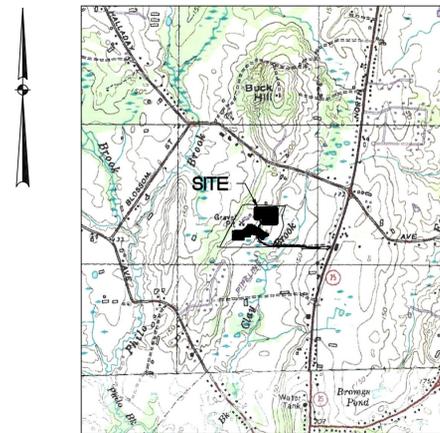


# Canis Major Solar

Rear Land of 1005 North Street  
Suffield, Connecticut



**LOCATION MAP**

1"=2000'



*Applicant*

*Lodestar Energy, LLC*  
3 Ellsworth Place, Suite 122  
Avon, CT 06001

*Owner*

*Krist A. & Kevin S. Sullivan, Jr.*  
1005 North Street  
Suffield, CT 06078

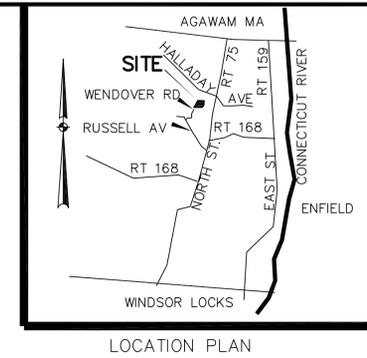
*Prepared By*



**DRAWING INDEX**

SHEET TITLE	SHEET NO.	LATEST REVISION
<u>CIVIL</u>		
COVER SHEET	1 of 8	8-07-15
LIMITED BOUNDARY SURVEY	2 of 8	5-14-15
OVERALL SITE PLAN	3 of 8	8-07-15
SITE PLAN (40 SCALE)	4 of 8	8-07-15
SITE PLAN (40 SCALE)	5 of 8	8-07-15
SITE PLAN (40 SCALE)	6 of 8	8-07-15
EROSION & SEDIMENT CONTROL NOTES & DETAILS	7 of 8	5-14-15
DETAILS	8 of 8	5-14-15

- LEGEND**
- EXISTING UTILITY POLE
  - EXISTING SANITARY SEWER
  - EXISTING SANITARY MANHOLE
  - EXISTING IRON PIN (FOUND)
  - PROPOSED IRON PIN (TO BE SET)
  - EXISTING MONUMENT (FOUND)
  - EXISTING TREELINE
  - LIMIT OF WETLANDS
  - PROPERTY LINE
  - LEASE LINE
  - PROPOSED ACCESS/UTILITY EASEMENT LINE
  - OTHER EASEMENT LINES
  - BUILDING LINE



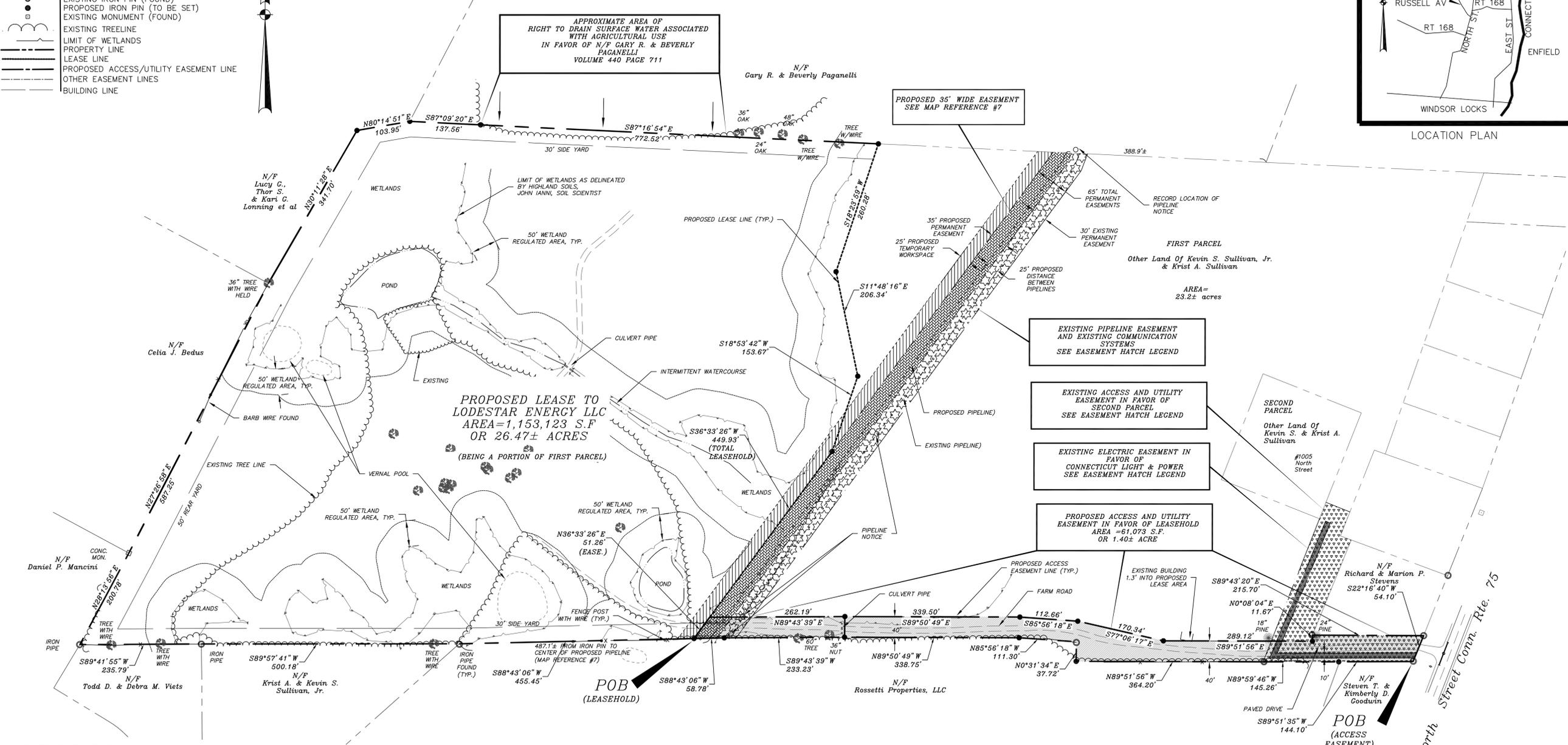
**RUSSO**  
SURVEYORS-ENGINEERS  
SERVING CT & MA

JR Russo & Associates, LLC  
130 Sherman Hill East, Unit 100, Westfield, MA 01095  
www.russo.com • info@russo.com

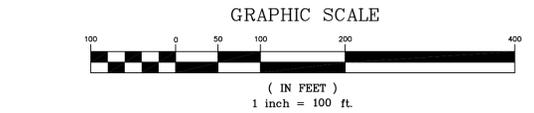


REVISIONS

NO.	DATE	DESCRIPTION
1	5-14-15	REVISION SUBMITTAL, ACCESS & UTILITY EASEMENT
2	4-02-15	GAS LINE EASEMENT



- EASEMENT LEGEND**
- ▨ PROPOSED ACCESS EASEMENT IN FAVOR OF LEASEHOLD
  - ▨ PROPOSED TEMPORARY WORK SPACE - SEE MAP REFERENCE #7
  - ▨ PROPOSED PERMANENT EASEMENT - SEE MAP REFERENCE #7
  - ▨ EXISTING PIPELINE EASEMENT IN FAVOR OF TENNESSEE GAS PIPELINE CO. VOLUME 79 PAGE 137 - ALSO, EXISTING COMMUNICATION SYSTEMS EASEMENT IN FAVOR OF TENNESSEE GAS PIPELINE CO. VOLUME 298 PAGE 527 (AFFECTS LEASEHOLD PARCEL)
  - ▨ EXISTING ACCESS AND UTILITY EASEMENT IN FAVOR OF SECOND PARCEL VOLUME 168 PAGE 925 (AFFECTS LEASEHOLD PARCEL)
  - ▨ EXISTING ELECTRIC EASEMENT IN FAVOR OF CONNECTICUT LIGHT & POWER VOLUME 144 PAGE 47 (AFFECTS LEASEHOLD PARCEL)



- Deed References:**
- Warranty Deed Ligia J. Vakalis to Kevin S. Sullivan, Jr. and Krist A. Sullivan June 29, 1995 Volume 261 Page 366;
  - Warranty Deed Gary R. Paganelli and Beverly Paganelli to Kevin S. Sullivan, Jr. and Krist A. Sullivan Volume 302 Page 889;
- Map References:**
- "Property of Eva Guertin To Be Conveyed To George Valalis 4-1-74 Town Clerk #156";
  - "Reference To Map Entitled Property of Charles Pysz & John Rodzen, et al. Russell Avenue Suffield Conn. Oct. 1961 Revised Nov. 1961" By Close, Jensen & Miller;
  - "Map Prepared For Joseph Guertin Suffield Conn. May 12, 1959" By Stanley J. Marnicki;
  - "Re-subdivision Plan Property Of Elizabeth & Lewis 235 Halladay Avenue Suffield, Connecticut" By Henry Charles Colton;
  - "Re-subdivision Property Of Charles Dyer & John Rodzen Wendover Road Suffield Connecticut" By Close, Jensen & Miller;
  - "Prepared for Gary R. Paganelli Halladay Avenue & North Street Suffield Connecticut No. 94110 Date 12-10-2007" By J.R. Russo & Associates;
  - "Connecticut Expansion Proposed 24" Line Crossing Property Of Kevin S. Sullivan Jr. et al Suffield Connecticut Hartford County Plotted 1-30-2015" By Tennessee Gas Pipeline Company, LLC

**DATA BLOCK.**

Leasehold Parcel lies in Residential Zone (R-90)  
Leasehold Area = 1,153,123 SF (26.5± ACRES)  
Bulk Requirements:  
Maximum Building Height 30'  
Minimum Frontage 200'  
Minimum Lot Size 90,000 SF  
Minimum Developable Area 60,000 SF  
Max. Coverage 10%  
Front Yard 50'  
Side Yard 30'  
Rear Yard 50'

**NOTES:**

- THE PURPOSE OF THIS PLAN IS TO PROVIDE A BOUNDARY SURVEY OF THE AREA TO BE LEASED BY LODESTAR ENERGY INC. FOR A PHOTOVOLTAIC SOLAR FARM.
- PARCEL IS NOT LOCATED IN A 100-YEAR FLOOD HAZARD ZONE, PANEL NO. 09003C 0094F.
- PORTION OF PARCEL LIES WITHIN INLAND WETLANDS AS DELINEATED BY HIGHLAND SOILS, INC. IN DECEMBER 2014.
- HORIZONTAL DATUM BASED ON N.A.D. 1983.
- ALL UNDERGROUND UTILITY LOCATIONS ON THIS PLAN ARE APPROXIMATE AND MAY NOT BE COMPLETE. ANYONE USING THIS INFORMATION WITHOUT VERIFYING THE LOCATIONS DOES SO AT THEIR OWN RISK. NO CONSTRUCTION WILL BE DONE ON THIS SITE PRIOR TO UTILITY MARK OUT. \*CALL BEFORE YOU DIG 1-800-922-4455\*.

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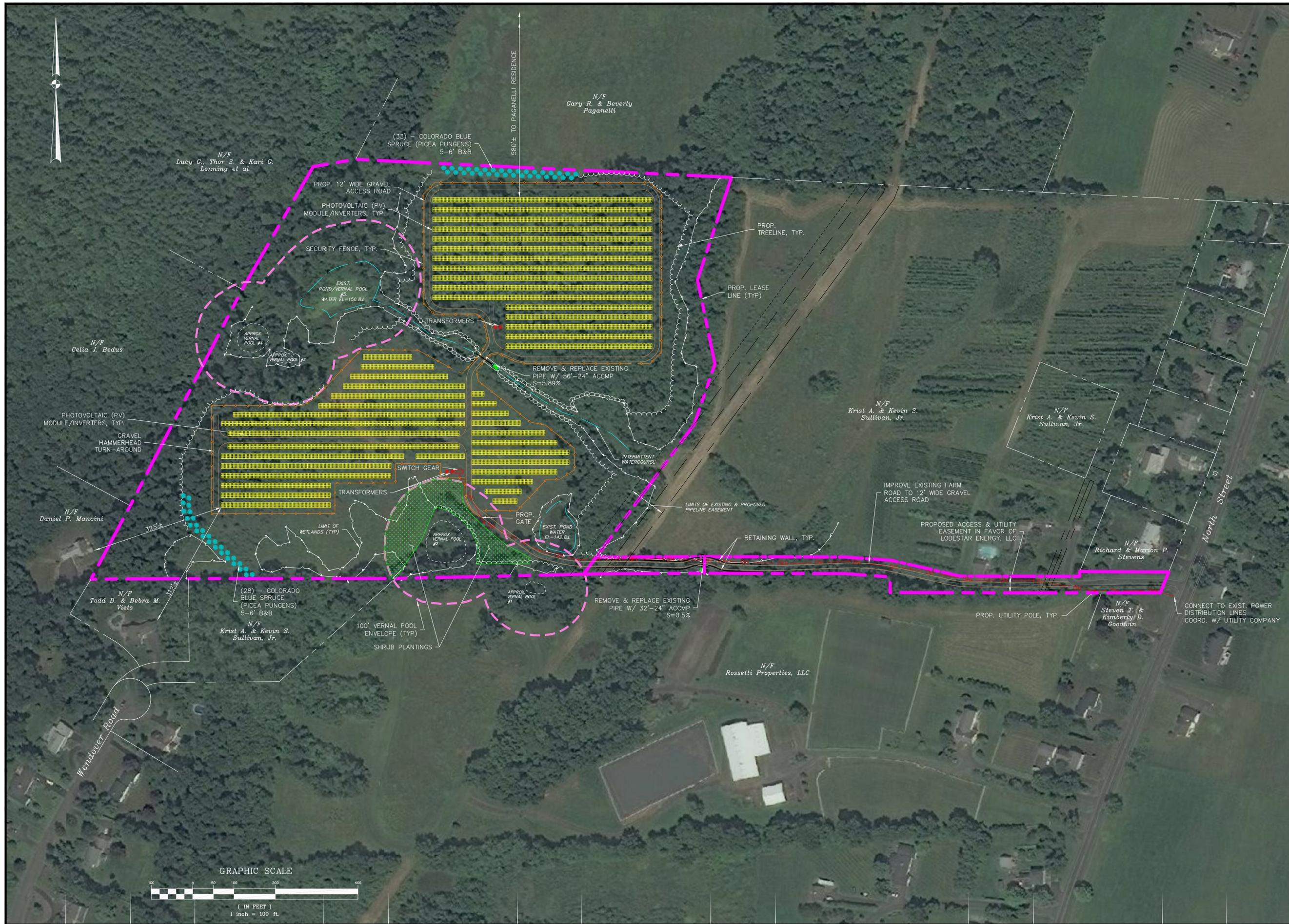
TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

Canis Major Solar  
Prepared For  
**Lodestar Energy LLC**  
Rear Land of 1005 North Street  
Suffield, Connecticut  
Map 39H Block 29 Lot 21 Zone: R-90

**LIMITED BOUNDARY SURVEY**

DATE	3-10-15
SCALE	1"=100'
JOB NUMBER	2014-115
SHEET	2 of 8

S:\Acad\2014\Civil\3D\Lodestar Energy\Russo Drawings\2014-115\_SURV.dwg, 8/10/2015 2:54:07 PM, 11



NO.	DATE	DESCRIPTION
1	8-07-15	ADDRESS SITING COUNCIL COMMENTS
2	6-24-15	ADD DISTANCES TO NEAREST HOUSES
3	5-14-15	PETITION SUBMITTAL
4	4-02-15	CLEARING LIMIT LINE; ADD PROPOSED GAS EASEMENT

REVISIONS

BY: TAC	CHK: JEU
---------	----------

Canis Major Solar  
Prepared For  
**Lodestar Energy, LLC**  
Rear Land of 1005 North Street  
Suffield, Connecticut  
Map 39H Block 29 Lot 21 Zone: R-90

OVERALL SITE PLAN

DATE	3-10-15
SCALE	1"=100'
JOB NUMBER	2014-115
SHEET	3 of 8

**EROSION & SEDIMENT CONTROL PLAN KEY**

- PS PERMANENT SEEDING
- CE CONSTRUCTION ENTRANCE
- GSF GEOTEXTILE SILT FENCE
- OP OUTLET PROTECTION

**LEGEND**

- EXISTING UTILITY POLE
- PROPOSED UTILITY POLE
- OH — PROPOSED OVERHEAD ELECTRIC
- E — PROPOSED UNDERGROUND ELECTRIC
- SS — EXISTING SANITARY SEWER
- DD — PROPOSED DRAIN LINE
- EXISTING IRON PIN (FOUND)
- PROPOSED IRON PIN (TO BE SET)
- EXISTING MONUMENT (FOUND)
- PROPOSED SPOT GRADE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING TREELINE
- PROPOSED TREELINE
- LIMIT OF WETLANDS
- STAKED HAYBALES OR SILT FENCE

**DEED REFERENCES:**

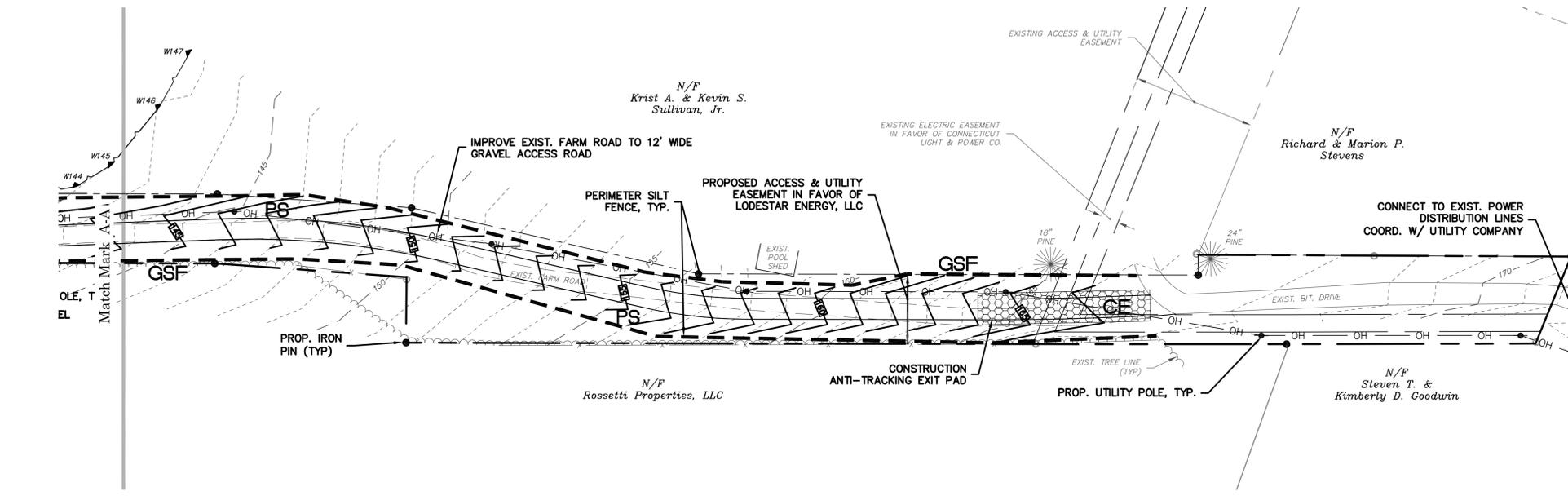
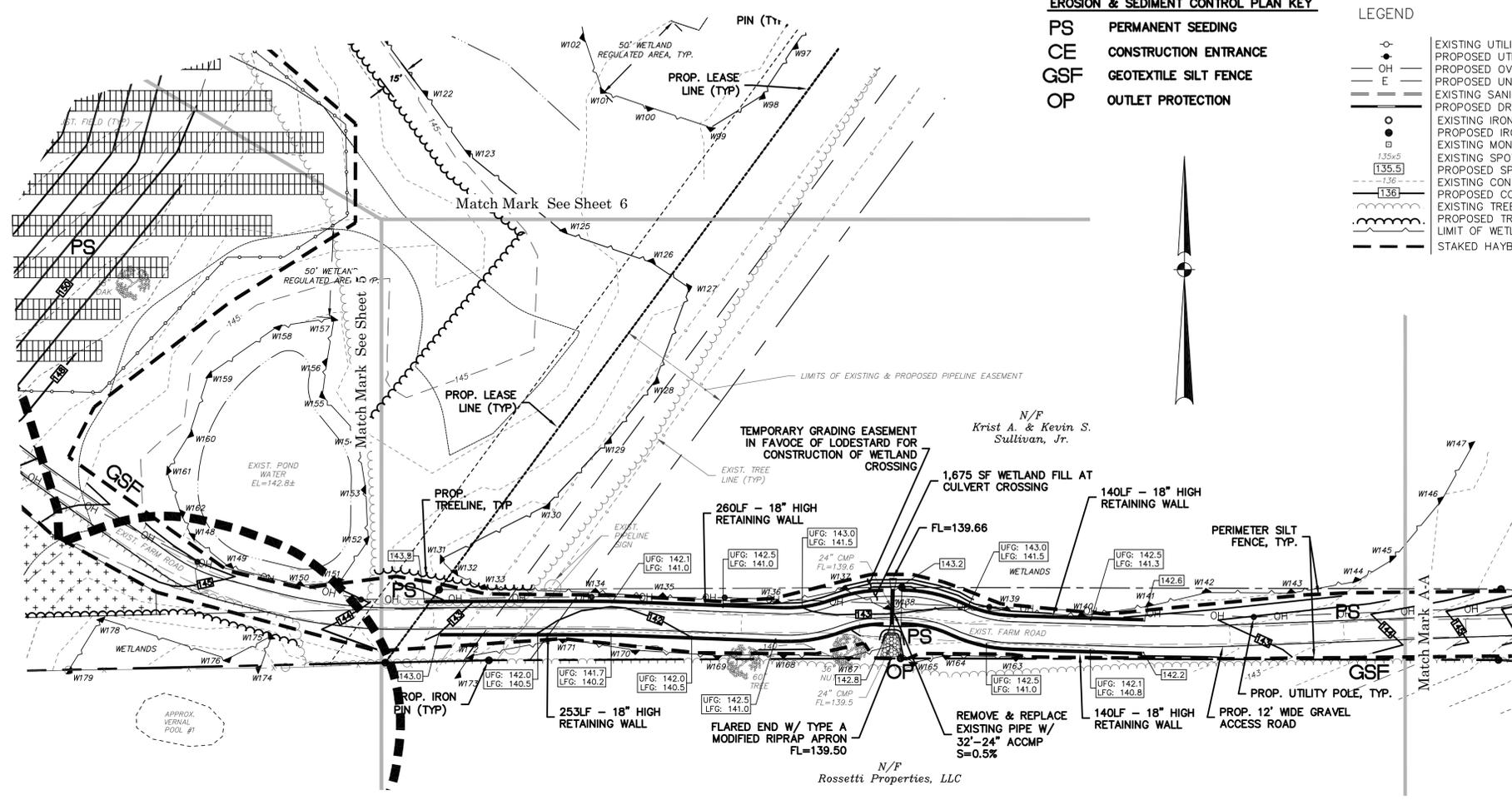
1. WARRANTY DEED LIGIA J. VAKALIS TO KEVIN S. SULLIVAN, JR. AND KRIST A. SULLIVAN JUNE 29, 1995 VOLUME 261 PAGE 366;
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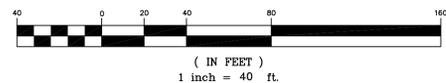
1. "PROPERTY OF EVA GUERTIN TO BE CONVEYED TO GEORGE VALALIS 4-1-74 TOWN CLERK #156";
2. "REFERENCE TO MAP ENTITLED PROPERTY OF CHARLES PYSZ & JOHN RODZEN, ET AL. RUSSELL AVENUE SUFFIELD CONN. OCT. 1961 REVISED NOV. 1961" BY CLOSE, JENSEN & MILLER;
3. "MAP PREPARED FOR JOSEPH GUERTIN SUFFIELD CONN. MAY 12, 1959" BY STANLEY J. MARNICK;
4. "RE-SUBDIVISION PLAN PROPERTY OF ELIZABETH & LEWIS 235 HALLADAY AVENUE SUFFIELD, CONNECTICUT" BY HENRY CHARLES COTTON;
5. "RE-SUBDIVISION PROPERTY OF CHARLES DYER & JOHN RODZEN WENDOVER ROAD SUFFIELD CONNECTICUT" BY CLOSE, JENSEN & MILLER;
6. "PREPARED FOR GARY R. PAGANELLI HALLADAY AVENUE & NORTH STREET SUFFIELD CONNECTICUT NO. 94110 DATE 12-10-2007" BY J.R. RUSSO & ASSOCIATES;

**NOTES:**

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5. CLEARING & GRUBBING NOTE: STUMPS OUTSIDE OF GRADING LIMITS AND GREATER THAN 5' BEYOND LIMITS OF SECURITY FENCING TO BE CUT OFF AT GROUND SURFACE AND LEFT IN PLACE. EQUIPMENT TRACKS AND EXPOSED SOILS BEYOND THESE LIMITS TO BE FILLED, SMOOTHED AND SEEDED WITH NEW ENGLAND LOGGING ROAD MIX BY NEW ENGLAND WETLAND PLANTS, INC. OR APPROVED EQUAL. STUMPS WITHIN LIMITS OF GRADING AND/OR SECURITY FENCING TO BE REMOVED.
6. SHRUBS PLANTINGS SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING SPECIES BASED ON AVAILABILITY: Highbush Blueberry, Shadblow, American Cranberry, Spicebush, Winterberry, Silky Dogwood, Red-Osier Dogwood, Witch Hazel, or Swamp Azalea. PLANTING STOCK TO BE MIN. 18"-24". PLANTINGS TO BE APPROXIMATELY 10' O.C.
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**GRAPHIC SCALE**



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REVISIONS	
8-07-15	ADDRESS SITING COUNCIL COMMENTS
5-14-15	REVISION SUBMITTAL
4-02-15	CLEARING LIMIT LINE

BY: LF/TAC    CHK: JEU

Canis Major Solar  
 Prepared For  
 Lodestar Energy, LLC  
 Rear Land of 1005 North Street  
 Suffield, Connecticut  
 Map 39H Block 29 Lot 21 Zone: R-90

**SITE PLAN**

DATE	3-10-15
SCALE	1"=40'
JOB NUMBER	2014-115
SHEET	4 of 8

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**LEGEND**

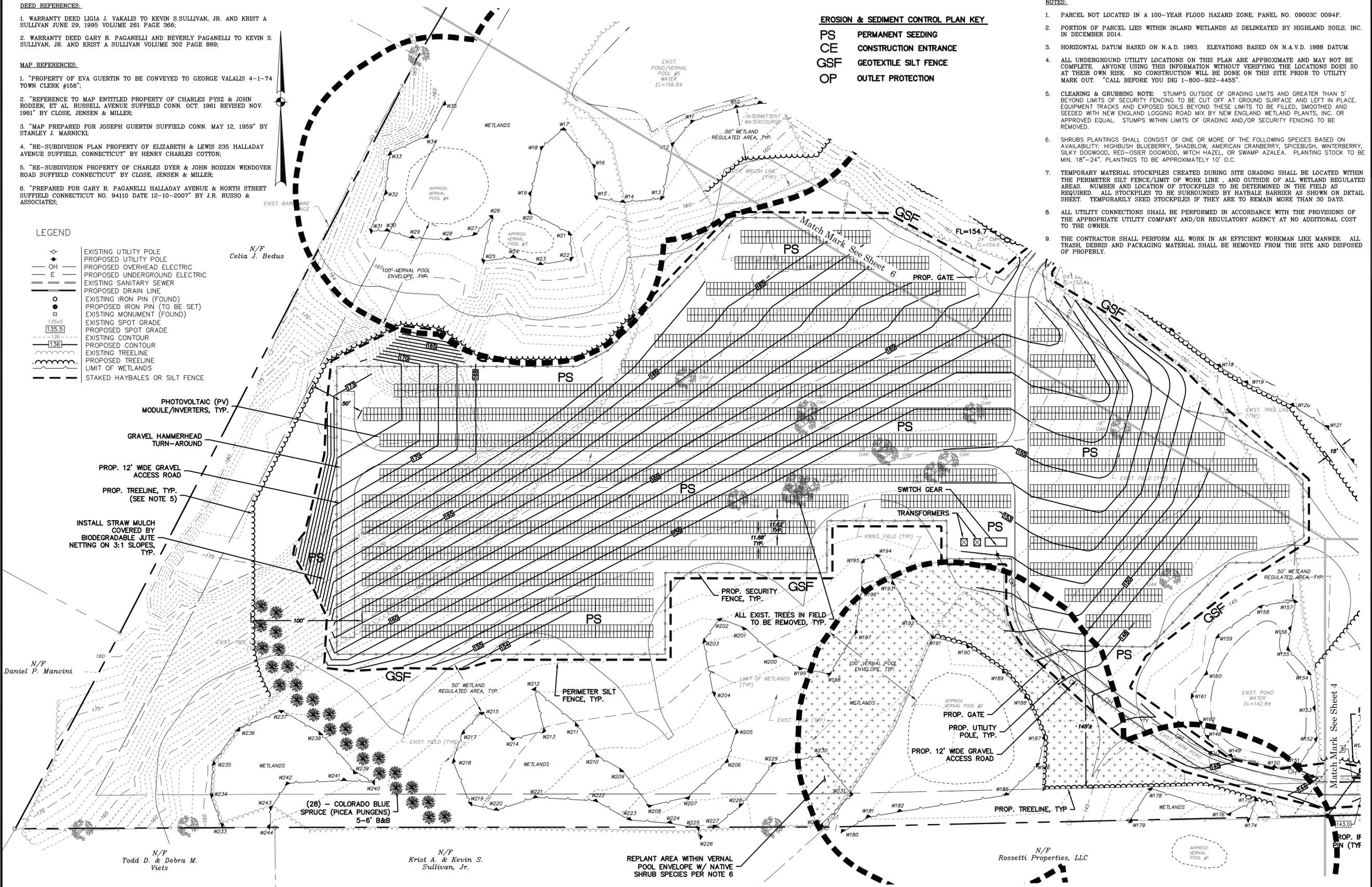
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- DD- PROPOSED DRAIN LINE
- EXISTING IRON PIN (FOUND)
- PROPOSED IRON PIN (TO BE SET)
- EXISTING MONUMENT (FOUND)
- EXISTING SPOT GRADE
- PROPOSED SPOT GRADE
- 135.5- EXISTING CONTOUR
- 136- PROPOSED CONTOUR
- - - EXISTING TREELINE
- - - PROPOSED TREELINE
- - - LIMIT OF WETLANDS
- - - STAKED HAYBALES OR SILT FENCE

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- CE CONSTRUCTION ENTRANCE
- Gsf GEOTEXTILE SILT FENCE
- OP OUTLET PROTECTION

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PHOTOVOLTAIC (PV) MODULE/INVERTERS, TYP.

GRAVEL HAMMERHEAD TURN-AROUND

PROP. 12' WIDE GRAVEL ACCESS ROAD

PROP. TREELINE, TYP. (SEE NOTE 5)

INSTALL STRAW MULCH COVERED BY BIODEGRADABLE JUTE NETTING ON 3:1 SLOPES, TYP.

N/F Daniel P. Mancini

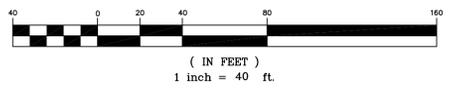
N/F Todd D. & Debra M. Viets

N/F Krist A. & Kevin S. Sullivan, Jr.

N/F Rossetti Properties, LLC

REPLANT AREA WITHIN VERNAL POOL ENVELOPE W/ NATIVE SHRUB SPECIES PER NOTE 6

**GRAPHIC SCALE**



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8-07-15	ADDRESS SITING COUNCIL COMMENTS
5-14-15	PETITION SUBMITTAL
4-02-15	CLEARING LIMIT LINE

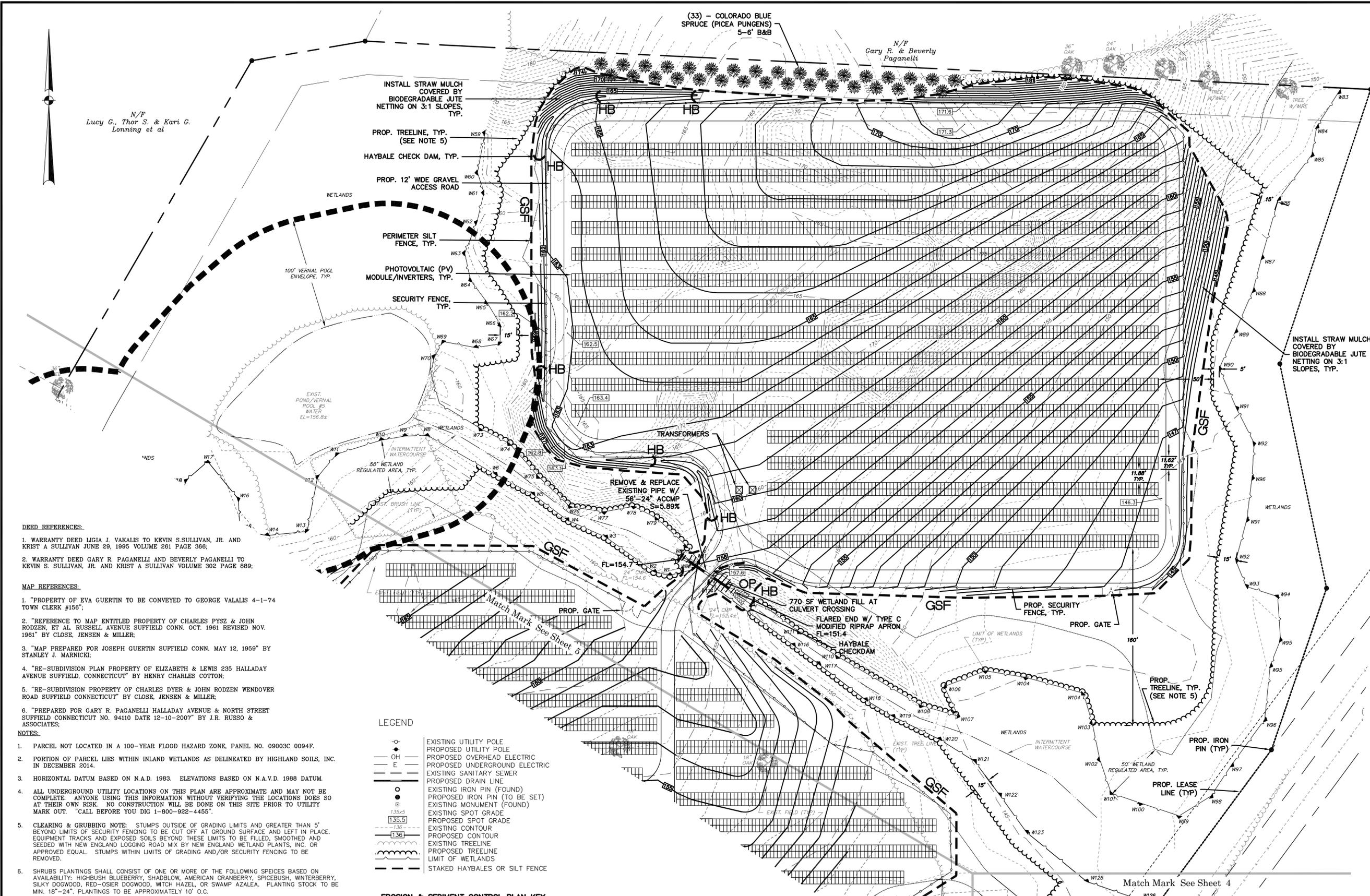
**REVISIONS**

BY: LF/TAC CHK: JEU

Prepared For  
**Canis Major Solar**  
**Lodestar Energy, LLC**  
Rear Land of 1005 North Street  
Suffield, Connecticut  
Map 39H Block 29 Lot 21 Zone: R-90

**SITE PLAN**

DATE	3-10-15
SCALE	1"=40'
JOB NUMBER	2014-115
SHEET	5 of 8



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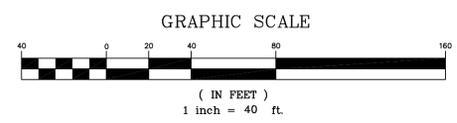
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**LEGEND**

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	PROPOSED UTILITY POLE
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	PROPOSED UNDERGROUND ELECTRIC
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	PROPOSED DRAIN LINE
	EXISTING IRON PIN (FOUND)
	PROPOSED IRON PIN (TO BE SET)
	EXISTING MONUMENT (FOUND)
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING TREELINE
	PROPOSED TREELINE
	LIMIT OF WETLANDS
	STAKED HAYBALES OR SILT FENCE

**EROSION & SEDIMENT CONTROL PLAN KEY**

<b>PS</b>	PERMANENT SEEDING
<b>CE</b>	CONSTRUCTION ENTRANCE
<b>GSF</b>	GEOTEXTILE SILT FENCE
<b>OP</b>	OUTLET PROTECTION
<b>HB</b>	HAYBALE CHECKDAM



This survey and map has been prepared in accordance with Sections 20-300b-1 thru 20-300b-20 of the Regulations of Connecticut State Agencies - "Minimum Standards for Surveys and Maps in the State of Connecticut" as endorsed by the Connecticut Association of Land Surveyors, Inc. It is a **Property Survey**, the eastern portion is based on a **Resurvey** and the western portion is based on a **First Survey** conforming to Horizontal Class A-2 & a Topographic Survey conforming to Class T-2.

*This document and copies thereof are valid only if they bear the live signature and embossed seal of the designated professional. Unauthorized alterations render any declaration hereon null and void.*

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.



**REVISIONS**

NO.	DATE	DESCRIPTION
1	8-07-15	ADDRESS SITING COUNCIL COMMENTS
2	5-14-15	FEITRON SUBMITTAL
3	4-02-15	CLEARING LIMIT LINE

BY: LF/TAC CHK: JEU

**Canis Major Solar**  
 Prepared For  
**Lodestar Energy, LLC**  
 Rear Land of 1005 North Street  
 Suffield, Connecticut  
 Map 39H Block 29 Lot 21 Zone: R-90

**SITE PLAN**

DATE	3-10-15
SCALE	1"=40'
JOB NUMBER	2014-115
SHEET	6 of 8

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## GEOTEXTILE SILT FENCE (GSF)

### SPECIFICATIONS

**Materials**  
Geotextile fabric: shall be a pervious sheet of polypropylene, nylon, polyester, ethylene or similar filaments and shall be certified by the manufacturer or supplier as conforming to the requirements shown in Figure GSF-1 in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition. The geotextile shall be non-wicking, acid and alkali resistant and have sufficient strength and permeability operations. Filaments in the geotextile shall be resistant to absorption. The filament network must be dimensionally stable and free of any chemical treatment or coating that will reduce its permeability. The geotextile shall also be free of any flaws or defects which will alter its physical properties. Torn or punctured geotextiles shall not be used.

**Supporting posts:** shall be at least 42 inches long made of either 1.5 inch square hardwood stakes or steel posts with projections for fastening the geotextile possessing a minimum strength of 0.5 pound per linear foot.

### Placement

**For toe of slope:** Locate 5-10 feet down gradient from the toe of slope, generally on the contour with maintenance and sediment removal requirements in mind. When the contour can not be followed install the fence such that perpendicular wings are created to break the velocity of water flowing along the fence. See Figure GSF-2 in the Connecticut Guidelines For Soil Erosion and Sediment Control for spacing requirements.

**Swales:** Locate "U" shape across swale such that the bottom of both ends of the fence are higher than the top of the lowest section of the fence.

**Catch Basin in Swale on Slopes:** Locate 2 "U" shapes across swale as above: one immediately up slope from the catch basin and the other immediately down slope from the catch basin.

**Catch Basins in Depressions:** Encircle catch basin.

**Culvert Inlets:** Locate in a "U" shape approximately 6 feet from the culvert in the direction of the incoming flow.

**Culvert Outlets:** Locate across the swale at least 6 feet from the culvert outlet.

### Installation

**Trench excavation:** Excavate a trench a minimum of 6 inches deep and 6 inches wide on the up slope side of the fence location. For slope and swale installations, extend the ends of the trench sufficiently up slope such that bottom end of the fence will be higher than the top of the lowest portion of the fence.

When the fence is not to be installed on the contour, excavate wing trenches spaces at the intervals given on Figure GSF-2 in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

When excavation is obstructed by an occasional stone or tree roots, provide a smooth transition between the trench bottom and the obstruction.

**Support Posts:** Drive support posts on the down slope side of the trench to a depth of at least 12 inches into original ground.

Never install support posts more than 10 feet apart. Install support posts closer than 10 feet apart when concentrated flows are anticipated or when steep contributing slopes and soil conditions are expected to generate larger volumes of sediment. For catch basins in hollows, drive posts at each corner of the catch basin. Whenever the geotextile filter fabric that is used exceeds the minimum material specifications contained in this measure, the spacing of the stakes shall be per manufacturer's recommendations.

**Geotextile Filter Fabric:** Staple or secure the geotextile to the support posts per manufacturer's instruction such that at least 6 inches of geotextile lies within the trench, the height of the fence does not exceed 30 inches and the geotextile is taut between the posts. When the trench is obstructed by stones, tree roots, etc. allow the geotextile to lay over the obstruction such that the bottom of the geotextile points up slope.

In the absence of manufacturer's instructions, space wire staples on wooden stakes at a maximum of 4 inches apart and alternate their position from parallel to the axis of the stake to perpendicular.

Do not staple the geotextile to living trees.

Provide reinforcement for the fence when it can be exposed to high winds.

When joints in the geotextile fabric are necessary, splice together only at support posts, and securely seal.

**Backfill & Compaction:** Backfill the trench with tamped soil or aggregate over the geotextile. When the trench is obstructed by a stone, tree root, etc. make sure the bottom of the geotextile lies horizontal on the ground with the resulting flap on the up slope side of the geotextile and bury the flap with 6 inches of tamped soil, or aggregate.

### MAINTENANCE

Inspect the silt fence at least once a week and within 24 hours of the end of a storm with rainfall amount of 0.5 inch or greater to determine maintenance needs. When used for dewatering operations, inspect frequently before, during and after pumping operations.

Remove the sediment deposits or, if room allows, install a secondary silt fence up slope of the existing fence when sediment deposits reach approximately one half the height of the existing fence.

Replace or repair the fence within 24 hours of observed failure. Failure of the fence has occurred when sediment fails to be retained by the fence because:

- the fence has been overtopped, undercut or bypassed by runoff water,
- the fence has been moved out of position (knocked over), or
- the geotextile has decomposed or been damaged.

Maintain the fence until the contributing area is stabilized.

After the contributing area is stabilized determine if sediment contained by the fence requires removal or regrading and stabilization. If the depth is greater than or equal to 6 inches, regrading or removal of the accumulated sediment is required. No removal or regrading is required if sediment depth is less than 6 inches.

Remove the fence by pulling up the support posts and cutting the geotextile at ground level. Regrade or remove sediment as needed, and stabilize disturbed soils.

## HALE BALE BARRIER (HB)

### SPECIFICATIONS

**Materials**  
Hay Bales: shall be made of hay or straw with 40 pounds minimum weight and 120 pounds maximum weight held together by twine or wire.

**Stakes for Anchoring Hay Bales:** shall be a minimum of 36 inches long and made of either hardwood with dimensions of at least 1.5 inches square or steel posts with a minimum weight of 0.5 pound per linear foot.

### Placement

**Toe of Slope:** Locate 5-10 feet down gradient from the toe of slope, generally on the contour. When the contour can not be followed, stagger the bale installation and install perpendicular wings (spaces as shown in Figure HB-1 in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition) to break the velocity of water flowing behind the bales. The barrier should be located with sufficient distance from the toe of the slope to allow access by equipment for removal of accumulated sediments.

**Catch Basins in Depression or Low Spots:** Encircle catch basin or low drain.

### Installation

**Trench excavation:** Excavate a trench as wide as the bales and at least 4 inches deep. Each end of the trench should be winged upslope so that the bottom of the last bale is higher than the top of the lowest hay bale in the barrier.

**Hay Bale Placement:** Place bales in a single row in the trench, lengthwise, with ends of adjacent bales tightly abutting one another and the bindings oriented around the sides rather than along the tops and bottoms of the bales (to avoid premature rotting of the bindings).

**Staking Hay Bales:** Anchor each bale with at least 2 stakes, driving the first stake in each bale toward the previously laid bale to force the bales together. Stakes must be driven a minimum of 18 inches into the ground. Fill any gaps between the bales with hay or straw to prevent water from escaping between the bales.

**Backfill & Tamped:** Backfill the bales with the excavated trench material to a minimum depth of 4 inches on the uphill side of the bales. Tamp by hand or machine and compact the soil. Loose hay or straw scattered over the disturbed area immediately uphill from the hay bale barrier tends to increase barrier efficiency.

### MAINTENANCE

Inspect the hay bale barrier at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inches or greater to determine maintenance needs. For dewater operations, inspect frequently before, during and after pumping operations.

Remove the sediment deposits or install a secondary barrier upslope from the existing barrier when sediment deposits reach approximately one half the height of the barrier.

Replace or repair the barrier within 24 hours of observed failure. Failure of the barrier has occurred when sediment fails to be retained by the barrier because:

- the barrier has been overtopped, undercut or bypassed by runoff water,
- the barrier has been moved out of position, or
- the hay bales have deteriorated or been damaged.

Maintain the hay bale barrier until the contributing area is stabilized.

After the upslope areas have been permanently stabilized, pull the stakes out of the hay bales. Unless otherwise required, no removal or regrading of accumulated sediment is necessary. The hay bales may then be left in place or broken up for ground cover.

## TEMPORARY SEEDING (TS)

### SPECIFICATIONS

#### Site Preparation

Install needed erosion control measures such as diversions, grade stabilization structures, sedimentation basins and grassed waterways in accordance with the approved plan.

Grade according to plans and allow for the use of appropriate equipment for seedbed preparation, seeding, mulch application and mulch anchoring.

#### Seedbed Preparation

Loosen the soil to a depth of 3-4 inches with a slightly roughened surface. If the area has been recently loosened or disturbed, no further roughening is required. Soil preparation can be accomplished by tracking with a bulldozer, discing, harrowing, raking or dragging with a section of chain link fence.

Apply ground limestone and fertilizer according to soil test recommendations (such as those offered by the University of Connecticut Soil Testing Laboratory or other reliable source).

If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 300 pounds per acre or 7.5 pounds per 1,000 square feet of 10-10-10 or equivalent.

#### Seeding

Apply seed uniformly by hand, cyclone seeder, drill, cultipacker type seeder or hydroseeder. The temporary seed shall be Rye (grain) applied at a rate of 120 pounds per acre. Increase seeding rates by 10% when hydroseeding.

#### Mulching

See guidelines in the Mulch For Seed measures.

### MAINTENANCE

Inspect temporary seeding area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater for seed and mulch movement and fill erosion.

Where seed has been moved or where soil erosion has occurred, determine the cause of the failure and repair as needed.

## PERMANENT SEEDING (PS)

### SPECIFICATIONS

#### Time Of Year

Seeding dates in Connecticut are normally April 1 through June 15 and August 15 through October 1. Spring seedings give the best results and spring seedings of all mixes with legumes is recommended. There are two exceptions to the above dates. The first exception is when seedings will be made in the areas of Connecticut known as the Coastal Slope and the Connecticut River Valley. The Coastal Slope includes the coastal towns of New London, Middlesex, New Haven, and Fairfield counties. In these areas, with the exception of crown vetch (when crown vetch is seeded in late summer, at least 35% of the seed should be hard seed (unscarified), the final fall seeding dates can be extended and additional 15 days. The second exception is frost crack or dormant seeding, the seed is applied during the time of year when no germination can be expected, normally November through February. Germination will take place when weather conditions improve, mulching is extremely important to protect the seed from wind and surface erosion and to provide erosion protection until the seeding becomes established.

#### Site Preparation

Grade in accordance with the Land Grading measure which is in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

Install all necessary surface water controls.

For areas to be mowed remove all surface stones 2 inches or larger. Remove all other debris such as wire, cable tree roots, pieces of concrete, clods, lumps, or other unsuitable material.

#### Seed Selection

**Lawn Areas:** Premium Seed Mix for Sun and Shade.  
**Bottom of Stormwater Basin:** ERNM-126 Retention Basin Floor Mix - Low Maintenance or approved equal.

#### Seedbed Preparation

Apply topsoil, if necessary, in accordance with the Topsoil measure which is in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

Apply ground limestone and fertilizer according to soil test recommendations (such as those offered by the University of Connecticut Soil Testing Laboratory or other reliable source).

Where soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 300 pounds per acre or 7.5 pounds per 1,000 square feet of 10-10-10 or equivalent and limestone at 4 tons per acre or 200 pounds per 1,000 square feet.

Work lime and fertilizer into the soil to a depth of 3 to 4 inches with a disc or other suitable equipment.

Inspect seedbed just before seeding. If the soil is compacted, crusted or hardened, scarify the area prior to seeding.

#### Seed Application

Apply selected seed at rates per manufacturer's recommendations uniformly by hand, cyclone seeder, drill, cultipacker type seeder or hydroseeder (slurry including seed, fertilizer). Normal seeding depth is from 0.25 to 0.5 inch. Increase seeding rates by 10% when hydroseeding or frost crack seeding. Seed warm season grasses during the spring period only.

#### Mulching

See guidelines in the Mulch For Seed measures.

### MAINTENANCE

Inspect temporary soil protection area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater during the first growing season.

Where seed has been moved or where soil erosion has occurred, determine the cause of the failure and repair as needed.

## MULCH FOR SEED (MS)

### SPECIFICATIONS

#### Material

Types of Mulches within this specification include, but are not limited to:

**1. Hay:** The dried stems and leafy parts of plants cut and harvested, such as alfalfa, clovers, other forage legumes and the finer stemmed, leafy grasses. The average stem length should not be less than 4 inches. Hay that can be windblown should be anchored to hold it in place.

**2. Straw:** Cut and dried stems of herbaceous plants, such as wheat, barley, cereal rye, or bromes. The average stem length should not be less than 4 inches. Straw that can be windblown should be anchored to hold it in place.

**3. Cellulose Fiber:** Fiber origin is either virgin wood, post-industrial/pre-consumer wood or post consumer wood complying with materials specification (collectively referred to as "wood fiber"), newspaper, kraft paper, cardboard (collectively referred to as "paper fiber") or a combination of wood and paper fiber. Paper fiber, in particular, shall not contain boron, which inhibits seed germination. The cellulose fiber must be manufactured in such a manner that after the addition to and agitation in slurry tanks with water, the fibers in the slurry become uniformly suspended to form a homogeneous product. Subsequent to hydraulic spraying on the ground, the mulch shall allow for the absorption and percolation of moisture and shall not form a tough crust such that it interferes with seed germination or growth. Generally applied with tackifier and fertilizer. Refer to manufacturer's specifications for application rates needed to obtain 80%-95% coverage without interfering with seed germination or plant growth. Not recommended as a mulch for use when seeding occurs outside of the recommended seeding dates.

**Tackifiers** within this specification include, but are not limited to: Water soluble materials that cause mulch particles to adhere to one another, generally consisting of either a natural vegetable gum blended with gelling and hardening agents or a blend of hydrophilic polymers, resins, viscosifiers, sticking aids and gums. Good for areas intended to be mowed. Cellulose fiber mulch may be applied as a tackifier to other mulches, provided the application is sufficient to cause the other mulches to adhere to one another. **Emulsified asphalts are specifically prohibited for use as tackifiers due to their potential for causing water pollution following its application.**

**Nettings** within this specification include, but are not limited to: Prefabricated openwork fabrics made of cellulose cords, ropes, threads, or biodegradable synthetic material that is woven, knotted or molded in such a manner that it holds mulch in place until vegetation growth is sufficient to stabilize the soil. Generally used in areas where no mowing is planned.

#### Site Preparation

Grade according to plans and allow for the use of appropriate equipment for seedbed preparation, seeding, mulch application and mulch anchoring.

#### Application

**Timing:** Applied immediately following seeding. Some cellulose fiber may be applied with seed to assist in marking where seed has been sprayed, but expect to apply a second application of cellulose fiber to meet the requirements of **Mulch For Seed** in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

**Spreading:** Mulch material shall be spread uniformly by hand or machine resulting in 80%-95% coverage of the disturbed soil when seeding within the recommended seeding dates. Applications that are uneven can result in excessive mulch smothering the germinating seeds. For hay or straw anticipate an application rate of 2 tons per acre. For cellulose fiber follow manufacturer's recommended application rates to provide 80%-95% coverage.

When seeding outside the recommended seeding dates, increase mulch application rate to provide between 95%-100% coverage of the disturbed soil. For hay or straw anticipate an application rate to 2.5 to 3 tons per acre.

When spreading hay mulch by hand, divide the area to be mulched into approximately 1,000 square feet and place 1.5-2 bales of hay in each section to facilitate uniform distribution.

For cellulose fiber mulch, expect several spray passes to attain adequate coverage, to eliminate shadowing, and to avoid slippage.

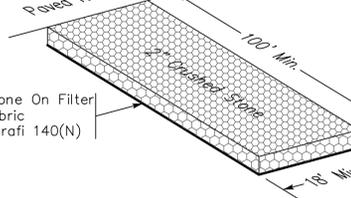
**Anchoring:** Expect the need for mulch anchoring along the shoulders of actively traveled roads, hill tops and long open slopes not protected by wind breaks.

When using netting, the most critical aspect is to ensure that the netting maintains substantial contact with the underlying mulch and the mulch, in turn, maintains continuous contact with the soil surface. Without such contact, the material is useless and erosion can be expected to occur.

**MAINTENANCE**  
Inspect mulch for seed area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater until the grass has germinated to determine maintenance needs.

Where mulch has been moved or where soil erosion has occurred, determine the cause of the failure and repair as needed.

**MAINTENANCE**  
Repeat application of dust control measures when fugitive dust becomes evident.



## ANTI-TRACKING PAD DETAIL (CE)

NOT TO SCALE

## SOIL EROSION & SEDIMENT CONTROL NOTES

- All soil erosion and sediment control work shall be done in strict accordance with the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.
- Any additional erosion/sediment control deemed necessary by the engineer during construction, shall be installed by the developer. In addition, the developer shall be responsible for the repair/replacement and/or maintenance of all erosion control measures until all disturbed areas are stabilized to the satisfaction of the town staff.
- All soil erosion and sediment control operations shall be in place prior to any grading operations and installation of proposed structures or utilities and shall be left in place until construction is completed and/or area is stabilized.
- In all areas, removal of trees, bushes and other vegetation as well as disturbance of the soil is to be kept to an absolute minimum while allowing proper development of the site. During construction, expose as small an area of soil as possible for as short a time as possible.
- All fill areas shall be compacted sufficiently for their intended purpose and as required to reduce slipping, erosion or excess saturation. Fill intended to support buildings, structures, conduits, etc., shall be compacted in accordance with local requirements or codes.
- Topsoil is to be stripped and stockpiled in amounts necessary to complete finished grading of all exposed areas requiring topsoil. The stockpiled topsoil is to be located as designated on the plans. Topsoil shall not be placed while in a frozen or muddy condition, when the subgrade is excessively wet, or in a condition that may otherwise be detrimental to proper grading or proposed sodding or seeding.
- Any and all fill material is to be free of brush, rubbish, timber, logs vegetative matter and stumps in amounts that will be detrimental to constructing stable fills. Maximum side slopes of exposed surfaces of earth to be 3:1 or as otherwise specified by local authorities.
- Where construction activities have permanently ceased or have temporarily been suspended for more than seven days, or when final grades are reached in any portion of the site, stabilization practices shall be implemented within five days. Areas which remain disturbed but inactive for at least thirty days shall receive temporary seeding.
- Waste Materials - All waste will be collected and stored in a securely covered metal dumpster as provided by a licensed solid waste management company. The dumpster shall meet all local and state regulations. The dumpster will be emptied a minimum of twice per week, or more often if necessary. No construction waste materials shall be permitted to be buried or burned on-site.

**Nettings** within this specification include, but are not limited to: Prefabricated openwork fabrics made of cellulose cords, ropes, threads, or biodegradable synthetic material that is woven, knotted or molded in such a manner that it holds mulch in place until vegetation growth is sufficient to stabilize the soil. Generally used in areas where no mowing is planned.

#### Site Preparation

Grade according to plans and allow for the use of appropriate equipment for seedbed preparation, seeding, mulch application and mulch anchoring.

#### Application

**Timing:** Applied immediately following seeding. Some cellulose fiber may be applied with seed to assist in marking where seed has been sprayed, but expect to apply a second application of cellulose fiber to meet the requirements of **Mulch For Seed** in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

**Spreading:** Mulch material shall be spread uniformly by hand or machine resulting in 80%-95% coverage of the disturbed soil when seeding within the recommended seeding dates. Applications that are uneven can result in excessive mulch smothering the germinating seeds. For hay or straw anticipate an application rate of 2 tons per acre. For cellulose fiber follow manufacturer's recommended application rates to provide 80%-95% coverage.

When seeding outside the recommended seeding dates, increase mulch application rate to provide between 95%-100% coverage of the disturbed soil. For hay or straw anticipate an application rate to 2.5 to 3 tons per acre.

When spreading hay mulch by hand, divide the area to be mulched into approximately 1,000 square feet and place 1.5-2 bales of hay in each section to facilitate uniform distribution.

For cellulose fiber mulch, expect several spray passes to attain adequate coverage, to eliminate shadowing, and to avoid slippage.

**Anchoring:** Expect the need for mulch anchoring along the shoulders of actively traveled roads, hill tops and long open slopes not protected by wind breaks.

When using netting, the most critical aspect is to ensure that the netting maintains substantial contact with the underlying mulch and the mulch, in turn, maintains continuous contact with the soil surface. Without such contact, the material is useless and erosion can be expected to occur.

**MAINTENANCE**  
Inspect mulch for seed area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater until the grass has germinated to determine maintenance needs.

Where mulch has been moved or where soil erosion has occurred, determine the cause of the failure and repair as needed.

**MAINTENANCE**  
Repeat application of dust control measures when fugitive dust becomes evident.



## HAYBALE CHECK DAM

NOT TO SCALE

## CHECKLIST FOR EROSION CONTROL PLAN

PROJECT: Canis Major Solar  
LOCATION: 1005 North Street, Suffield, Connecticut  
PROJECT DESCRIPTION: Construction of a 2.0 MW AC Photovoltaic (PV) Facility  
PARCEL AREA: 26.7 acres  
RESPONSIBLE PERSONNEL: Lodestar Energy, LLC Adam Beal (970) 379-3937  
EROSION AND SEDIMENT CONTROL PLAN PREPARER: J.R. Russo & Associates, LLC

Work Description Erosion & Sediment Control Measures	Location	Date Installed	Initials	Date Removed	Initials
Install construction anti-tracking pad	As shown on plan.				
Install perimeter sediment barriers	As shown on plan.				
Install haybale check dams in swales	As installed.				
Install haybale perimeter around stockpiles	As installed.				

### MAINTENANCE OF MEASURES:

Location	Description or Number	Date	Initials

### Project Dates:

Date of groundbreaking for project: \_\_\_\_\_  
Date of final stabilization: \_\_\_\_\_

## PROJECT NARRATIVE AND CONSTRUCTION SEQUENCE

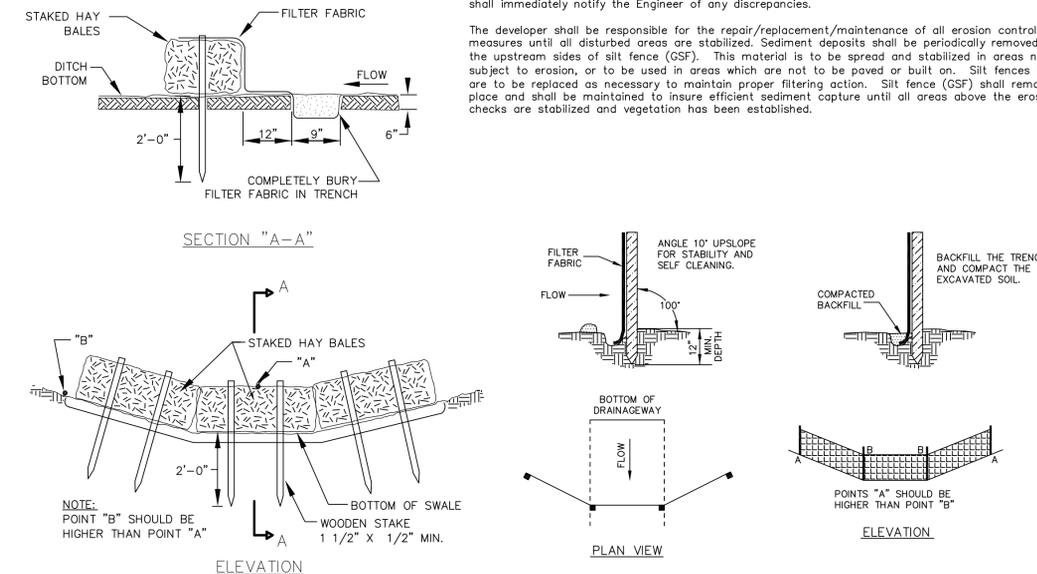
This project is located on the western end of the Sullivan Farm at 1005 North Street in Suffield, Connecticut. The proposed activity is the construction of a 2.0 MW AC photovoltaic solar facility. The suggested schedule of construction is as follows:

- Install construction anti-tracking pad (CE).
- Construct improvements to access road.
- Clear trees.
- Install perimeter silt fence (GSF) at project perimeters where downgradient from site disturbance.
- Grub stumps. All stumps within grading limits and 5' of proposed securing fencing to be removed. Stumps outside of grading limits and beyond 5' from security fencing to be cut off-flush with ground surface.
- Strip topsoil and stockpile in within limits of work, but outside of wetland regulated areas. Number and location of stockpiles to be determined in field. Temporarily seed (TS) stockpiles if they are to remain more than 30 days.
- Grade site. Re-spread topsoil.
- Install foundations and solar panels.
- Install electrical equipment and distribution lines.
- Stabilize landscape areas with topsoil and permanent seeding as soon as possible.
- Remove silt fence (GSF) after site is fully stabilized.

Construction of this site is anticipated to begin in the Summer of 2015, pending approvals. Site work is anticipated to be completed within one construction season. Temporary erosion control measures shall be installed prior to any soil disturbance and maintained throughout construction until soils have been stabilized with permanent vegetation.

The Contractor shall keep the area of disturbance to a minimum and establish vegetative cover on exposed soils as soon as practical. All soil and erosion control measures shall be installed and maintained in accordance with these plans and the "Connecticut DEEP Guidelines for Soil Erosion and Sediment Control", as amended. The Contractor shall verify all conditions noted on the plans and shall immediately notify the Engineer of any discrepancies.

The developer shall be responsible for the repair/replacement/maintenance of all erosion control measures until all disturbed areas are stabilized. Sediment deposits shall be periodically removed from the upstream sides of silt fence (GSF). This material is to be spread and stabilized in areas not subject to erosion, or to be used in areas which are not to be paved or built on. Silt fences (GSF) are to be replaced as necessary to maintain proper filtering action. Silt fence (GSF) shall remain in place and shall be maintained to insure efficient sediment capture until all areas above the erosion checks are stabilized and vegetation has been established.

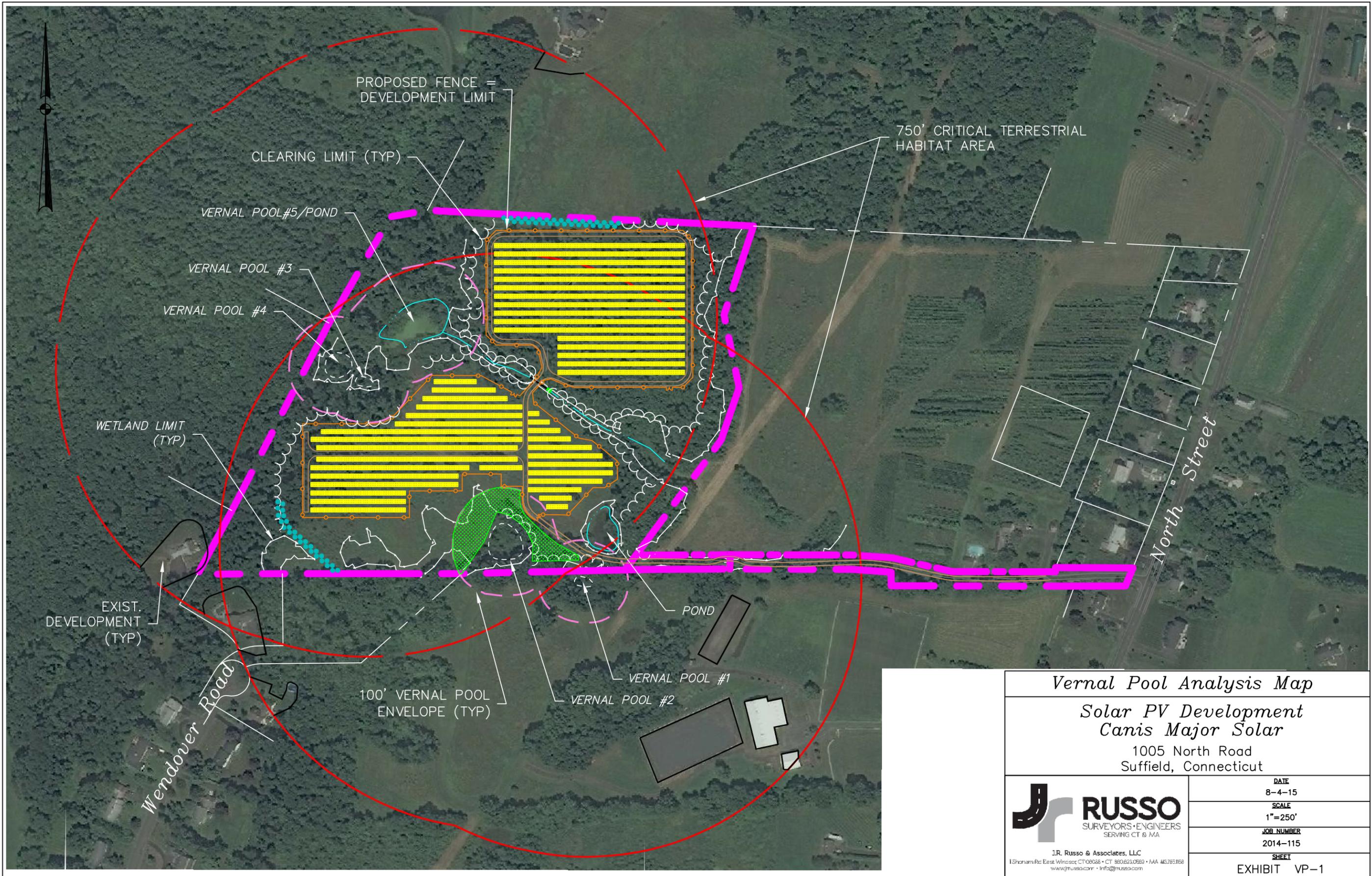


SOURCE: U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, STORRS, CONNECTICUT

## GEOTEXTILE SILT FENCE (GSF)



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*Vernal Pool Analysis Map*

*Solar PV Development  
Canis Major Solar*

1005 North Road  
Suffield, Connecticut



J.R. Russo & Associates, LLC  
 1 Sherman Rd. East Windsor, CT 06026 • CT 860.623.0869 • MA 413.785.1168  
 www.jrusso.com • info@jrusso.com

DATE  
8-4-15

SCALE  
1"=250'

JOB NUMBER  
2014-115

SHEET  
EXHIBIT VP-1