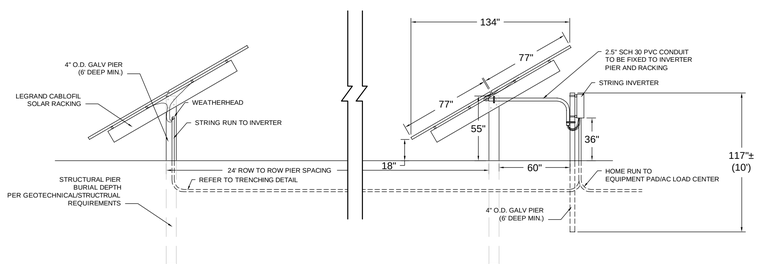
PROJECT AREAS & IMPACTS:

ARRAY FOOTPRINT (FENCE LIMITS) = 22.30 AC

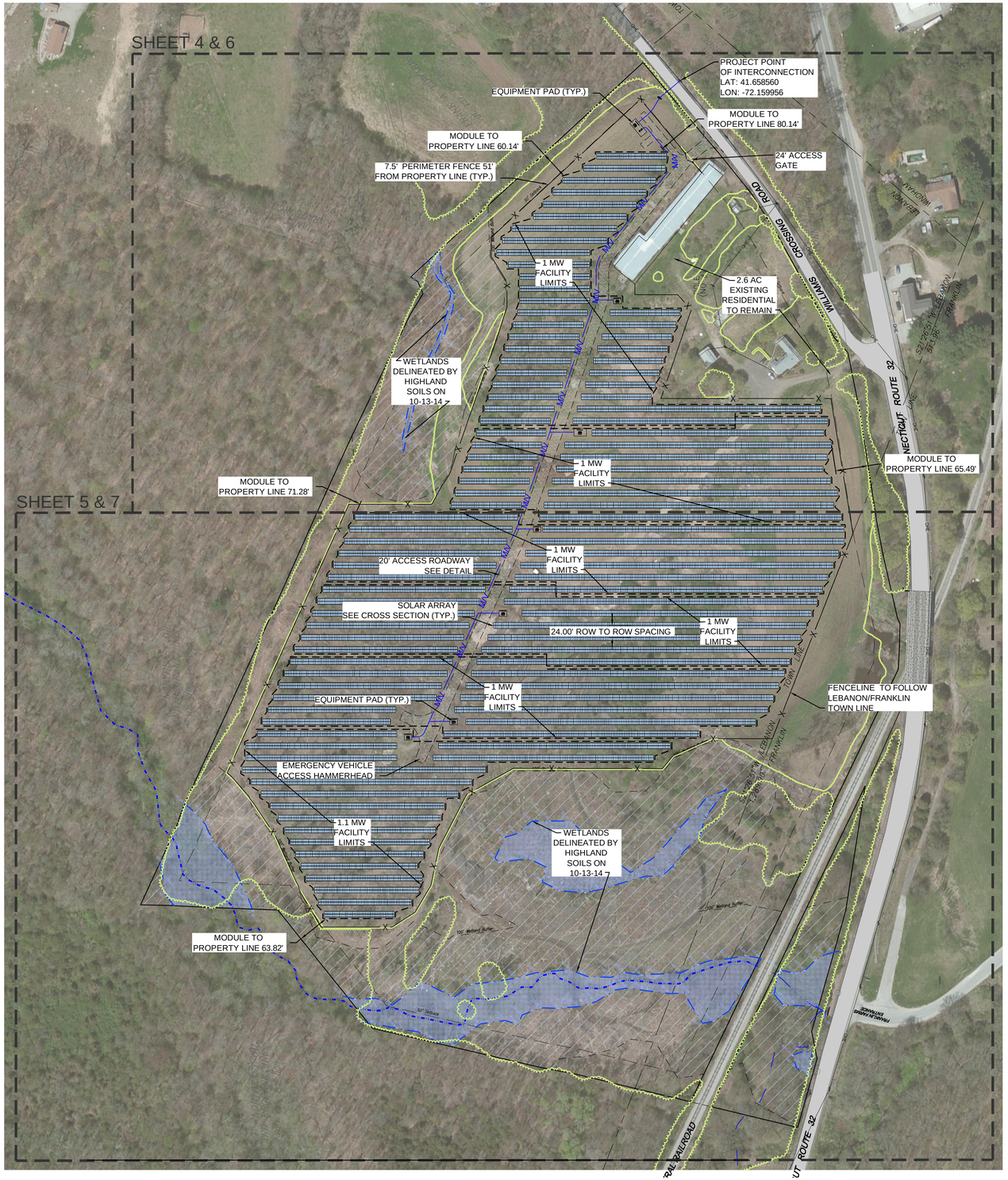
PROPOSED IMPERVIOUS:
GRAVEL ACCESS ROADS = 0.73 AC
EQUIPMENT PADS = 0.05 AC

SPECIFIC SITE NOTES:
1. NO LIGHTING PROPOSED WITH THE PROJECT
2. NO AUDIBLE NOISE GREATER THAN THE SITES EXISTING AMBIENT NOISE LEVEL SHALL BE DETECTABLE AT OR BEYOND THE PROPERTY LINE OF THE PROJECT
3. EMERGENCY VEHICULAR & SITE ACCESS TO BE PROVIDED TO ALL LOCAL RESPONDERS (POLICE, FIRE, ETC...)

RACKING PROFILE DETAIL:



AERIAL SITE PLAN:



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STATE OF CONNECTICUT
REGISTERED
JOSEPH D. CHRISTIE
0030668
LICENSED
PROFESSIONAL ENGINEER

Designed:	ADC
Checked:	SAW
Drawn:	SJB
Record Drawing by/date:	

Revisions:

#	DATE	DESCRIPTION
-	01/20/2015	SITING BOARD SUBMISSION

Prepared for:

ecos ENERGY
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS, MN 55402

0' 120' 240' 360'

WINDHAM SOLAR

1 WILLIAMS CROSSING DR.
LEBANON, CT 06249
NEW LONDON COUNTY

OVERALL SITE PLAN

SITING BOARD REVIEW

DATE: 01/20/2015
SHEET: 3 of 10

CONSTRUCTION SEQUENCING NOTES:

1. THE CONTRACTOR SHALL PERFORM ALL TREE REMOVAL ACTIVITIES ON SITE TO ALLOW FOR BMP INSTALLATION, NO GRUBBING IS TO OCCUR DURING TREE REMOVAL, PRIOR TO BMP INSTALLATION.
2. ALL BMP'S IDENTIFIED ON THE PLAN SHALL BE STAKED BY A REGISTERED SURVEYOR AND INSTALLED PER PLANS PRIOR TO ANY CONSTRUCTION ACTIVITY.
3. AS-BUILT DRAWINGS SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION OF THE PROJECT.

PROJECT FOOTPRINT REMOVAL NOTES

AREAS WITHIN THE PROJECT FENCELINE LIMITS SHALL BE CLEARED BY THE FOLLOWING METHODS:

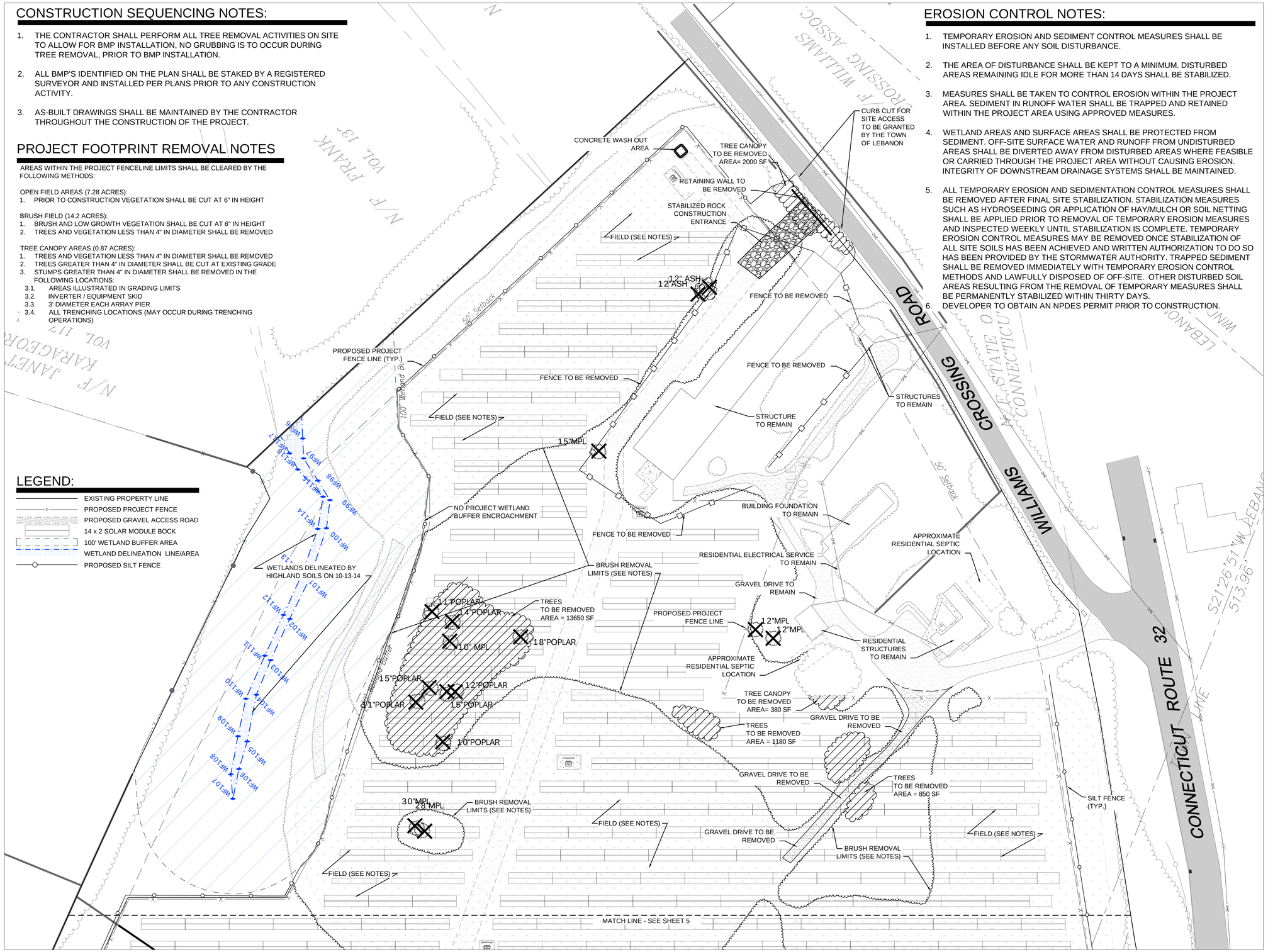
OPEN FIELD AREAS (7.28 ACRES):
1. PRIOR TO CONSTRUCTION VEGETATION SHALL BE CUT AT 6" IN HEIGHT

BRUSH FIELD (14.2 ACRES):
1. BRUSH AND LOW GROWTH VEGETATION SHALL BE CUT AT 6" IN HEIGHT
2. TREES AND VEGETATION LESS THAN 4" IN DIAMETER SHALL BE REMOVED

TREE CANOPY AREAS (0.87 ACRES):
1. TREES AND VEGETATION LESS THAN 4" IN DIAMETER SHALL BE REMOVED
2. TREES GREATER THAN 4" IN DIAMETER SHALL BE CUT AT EXISTING GRADE
3. STUMPS GREATER THAN 4" IN DIAMETER SHALL BE REMOVED IN THE FOLLOWING LOCATIONS:
   - 3.1. AREAS ILLUSTRATED IN GRADING LIMITS
   - 3.2. INVERTER / EQUIPMENT SKID
   - 3.3. 3' DIAMETER EACH ARRAY PIER
   - 3.4. ALL TRENCHING LOCATIONS (MAY OCCUR DURING TRENCHING OPERATIONS)

EROSION CONTROL NOTES:

1. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY SOIL DISTURBANCE.
2. THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 14 DAYS SHALL BE STABILIZED.
3. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES.
4. WETLAND AREAS AND SURFACE AREAS SHALL BE PROTECTED FROM SEDIMENT. OFF-SITE SURFACE WATER AND RUNOFF FROM UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHERE FEASIBLE OR CARRIED THROUGH THE PROJECT AREA WITHOUT CAUSING EROSION. INTEGRITY OF DOWNSTREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
5. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. STABILIZATION MEASURES SUCH AS HYDROSEEDING OR APPLICATION OF HAY/MULCH OR SOIL NETTING SHALL BE APPLIED PRIOR TO REMOVAL OF TEMPORARY EROSION MEASURES AND INSPECTED WEEKLY UNTIL STABILIZATION IS COMPLETE. TEMPORARY EROSION CONTROL MEASURES MAY BE REMOVED ONCE STABILIZATION OF ALL SITE SOILS HAS BEEN ACHIEVED AND WRITTEN AUTHORIZATION TO DO SO HAS BEEN PROVIDED BY THE STORMWATER AUTHORITY. TRAPPED SEDIMENT SHALL BE REMOVED IMMEDIATELY WITH TEMPORARY EROSION CONTROL METHODS AND LAWFULLY DISPOSED OF OFF-SITE. OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN THIRTY DAYS.
6. DEVELOPER TO OBTAIN AN NPDES PERMIT PRIOR TO CONSTRUCTION.



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JOSEPH D. CHRISTIAN
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Designed: ADC
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ecos ENERGY
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS, MN 55402

WINDHAM SOLAR

1 WILLIAMS CROSSING DR.
LEBANON, CT 06249
NEW LONDON COUNTY

NORTH REMOVAL & EROSION CONTROL PLAN

SITING BOARD REVIEW

DATE: 01/20/2015
SHEET: 4 of 10

NOTES & LEGEND:

SEE SHEET 4

MATCH LINE SEE SHEET - 4

RETINING WALL TO BE REMOVED

FIELD (SEE NOTES)

BRUSH REMOVAL LIMITS (SEE NOTES)

10"POPLAR

PROPOSED PROJECT FENCE LINE (TYP.)

SILT FENCE (TYP.)

16"OAK

13"TREE

10"CEDAR

13"ASH

10"CEDAR

10"CEDAR

FENCE TO BE REMOVED

100' Wetland Buffer

11"CEDAR

TREES TO BE REMOVED AREA = 3800 SF

TREES TO BE REMOVED AREA = 13650 SF

12"CEDAR

10"POPLAR

10"POPLAR

15"POPLAR

14"POPLAR

16"POPLAR

16"POPLAR

DRAINAGE RIGHTS IN FAVOR OF THE STATE OF CONNECTICUT

TOWN LINE

S21°26'51"W 1,289.90'

TIE LINE S 5°49'27" W 240.17'

15" RCP

36" RCP

24" RCP

LEBANON

FRANKLIN

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Revisions:

#	DATE	DESCRIPTION
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Prepared for:

ecos ENERGY
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS, MN 55402

N

0' 50' 100' 150'

WINDHAM SOLAR

1 WILLIAMS CROSSING DR.
LEBANON, CT 06249
NEW LONDON COUNTY

SOUTH REMOVAL & EROSION CONTROL PLAN

SITING BOARD REVIEW

DATE: 01/20/2015

SHEET: 5 of 10

LEGEND:

- EXISTING PROPERTY LINE
- PROPOSED FENCE
- PROPOSED GRAVEL ACCESS ROAD
- M/V — PROPOSED AC DISTRIBUTION
- PROPOSED SILT FENCE
- PROPOSED LIMITS OF GRADING
- 658 — EXISTING CONTOUR
- 658 — PROPOSED CONTOUR
- PROPOSED DRAINAGE DIRECTION
- 14 x 2 SOLAR MODULE BOCK
- 100' WETLAND BUFFER AREA
- WETLAND DELINEATION LINE/AREA

POINT OF INTERCONNECTION
INSTALL NEW POLE (TRANSITION FROM OH TO UG)
SILT FENCE (TYP.)
PROJECT FENCE (TYP.)
50' Setback
100' Wetland Buffer
WETLANDS DELINEATED BY HIGHLAND SOILS ON 10-13-14
NO WETLAND BUFFER ENCROACHMENT
1 MW FACILITY LIMITS
SOLAR ARRAY (TYP.)
AC TRENCHING (TYP.)
LIMITS OF GRADING
138.6'
184.8'
207.9'
161.7'
PAD ELE=275.0
24.0' ROW TO ROW SPACING (TYP.)
LOW WATER CROSSING (TYP.)
PAD ELE=275.5
TRANSFORMER PAD (REFER TO ELECTRICAL PLANS FOR CONDUIT PROJECTIONS)
20.0' ACCESS DRIVE (SEE DETAIL)
485.1'
508.2'
462.0'
531.3'
554.4'
577.5'
MATCH LINE - SEE SHEET 5
24' ACCESS GATE (PROVIDE FIRE DEPT. WITH KEY CODES/ACCESS)
R10.0'
R25.0'
12.0'
WILLIAMS CROSSING ROAD
CONNECTICUT ROUTE 32
POINT OF INTERCONNECTION CL&P POLE #1362
TYPE C CATCH BASINS
CONC CULVERT
S21°26'51"W 513.96'
LEBANON
FRANKLIN

0' 50' 100' 150'

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STATE OF CONNECTICUT
KRISTI D. CHRISTENSEN
030668
LICENSED
PROFESSIONAL ENGINEER

Designed: ADC
Checked: SAW
Drawn: SJB
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ecos ENERGY
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS, MN 55402

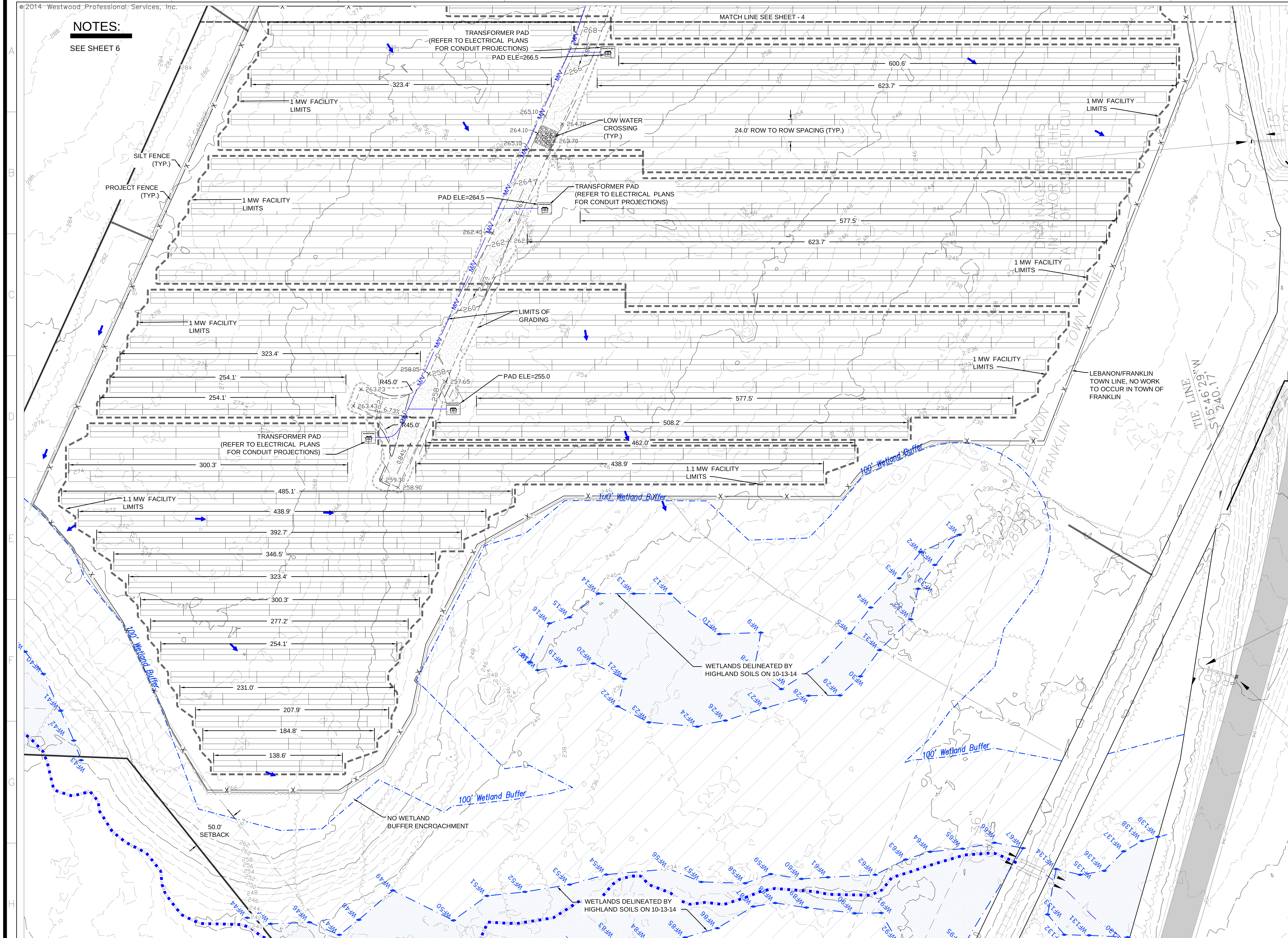
WINDHAM SOLAR

1 WILLIAMS CROSSING DR.
LEBANON, CT 06249
NEW LONDON COUNTY

NORTH SITE & GRADING PLAN

SITING BOARD REVIEW

DATE: 01/20/2015
SHEET: 6 of 10



Westwood Professional Services, Inc.
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STATE OF CONNECTICUT
AUGUST D. CHRISTENSEN
0030668
LICENSED PROFESSIONAL ENGINEER

Designed: ADC

Checked: SAW

Drawn: SJB

Record Drawing by/date:

Revisions:

#	DATE	DESCRIPTION
-	01/20/2015	SITING BOARD SUBMISSION

Prepared for:

ecos ENERGY
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS, MN 55402

WINDHAM SOLAR

1 WILLIAMS CROSSING DR.
LEBANON, CT 06249
NEW LONDON COUNTY

SOUTH SITE/GRADING/ EROSION CONTROL PLAN

SITING BOARD REVIEW

DATE: 01/20/2015

SHEET: 7 of 10

TREE REMOVALS:

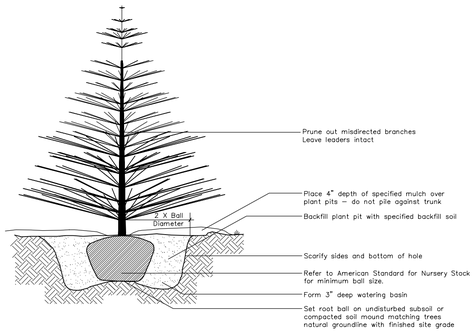
TREE REMOVALS	
Diam (in)	Species
12	MPL
12	MPL
12	ASH
12	ASH
15	MPL
11	POPLAR
14	POPLAR
18	POPLAR
10	MPL
15	POPLAR
12	POPLAR
11	POPLAR
15	POPLAR
10	POPLAR
30	MPL
28	MPL
10	POPLAR
16	OAK
13	TREE
10	CEDAR
13	ASH
10	CEDAR
10	CEDAR
11	CEDAR
12	CEDAR
10	POPLAR
10	POPLAR
15	POPLAR
14	POPLAR
16	POPLAR
16	POPLAR
423	**TOTAL (in)**

NOTES:
INVENTORY OF ALL TREES ON SITE GREATER THAN OR EQUAL TO 10" IN DIAMETER

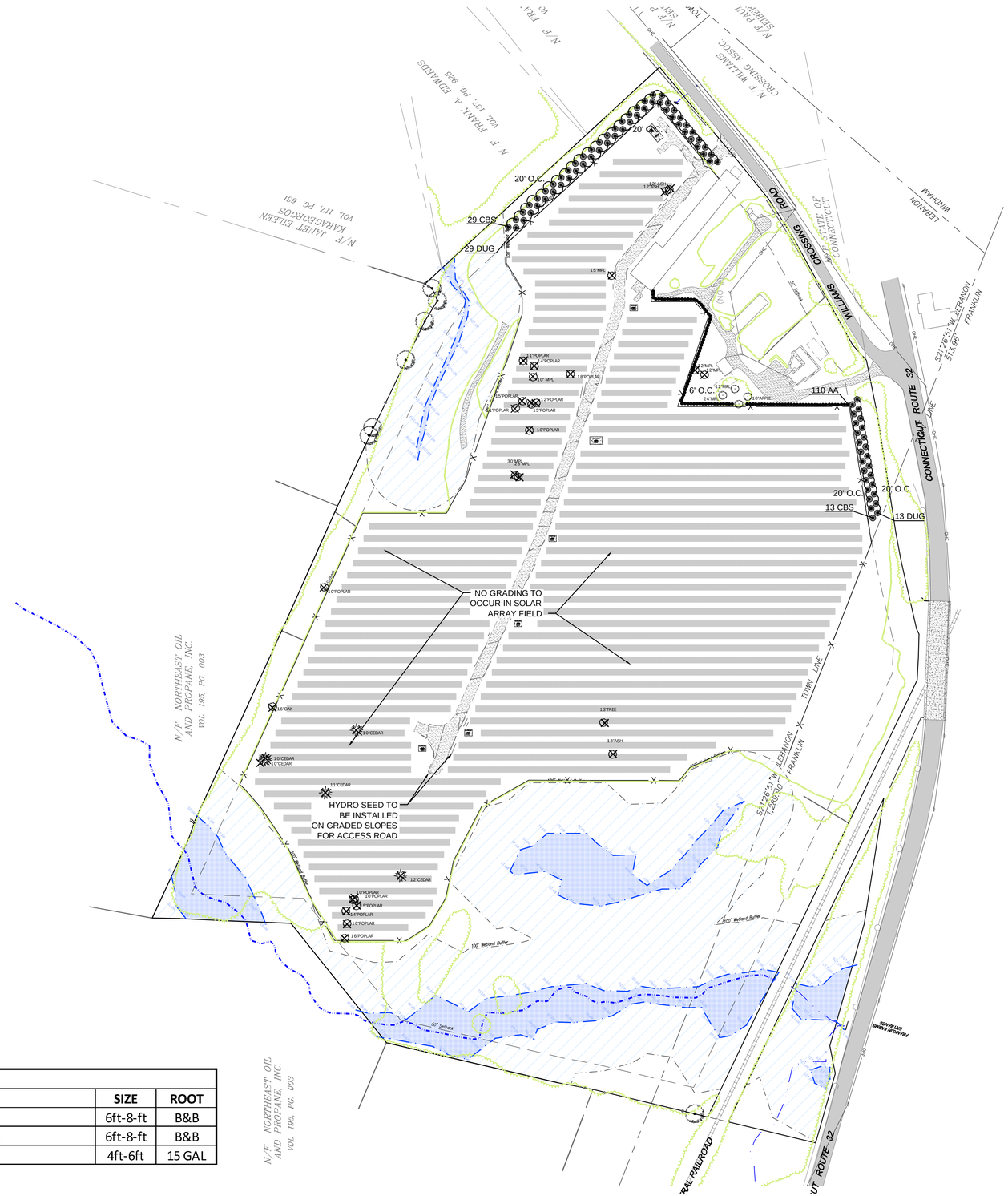
SEEDING NOTES:

1. THE CONTRACTOR SHALLHYDROSEED ALL DISTURBED AREAS ASSOCIATED WITH THE CONSTRUCTION OF THE SOLAR FACILITY. CONTRACTOR SHALL USE AN APPROVED LOW GROWTH LOW MAINTENANCE SEED MIX APPROVED BY THE APPROPRIATE GOVERNING AUTHORITY.

EVERGREEN TREE DETAIL



PLANT SCHEDULE					
CODE	**QTY.**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**
CBS	42	Colorado Blue Spruce	Picea pungens	6ft-8-ft	B&B
DUG	42	Douglasfir	Pseudotsuga menziesii var. glauca	6ft-8-ft	B&B
AA	110	American Arborvitae	Thuja occidentalis	4ft-6ft	15 GAL



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Designed: ADC
Checked: SAW
Drawn: SJB
Record Drawing by/date:

Revisions:

#	DATE	DESCRIPTION
-	01/05/2015	SITE PLAN REVIEW DOCUMENTS

Prepared for:

ecos ENERGY
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS, MN 55402

0' 120' 240' 360'

WINDHAM SOLAR

1 WILLIAMS CROSSING DR.
LEBANON, CT 06249
NEW LONDON COUNTY

LANDSCAPE PLAN

SITING BOARD REVIEW

DATE: 01/20/2015
SHEET: 8 of 10

ROAD DESIGN PARAMETERS

1. ROAD MAINTENANCE CAN BE EXPECTED OVER THE LIFE OF THE PERMANENT FACILITY.

SPECIAL PROVISIONS FOR GRADING AND EROSION CONTROL

THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES AS PLANNED AND SPECIFIED FOLLOWING BEST MANAGEMENT PRACTICES AS OUTLINED BY THE STATE OF CONNECTICUT AND BEING IN CONFORMANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL STORMWATER PERMIT. SEE THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR EROSION CONTROL AND RESTORATION SPECIFICATIONS. UNLESS OTHERWISE NOTED OR MODIFIED HEREIN, ALL SECTIONS OF THE GENERAL CONDITIONS SHALL APPLY.

EXECUTION

1. CLEARING AND GRUBBING
   A. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE ALL TREES, STUMPS, BRUSH, AND DEBRIS WITHIN THE GRADING LIMITS SHOWN ON THE PLANS. THE CONTRACTOR IS TO REMOVE ONLY THOSE TREES WHICH ARE DESIGNATED BY THE OWNER'S REPRESENTATIVE FOR REMOVAL, AND SHALL EXERCISE EXTREME CARE AROUND EXISTING TREES TO BE SAVED.
2. TOPSOIL STRIPPING
   A. TOPSOIL SHALL BE STRIPPED FROM ALL ROADWAY AREAS THROUGH THE ROOT ZONE. TOPSOIL SHALL NOT BE STRIPPED OUTSIDE OF THE DESIGNATED DISTURBANCE AREAS.
   B. ANY TOPSOIL, THAT HAS BEEN STRIPPED, SHALL BE RE-SPREAD OR STOCKPILED WITHIN GRADING AREAS AND/OR USED AS FILL OUTSIDE OF THE DISTURBANCE AREAS, AS DIRECTED BY THE ENGINEER.
3. EMBANKMENT CONSTRUCTION.
   A. EMBANKMENT CONSTRUCTION SHALL CONSIST OF THE PLACING OF SUITABLE FILL MATERIAL, AFTER TOPSOIL STRIPPING, ABOVE THE EXISTING GRADE. GENERALLY, EMBANKMENTS SHALL HAVE COMPACTED SUPPORT SLOPES OF TWO AND A HALF FEET HORIZONTAL TO ONE FOOT VERTICAL. THE MATERIAL FOR EMBANKMENT CONSTRUCTION SHALL BE OBTAINED FROM THE ACCESS ROAD EXCAVATION (SEE GEOTECHNICAL REPORT FOR RESTRICTIONS), OR ANY SUITABLE, APPROVED SOIL OBTAINED OFFSITE BY CONTRACTOR, AS DIRECTED OR APPROVED BY THE ENGINEER. THIS MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 9".
   B. SIDE SLOPES GREATER THAN 2.5:1 WILL NOT BE PERMITTED, UNLESS OTHERWISE NOTED ON THE PLAN.

TESTING REQUIREMENTS:

1. TESTING SHALL BE PERFORMED BY A DESIGNATED INDEPENDENT TESTING AGENCY.
2. SUBMIT TESTING AND INSPECTION RECORDS SPECIFIED TO THE CIVIL ENGINEER OF RECORD FOR REVIEW.
   A. THE ENGINEER WILL REVIEW THE TESTING AND INSPECTION RECORDS TO CHECK CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONSTRUCTION CONTRACTOR FROM THE RESPONSIBILITY FOR CORRECTING DEFECTIVE WORK.
3. PROOF ROLLING:
   A. PROOF-ROLLING SHALL BE PERFORMED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER OR QUALIFIED GEOTECHNICAL REPRESENTATIVE USING A FULLY LOADED TANDEM AXLE DUMP TRUCK WITH A MINIMUM GROSS WEIGHT OF 25 TONS OR A FULLY LOADED WATER TRUCK WITH AN EQUIVALENT AXLE LOADING. PROOF-ROLLING ACCEPTANCE STANDARDS INCLUDE NO RUTTING GREATER THAN 1.5 INCHES, AND NO "PUMPING" OF THE SOIL BEHIND THE LOADED TRUCK.
4. SIEVE ANALYSIS:
   A. SIEVE ANALYSIS SHALL BE CONDUCTED IN ACCORDANCE WITH AASHTO T27
5. PROCTOR:
   A. PROCTORS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D-1557
6. ATTERBERG LIMITS:
   A. ATTERBERG LIMITS SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T89 AND T90
7. MOISTURE DENSITY (NUCLEAR DENSITY):
   A. MOISTURE DENSITY TESTING SHALL BE DONE IN ACCORDANCE WITH AASHTO T310

SUBGRADE COMPACTION, TEST ROLLING AND AGGREGATE BASE COMPACTION:

1. FILL MATERIAL:
   A. SOILS USED AS FILL MATERIAL SHALL BE TESTED FOR GRAIN SIZE ANALYSIS, MOISTURE CONTENT, ATTERBERG LIMITS ON FINES CONTENT, AND PROCTOR TESTS (MODIFIED DRY MAXIMUM DENSITY).
      a. FOR PLACED & COMPACTED FILLS, PROVIDE ONE COMPACTION TEST PER LIFT FOR EVERY 1000 FT OF ROAD LENGTH. INCLUDE THE LOCATION, DRY DENSITY, MOISTURE CONTENT, AND COMPACTION PERCENT BASED ON MODIFIED PROCTOR MAXIMUM DRY DENSITY.
   B. IN ROADWAY CUT AREAS, OR WHERE EMBANKMENT CONSTRUCTION REQUIRES LESS THAN 12 INCHES OF FILL PLACEMENT, COMPACT TO A MINIMUM OF 95 PERCENT OF THE MATERIAL'S MODIFIED PROCTOR MAXIMUM DRY DENSITY.
2. COMPACTED SUBGRADE:
   A. THE ENTIRE SUBGRADE SHALL BE PROOF-ROLLED PRIOR TO THE PLACEMENT OF THE AGGREGATE BASE TO IDENTIFY AREAS OF UNSTABLE SUBGRADE.
   B. IF PROOF ROLLING DETERMINES THAT THE SUBGRADE STABILIZATION CANNOT BE ACHIEVED, THE FOLLOWING ALTERNATIVES WILL BE IMPLEMENTED:
      a. REMOVE UNSUITABLE MATERIAL AND REPLACE WITH SUITABLE EMBANKMENT.
      b. SCARIFY, DRY, AND RECOMPACT SUBGRADE AND PERFORM ADDITIONAL PROOF ROLL.
      c. INCREASE ROAD BASE THICKNESS.
   C. PROVIDE 1 MOISTURE DENSITY COMPACTION TESTS FOR EVERY 1000 L.F. OF ROAD LENGTH. COMPACTED SUBGRADE MUST BE COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY AT ±3% OF OPTIMUM MOISTURE CONTENT FOR GRANULAR SOILS AND AT -1 TO +3% OF OPTIMUM MOISTURE CONTENT FOR COHESIVE SOILS.
3. AGGREGATE BASE:
   A. AGGREGATE BASE SHALL BE PROOF-ROLLED OVER THE ENTIRE LENGTH. PROVIDE 1 SIEVE ANALYSIS PER 2500 CY OF ROAD BASE PLACED.
      a. IF PROOF ROLLING DETERMINES THAT THE ROAD IS UNSTABLE, ADDITIONAL AGGREGATE SHALL BE ADDED UNTIL THE UNSTABLE SECTION IS ABLE TO PASS A PROOF ROLL.

TABLE 1: TESTING SCHEDULE SUMMARY

LOCATION	TEST	FREQUENCY
STRUCTURAL FILL	GRAIN SIZE ANALYSIS, MOISTURE CONTENT, ATTERBERG LIMITS ON FINES CONTENT, AND PROCTOR	1 PER MAJOR SOIL TYPE
	MOISTURE DENSITY	1 PER 2,000 CY OR MIN. 1 PER LIFT
COMPACTED SUBGRADE	PROOF-ROLL	ENTIRE LENGTH
	MOISTURE DENSITY TEST (NUCLEAR DENSITY)	1 PER 1,000 FT OR MIN. 5 FOR THE SITE
AGGREGATE BASE	PROOF-ROLL	ENTIRE LENGTH
	SIEVE ANALYSIS	1 PER 2,500 CY

GENERAL NOTES:

1. THE PLANIMETRIC FEATURES, GROUND SURFACE CONTOURS ON A LIDAR SURFACE PROVIDED NOAA.
2. NO GRADING OR SOIL DISTURBANCE IS PERMITTED OUTSIDE OF THE GRADING LIMITS IDENTIFIED ON THE PLANS.
3. GRADE ALL PROPOSED ROADS TO THE SLOPES PROPOSED ON THE PLANS.
4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONSTRUCTION ACTIVITIES SHALL NOT BLOCK THE NATURAL OR MANMADE CREEKS OR DRAINAGE SWALES CAUSING RAINWATER TO POND. ADDITIONAL CULVERTS IN EXCESS OF THOSE ON THE PLANS MAY BE REQUIRED AS APPROVED BY THE ENGINEER.
5. THE CONTRACTOR SHALL NOTIFY DIGSAFE AT LEAST 48 HOURS BEFORE EXCAVATION ACTIVITIES COMMENCE.
6. WETLAND INFORMATION SHOWN ON THE PLAN WAS PROVIDED BY ROB HELLSTROM LAND SURVEYING AND FLAGGED BY HIGHLANDS SOILS. THE GENERAL CONTRACTOR SHALL VERIFY THAT ALL WETLAND PERMITS HAVE BEEN SUBMITTED AND APPROVED PRIOR TO CONSTRUCTION COMMENCING.
7. ELECTRICAL COLLECTION SYSTEM SHOWN ON THE PLAN SHALL BE CONSIDERED PRELIMINARY. CONTRACTOR SHALL REFER TO FINAL ELECTRICAL DESIGN PLANS FOR ACTUAL DESIGN LOCATIONS.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

1. REFER TO THE SWPPP BOOKLET FOR SEDIMENT AND EROSION CONTROL PROCEDURES, LOCATIONS OF BMPs, DETAILS, AND INSPECTION INFORMATION.
2. ALL AREAS DISTURBED DURING CONSTRUCTION ACTIVITIES AND NOT COVERED BY ROAD SURFACING MATERIALS, SHALL BE SEEDED IN ACCORDANCE WITH THE SWPPP PLAN.
3. TEMPORARY EROSION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE TEMPORARY EROSION CONTROL PLAN SHALL BE IN ACCORDANCE WITH STATE OF CONNETICUT, THE EPA, AND THE SWPPP ON FILE.

SLOPE STABILIZATION:

ALL AREAS DESIGNATED ON THE PLAN FOR SLOPE STABILIZATION SHALL BE GRADED AND COMPACTED, SMOOTH AND CLEAN TO THE FINISH CONTOURS SHOWN ON THE PLAN, WITH A MINIMUM OF 4 INCHES OF TOPSOIL PLACED ON THE AREA. STABILIZATION SHALL BE ACHIEVED IN ONE OF TWO MANNERS:

EITHER: 1) HAND-PLACED RIPRAP
OR:
2) SEED WITH EROSION CONTROL AND REVEGITATION MAT (ECRM)

1. PLACEMENT OF RIP-RAP

RIPRAP HAND PLACED. HAND-PLACED RIPRAP SHALL CONSIST OF ROUGH UNHEWN QUARRY STONES, APPROXIMATELY RECTANGULAR, PLACED DIRECTLY ON THE SPECIFIED SLOPES OR SURFACES. IT SHALL BE SO LAID THAT THE WEIGHT OF THE LARGE STONES IS CARRIED BY THE SOIL RATHER THAN BY ADJACENT STONES. STONES SHALL WEIGH BETWEEN 50 AND 150 LB. EACH AND AT LEAST 60 % OF THEM SHALL WEIGH MORE THAN 100 LB. EACH WHEN USED ON EMBANKMENT CONSTRUCTION. RIP RAP FOR BMPS SHALL BE 6"-8" DIA. PREPARATION FOR HAND-PLACED RIP RAP. BEFORE ANY RIP RAP IS PLACED, THE SURFACE TO BE COVERED SHALL BE FULLY COMPACTED AND GRADED TO THE REQUIRED SLOPE. PLACE MIRAFITM8 OR APPROVED EQUAL GEOTEXTILE ON SLOPE. RIP RAP ON SLOPES SHALL COMMENCE COMMENCE IN A TRENCH BELOW THE TOW OF THE SLOPE AND SHALL PROGRESS UPWARD, EACH STONE BEING LAID BY HAND PERPENDICULAR TO THE SLOPE WITH THE LONG DIMENSION VERTICAL, FIRMLY BEDDED AGAINST THE SLOPE AND AGAINST THE ADJOINING STONE, WITH ENDS IN CONTACT, AND WITH WELL-BROKEN JOINTS. SIMILAR METHODS SHALL BE USED WHEN LAYING RIPRAP ON STREAM BEDS, IN DITCHES, AND ON LEVEL SURFACES.

THE FINISHED SURFACE OF THE RIPRAP SHALL PRESENT AN EVEN, TIGHT SURFACE, NOT LESS THAN 12 INCHES THICK, MEASURED PERPENDICULAR TO THE SLOPE.

THE STONES WEIGHING MORE THAN 100 LB. SHALL BE WELL DISPERSED THROUGHOUT THE AREA WITH THE 50-100 LB. STONES LAID BETWEEN THEM IN SUCH A MANNER THAT ALL STONES WILL BE IN CLOSE CONTACT. THE REMAINING VOIDS SHALL BE FILLED WITH SPALLS OF SUITABLE SIZE AND WELL TAMPED TO PRODUCE A FIRM AND COMPACT REVETMENT.

2. STABILIZATION WITH EROSION CONTROL AND REVEGITATION MAT (ECRM)
   1) AREA MUST BE GRADED SMOOTH AND CLEAN TO FINISH GRADES, AND COMPACTED.

   2) SEED AND MULCH AREA. USE SEED MIX APPROVED BY THE ENGINEER.

   3) INSTALL ECRM PER MANUFACTURER'S INSTRUCTIONS, HOWEVER THESE MUST INCLUDE THE FOLLOWING MINIMUM REQUIREMENTS:

      A) GRADE GROUND TO FINISH CONTOURS. REMOVE ALL ROCKS, DIRT CLODS, STUMPS, ROOTS, TRASH, AND OTHER OBSTRUCTIONS LYING IN DIRECT CONTACT WITH THE SOIL SURFACE.

      B) DIG MAT ANCHOR TRENCHES (MINIMUM 12"DEEP, 6" WIDE) AT TERMINAL ENDS AND PERIMETER SIDES WHERE MAT IS TO BE INSTALLED.

      C) INSTALL MAT BY ROLLING UPHILL PARALLEL TO WATER FLOW, STARTING AT TRENCH. OVERLAP ROLLS BY MINIMUM OF 3". FASTEN TO GROUND WITH 18" PINS AND 1 1/2" WASHERS, OR EQUIVALENT. PIN MAT AT ENDS, AND EVERY 3' TO 5' ALONG OVERLAPS. DO NO STRETCH MAT. SPLICING ROLLS SHOULD BE DONE IN A CHECK SLOT. BACKFILL TO COVER ENDS AND FASTENERS, ROLLING MAT ACROSS BACKFILL AND PIN AGAIN.

   FOR MAT USE MIRAFI MIRAMAT TM8 OR EQUIVALENT.

SEEDING:

1. COMPOSITION OF SEED MIX CHANGES YEARLY. SEED SPECIFICATIONS MUST BE SUBMITTED TO ENGINEER 2 WEEKS PRIOR TO INSTALLATION. ALL SPECIES MUST BE NATIVE TO WORCESTER COUNTY.
2. RESTORED AREAS TO BE SEEDED WITH ABOVE MIX OR EQUAL (SUBJECT TO ENGINEERS APPROVAL). SEED TO BE LIGHTLY RAKED TO ALLOW FOR PROPER SEED/SOIL CONTACT.
3. CONTRACTOR SHALL OVERSEED AND/OR RE-MULCH AS NECESSARY TO ESTABLISH A GOOD COVER OF VEGETATION, WHETHER DUE TO POOR INITIAL COVER, INCLEMENT WEATHER BEFORE/DURING/AFTER SEEDING, OR THE ONSET OF WINTER.
4. RILLING, GULLIES, OR OTHER EROSION DUE TO POOR COVER SHALL BE RAKED AND/OR REFILLED AND REMULCH/RESEEDED.
5. CONTRACTOR SHALL WARRANTEE SEEDING, MULCHING AND EROSION CONTROL FABRIC FOR ONE YEAR FROM THE SUBSTANTIAL COMPLETION OF THE RELEVANT AREA OF WORK.

INVASIVE SPECIES:

1. ALL EQUIPMENT SHALL BE INSPECTED UPON ARRIVAL. EQUIPMENT ARRIVING WITH OBSERVABLE SOIL OR PLANT FRAGMENTS WILL BE REMOVED AND CLEANED.
2. HAY BALES ARE NOT BE USED ON SITE; ONLY WEED-FREE STRAW BALES ARE APPROVED.
3. OFF-SITE TOPSOIL MUST BE FREE OF INVASIVE SPECIES. THE ENGINEER SHALL BE NOTIFIED OF THE TOPSOIL SOURCE 6 WEEKS BEFORE DELIVERY.

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JOSEPH D. CHRISTIAN
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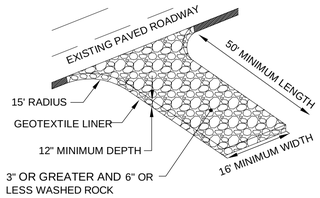
1 WILLIAMS CROSSING DR.
LEBANON, CT 06249
NEW LONDON COUNTY

CIVIL AND EROSION CONTROL NOTES

SITING BOARD REVIEW

DATE: 01/20/2015

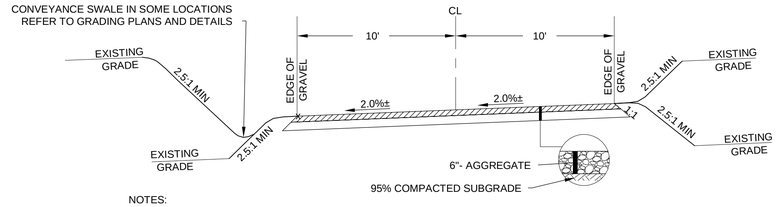
SHEET: 9 of 10



NOTE:

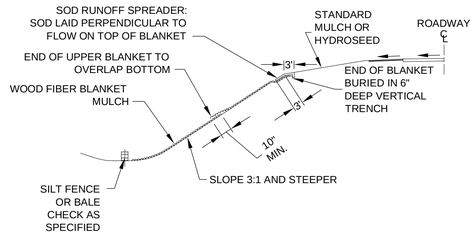
ROCK CONSTRUCTION ENTRANCE SHOULD BE A MINIMUM THICKNESS OF 1.0' AND CONTAIN MAXIMUM SIDE SLOPES OF 4:1. ROCK ENTRANCE SHOULD BE INSPECTED AND MAINTAINED REGULARLY. ROCK ENTRANCE LENGTH MAY NEED TO BE EXTENDED IN CLAY SOILS.

ROCK CONSTRUCTION ENTRANCE



NOTES:
1. CONTRACTOR TO SUBCUT ROADWAY TO EXISTING GRADE ELEVATION TO MAINTAIN EXISTING SITE DRAINAGE PATTERNS WHEREVER POSSIBLE.
2. IN FILL LOCATIONS CONTRACTOR TO GRADE TOE OF SLOPE TO EXISTING GRADE, AND MAINTAIN NATURAL DRAINAGE PATTERNS.
3. IN CUT LOCATIONS CONTRACTOR TO CREATE SWALE ON DOWNSTREAM SIDE, REFER TO GRADING PLANS FOR DETAILS.
4. CONTRACTOR TO COMPACT AGGREGATE TO 95% MAXIMUM DRY DENSITY.
5. REFER TO GEOTECHNICAL RECOMMENDATIONS FOR ADDITIONAL ROADWAY SECTION DESIGN INFORMATION.

ACCESS ROAD DETAIL



EROSION CONTROL BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)

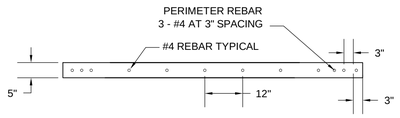
CATEGORY	SLOPE	VELOCITY
1	FLAT	-
2	3:1	< 5.0 fps
3	3:1	< 6.5 fps
4	2:1	< 7.0 fps

CATEGORY	ACCEPTABLE TYPES
1	STRAW RD 1S, WOOD FIBER RD 1S
2	STRAW 1S, WOOD FIBER 1S
3	STRAW 2S, WOOD FIBER 2S
4	STRAW/COCONUT 2S, WOOD FIBER HV 2S

THE LETTERING DESIGNATION SHALL BE DEFINED AS FOLLOWS:

1S - NETTING ON ONE SIDE
RD - RAPIDLY DEGRADABLE
2S - NETTING ON TWO SIDES
HV - HIGH VELOCITY

EROSION CONTROL BLANKET

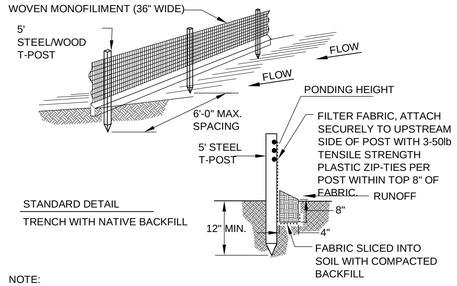


NOTES:
REBAR 3" FROM ALL EDGES & CUTOUTS. 3" SPACING ON FIRST THREE PERIMETER REBARS, 12" ON ALL OTHER INTERIOR.

3,000 PSI CONCRETE. TOP TO BE SMOOTH AND LEVEL. TOP EDGES TO HAVE 1" BEVEL.

FINAL PAD DESIGN DEPENDENT ON FINAL EQUIPMENT WEIGHT AND STRUCTURAL ENGINEERS DETERMINATION

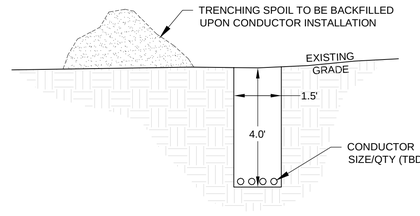
UTILITY PADS CONCRETE SECTION



NOTE:

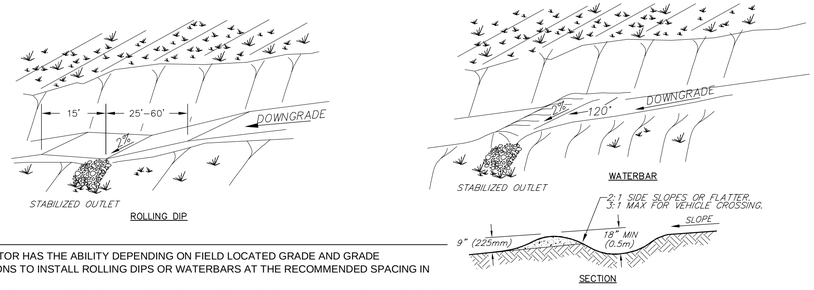
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN ACCUMULATED TO 1/3 THE HEIGHT OF THE FABRIC OR MORE.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
4. ALL ENDS OF THE SILT FENCE SHALL BE WRAPPED UPSLOPE SO THE ELEVATION OF THE BOTTOM OF FABRIC IS HIGHER THAN "PONDING HEIGHT".

SILT FENCE



NOTES:
1. CONDUCTOR CLEARANCES DEPENDENT ON GEOTECHNICAL PARAMETERS AND ELECTRICAL DESIGN
2. CONDUCTOR SIZING AND QUANTITIES PER TRENCH DEPENDENT ON FINAL ELECTRICAL DESIGN TRENCH DIMENSIONS FOR EARTHWORK QUANTITIES ARE CONSERVATIVE.

TRENCHING DETAIL



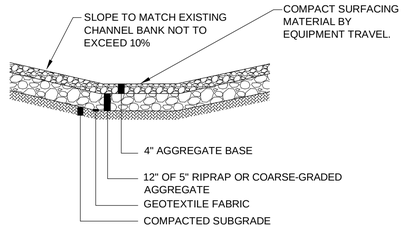
NOTE:

1. CONTRACTOR HAS THE ABILITY DEPENDING ON FIELD LOCATED GRADE AND GRADE TRANSITIONS TO INSTALL ROLLING DIPS OR WATERBARS AT THE RECOMMENDED SPACING IN TABLE 1.
2. ROLLING DIPS AND WATERBARS WILL REQUIRE MAINTENANCE FOLLOWING RAINFALL EVENTS TO ENSURE FUNCTIONALITY.
3. THE ROLLING DIPS AND WATERBARS SHOULD BE BUILT AT AN ANGLE OF 45° TO 60° FROM THE CENTERLINE.
4. THE DIVERSION SHOULD HAVE A POSITIVE GRADE OF 2% MINIMUM.
5. FOR ROLLING DIPS, THE HEIGHT FROM CHANNEL BOTTOM TO THE TOP OF THE SETTLED RIDGE SHALL BE 18 INCHES AND THE SIDE SLOPES OF THE RIDGE SHALL BE 2:1 OR FLATTER.
6. STABLE OUTLETS SHALL EITHER BE AN EXTENSION OF AN ADJACENT SWALE, OR 2 CU. YD. 6" RIP RAP AT OTHER LOCATIONS.
7. SEDIMENT SHALL BE REMOVED FROM THE FLOW AREA THROUGHOUT THE DURATION OF THE PROJECT, REFER TO THE PROJECTS STORMWATER O&M MANUAL.

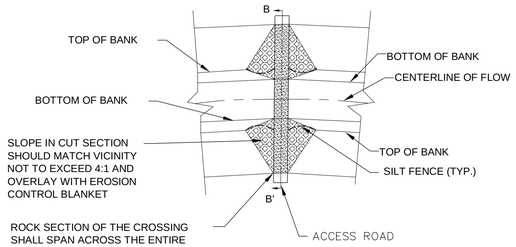
TABLE 1: ROLLING DIP AND WATERBAR SPACING RECOMMENDATIONS

SLOPE (%)	SPACING (FT)
<5	125
5–10	100
10–20	75

ROLLING DIP AND WATERBAR



SECTION B' - B'
PROFILE ALONG CENTERLINE OF LOW WATER CROSSING
NOT TO SCALE



PLAN VIEW OF LOW WATER CROSSING
NOT TO SCALE

NOTE:

1. CROSSINGS SHALL HAVE THE TOP-MOST SURFACE LAYER EVEN OR BELOW THE ELEVATION OF THE EXISTING WETLAND.
3. THE ACCESS ROAD SHALL CROSS THE CONVEYANCE AT 90° ANGLE.
4. THE TOP BED OF THE ROCK CHANNEL CROSSING SHALL CONFORM TO THE EXISTING DITCH CROSS SECTIONAL SLOPES.
5. MATERIAL THICKNESSES MAY BE FIELD ADJUSTED TO ACHIEVE SUFFICIENT BEARING CAPACITIES AS ARE NECESSARY FOR ANTICIPATED ROAD USE.

LOW WATER CROSSING

Westwood Professional Services, Inc.
7699 Anagram Drive
Eden Prairie, MN 55344

PHONE 952-937-5150
FAX 952-937-5822
TOLL FREE 1-888-937-5150

www.westwoodps.com

STATE OF CONNECTICUT
JOSEPH D. CHRISTIAN
0030668
LICENSED
PROFESSIONAL ENGINEER

Designed: ADC
Checked: SAW
Drawn: SJB
Record Drawing by/date:

Revisions:

#	DATE	DESCRIPTION
-	01/20/2015	SITING BOARD SUBMISSION

Prepared for:

ecos ENERGY
222 SOUTH 9TH STREET
SUITE 1600
MINNEAPOLIS, MN 55402

0' 50' 100' 150'

WINDHAM SOLAR

1 WILLIAMS CROSSING DR.
LEBANON, CT 06249
NEW LONDON COUNTY

CIVIL AND EROSION CONTROL DETAILS

SITING BOARD REVIEW

DATE: 01/20/2015
SHEET: 10 of 10