AGENDA
Regular Meeting
Town of Granby
Zoning Board of Appeals
Tuesday, July 15, 2025, at 7:00 pm
Town Hall Meeting Room

Live Stream under "Shows and Spotlight": www.gctv16.org

1. Call to Order

2. Seating of Alternates, if applicable

3. Action on the minutes of May 20, 2025

4. Public Hearings
   a. Appeal by Brendan Foley seeking a variance of Zoning Regulation Section 8.29.1.3.2 to install a 1,250 square foot free-standing solar array; 123R Case Street.

   b. Appeal by Salvatore Tanasi seeking a side yard variance of Zoning Regulation Section 8.1.3.2 to construct a 30' x 20' addition to an existing detached garage; 33 Strong Road.

5. Consideration of applications, where the Board has concluded the public hearing

6. Commissioner Reports and Correspondence

7. Adjourn

Please note: The Town of Granby invites any resident who wishes to provide materials to this Commission to provide them to the Office of Community Development by noon on the prior Thursday of the scheduled meeting. In the event you are unable to meet that deadline but still wish to provide the Commission with materials, the Town of Granby respectfully asks that you provide sufficient copies of your materials to the Office prior to the meeting so the materials may be distributed to the Commission. Thank you in advance for your cooperation.

MEETING MINUTES
Town of Granby
Zoning Board of Appeals
Tuesday, May 20, 2025, at 7:00 pm

Present: Andrew Badeau, Ann Crimmins, Suzanne Yucha, and Robert Lindeyer
Absent: Thomas Caputi, David Roberts, Lynn Guelzow, and William O'Leary
Also Present: Land Use Coordinator Renee Deltenre

1. **Call to Order**
   Chair A. Crimmins called the meeting to order at 7:01 p.m.

2. **Seating of Alternates, if applicable**
   None

3. **Action on the minutes of March 18, 2025**

   On a MOTION by S. Yucha seconded by A. Badeau, the Board voted (4-0-0) to approve the March 18, 2025, meeting minutes as presented.

4. **Public Hearings**
   a. **Appeal by Lorri DiBattisto seeking a side yard variance of Zoning Regulation Section 8.1.3.2 to construct a 28'x25' detached garage; 4 Eastview Drive.**
   Property owners Laura and Richard Miller were present to discuss the application and answer any questions the Board had. They would like to construct a 28'x25' detached two-car garage adjacent to the existing driveway to the west of their single-family home, which sits roughly 225' back from the front property line. In accordance with the Zoning Regulations, the required side yard setback is 28 feet. As shown on the plan, including overhangs, the garage would be set back 15.7' from the side yard property line; therefore, a variance of 12.3' is needed. R. Miller noted that the structure cannot be located elsewhere due to placement of the existing driveway, location of the septic tank/leach fields, and location of an existing in-ground swimming pool with patio surround and walkway. The structure will sit 12' off the house and there is roughly 145' of woods and lawn between the applicant's home and that of the abutting neighbor. Letters of support were submitted as part of the application. There was no public comment, and the public hearing closed at 7:11p.m.

5. **Consideration of applications, where the Board has concluded the public hearing**
   a. **Appeal by Lorri DiBattisto seeking a side yard variance of Zoning Regulation Section 8.1.3.2 to construct a 28'x25' detached garage; 4 Eastview Drive.**

   On a MOTION by R. Lindeyer seconded by S. Yucha, the Board voted (4-0-0) to grant an appeal by Lorri DiBattisto seeking a 12.5-foot side yard variance of Zoning Regulation Section 8.1.3.2 to construct a 28'x25' detached garage; 4 Eastview Drive. Hardships cites were the location of the septic and leach fields, in-ground pool with patio surround and walkway, and the preservation of trees.

6. **Commissioner Reports and Correspondence**
   None

7. **Adjourn**

   On a MOTION by R. Lindeyer seconded by S. Yucha, the Board voted (4-0-0) to adjourn the meeting at 7:13 p.m.

   Respectfully submitted,

   Renee Deltenre
   Land Use Coordinator

Town of Granby
Legal Notice
Zoning Board of Appeals (ZBA)

There will be a public hearing conducted by the ZBA on Tuesday, July 15, 2025, at 7:00 p.m. in the Town Hall Meeting Room, 15 North Granby Road, to hear the following item:

- Appeal by Brendan Foley seeking a variance of Zoning Regulation Section 8.29.1.3.2 to install a 1,250 square foot free-standing solar array; 123R Case Street.

At the hearing interested persons may appear and be heard, and written communications will be received. Copies of the proposals are on file in the Community Development Office.

To the Hartford Courant:

Please publish on the following dates:
July 4, 2025, and July 11, 2025, in the Connecticut Section Zone 5

Please send billing to the Town of Granby 15 North Granby Road, Granby, CT 06035

Approved as written - An additional approval is not required.
An affidavit of publication is not required.

Account # CU00254317

Renee Deltenre
860-844-5318

TOWN OF GRANBY

MEMORANDUM

TO: Zoning Board of Appeals

CC: Brendan Foley—Rusty Truck Farm LLC

FROM: Abby Kenyon, Director of Community Development

DATE: July 9, 2025

RE: Appeal by Brendan Foley seeking a variance of Zoning Regulation Section 8.29.1.3.2 to install a 1,250 square foot free-standing solar array; 123R Case Street.

The property, 123R Case Street, is 114.1 acres in the R4A Zone. There is one single-family house on the property that is currently under construction. The house is located approximately in the middle of the property and is not visible from the road nor is it visible from surrounding properties. The applicant has submitted a variance application to construct a ground mount solar array that will provide power to the home and any accessory structure(s) that may be planned. The proposed array would be 1,250 square feet and would be located just to the north of the house.

Zoning Regulations Section 8.29.1.3.2 states, "the solar energy system shall not exceed one-half the footprint of the principal building. The area of the system is the sum of the surface area of all ground-mounted panels to be located on the property." The footprint of the house is 1,176 square feet, therefore the maximum size allowed would be 588 square feet. A variance of 662 square feet is requested.

The application materials provide information about the hardships, including wetland location, driveway grade, and system size needed to power the house.

The applicant will be at the meeting to explain further and answer any questions the Board may have.

It should be noted that if the variance is approved by the Board, a Special Permit application will need to be submitted for Planning and Zoning Commission consideration. The proposed array is outside the upland review area, so permitting through the Inland Wetlands and Watercourses Commission will not be needed.

Property Aerial



RECEIVED
JUN 30 2025
Granby Building Department

ZONING BOARD OF APPEALS
GRANBY, CONNECTICUT

APPLICATION FOR VARIANCE OR EXCEPTION TO THE ZONING ORDINANCE REQUIREMENT

Case No. _____ Date 6.30.25

Applicant Brendan Foley - Rusty Truck Farm LLC Address 123 R Case St. West Granby, CT (PO Box 313, W. Granby, CT)

Phone /Cell # 860.989.5053 Email befoley11@gmail.com

Location of property 123 R Case St. West Granby, CT 06090 Zone R4A Rural Residential

Owner Brendan Foley Address/Phone/Cell PO Box 313, W. Granby, CT 06090; 860.989.5053

Agent - Address/Phone/Cell -

CLEARLY STATE THE REQUEST We are requesting a special permit to install a ground-mounted solar array that will service our home and greenhouse at 123 R Case St. West Granby. We are seeking a variance for Regulation 8.29.1.3.2 to install a 1250 square foot array.

Reason for request/hardship Complications of running power lines and placing transformers with respect to wetlands and approved grade of driveway. Snow removal and cleaning needs. South orientation. Power system requires 1250 square feet of panels.

Zoning Regulation, Section and Requirement 8.29.1.3.2 - Request for special permit.

Describe construction and materials to be used (if any) Construction of ground-mounted solar array utilizing racks and panels purchased from supplier. See detail Exhibit 9 - stamped drawings.

Has any previous appeal been filed in connection with these premises? No.

If so, when, and what was the appeal taken? N/A.

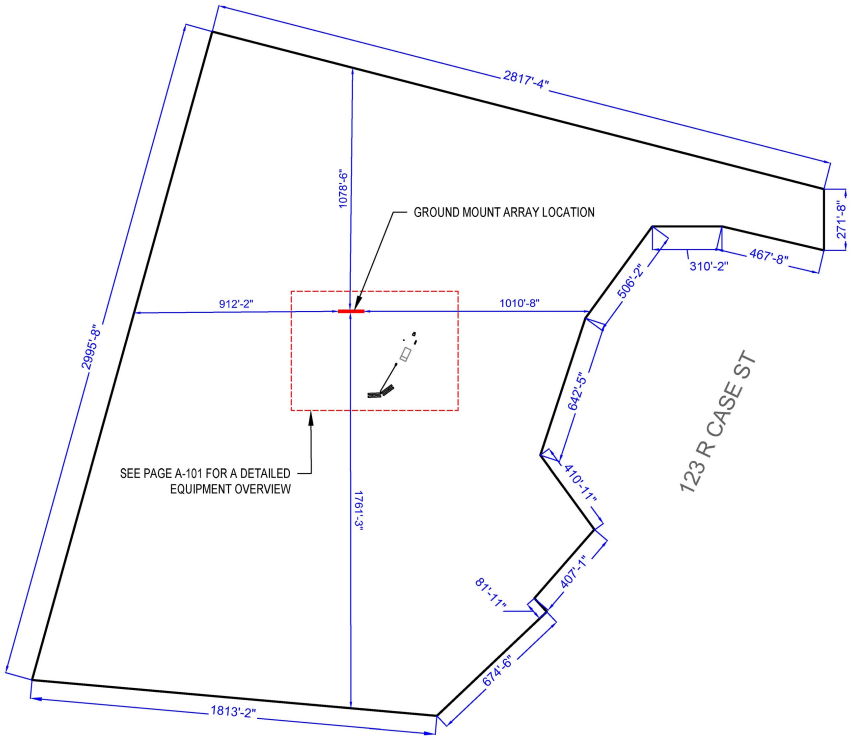
I hereby state that the above statements and information contained in any other papers submitted in connection with this application are true.

Signature of Applicant/Owner or Agent

*This application shall be submitted with 8 copies of plot plans, drawn to scale, and any other information, as may be requested by the Zoning Board of Appeals.
*A fee of $260.00 is required for this application. (Town fee $200 and State fee $60).

Intro

We are seeking to install a 1,250 square foot ground mounted solar power system to supply the power needs to our home at 123 Case Street, West Granby. Our parcel is 115 acres and the power system will be installed in the center of the parcel, next to our home and far out of view from any adjoining parcels. We are requesting a variance on regulation 8.29.1.3.2 as our home footprint only allows for a 600 square foot system. Our hardships include needing the 1,250 square feet of panels to supply sufficient power, and numerous obstacles posed with bringing in power from the road including: installing 4 concrete pad mounted transformers in wetlands areas, raising the grade of our driveway above our permitted grade per the Wetlands Commission, and filling in our stream and pond to allow for widening the driveway at our permitted wetlands crossing.





Statement of Hardship

Our reasons for requesting the special permit and stated hardships are as follows.

1. In working with the engineers of our project it was determined that we will need 1,250 square feet of panels to meet the power demands of our home. Per section 8.29.1.3.2 of the Special Regulations, the allotted square footage of panels is only 600, one-half the footprint of our principal building. Although our home is only 1200 square feet, it still has all of the main power needs of a larger home; those being the well pump, hvac pumps, garage doors, and refrigerator. As we are located in the Cast St. Special Use R4A district, we were also required to install a fire suppression system, which also will be a large draw if it is ever needed.
2. During the summer of 2024 we had Eversource come to our property to assess bringing power from Case street to our homesite. The technician and I spent a day assessing the site and he gave me a report detailing what would be necessary to install in order to accomplish this. The project would require bringing 2000' feet of line, buried 30" deep, and installing 6 concrete pad mounted transformers. See exhibits 3 and 4- emails from Eversource. This poses 3 issues:

1.The transformers, placed on concrete pads, would be a distance of 330' from one another (2000'/6), which would place 4/6 transformers and pads within the 100' wetland boundary due to the topography and wetland locations.

2. The lines would have to be embedded in the driveway in 2 locations where the driveway is flanked by waterways on both sides. Doing so requires raising the driveway by at least 30" in these two spots to accommodate the wires and clearances above drainage pipes.

2A. At the first spot, see exhibit 5 and photo 1, raising the road would mean that the grade of the road would be more than what was approved by the wetlands commission when we built our driveway. We had to cut 4-5' in this location to achieve the maximum 14.8% grade, and adding 30" to the top of the hill will make this grade too steep creating washout concerns that were already mitigated.

2B. At the second spot, see exhibit 7 and photo 2

, raising the road 30" would require making the driveway wider, filling in wetlands, a stream, and a pond. We were approved by the wetlands commision to use this existing crossing as our driveway but can not make it wider.

Additional hardships include the need to safely and efficiently clean the panels and keep them free from snow, which is not possible with a roof-mounted system. Our house is oriented with large a-frame windows facing directly south so as to take advantage of passive solar. This leaves our roof lines facing east and west which is not optimal for solar panel placement.

Given these hardships we think that our best and most viable option is to install a ground mount power system to supply our power needs. We have engineered a system that meets our needs, is fully backed up by a propane generator, and conforms to all but one of the requirements set forth in section 8.29.1.3. None of the components of the system will be located within the 100' setback from wetlands, and the array is located a very far distance from any adjoining properties. We feel that this project aligns with Granby's stated purpose of promoting alternative energy systems, especially in the Case Street Rural R4A special use district, and are asking the Board of appeals to please take all of these factors into account when assessing this project.

Special Regulations Section 8.29.1.3.

8.29.1.3.1:

The ground mount energy system and all components will be under 12’ in height. See page 5 exhibit 9, showing racking detail. Please note email from engineers, exhibit 10, stating that the mounting posts may be buried to achieve the 12’ maximum height so far as no other dimensions are modified. These plans will be updated to reflect this prior to submitting to Planning and Zoning for permitting.

8.29.1.3.2:

This is the regulation that we are asking for a waiver for. Our home footprint is 1200 square feet and we are proposing to install a 1250 square foot ground mount system. Please see statement of hardship, item 1.

8.29.1.3.3:

Our current lot coverage including our home, maintenance barn, and greenhouse is 2,660 square feet. Adding the ground mount system will bring our total lot coverage to 3,910 square feet. Our parcel is 115 acres, or 5,009,400 sq ft (115 x 43,560 sq ft per acre). Coverage of 3,910 sq ft gives us a total lot coverage of .08% (3,910/5,009,400), well below the 15% allowed by section 5.1 of the zoning regulations.

8.29.1.3.4:

See exhibit 9, page 2 showing a minimum setback of 912’ from any property boundary and a maximum setback of 1,761’, far greater than what is required by section 5.1.

8.29.1.3.5:

See exhibit 9, page 2. No components are located within a front yard or front yard setback.

8.29.1.3.6:

Understood.

8.29.1.3.7:

The proposed system will provide power solely to our home and greenhouse. See exhibit 2 showing array with power lines to home and greenhouse.

8.29.1.3.8:

See pictures of mounting location showing large field surrounded by mature growth on north, east, and west aspects with clear sky to the south. No homes or buildings exist to the south for at least 1 mile.

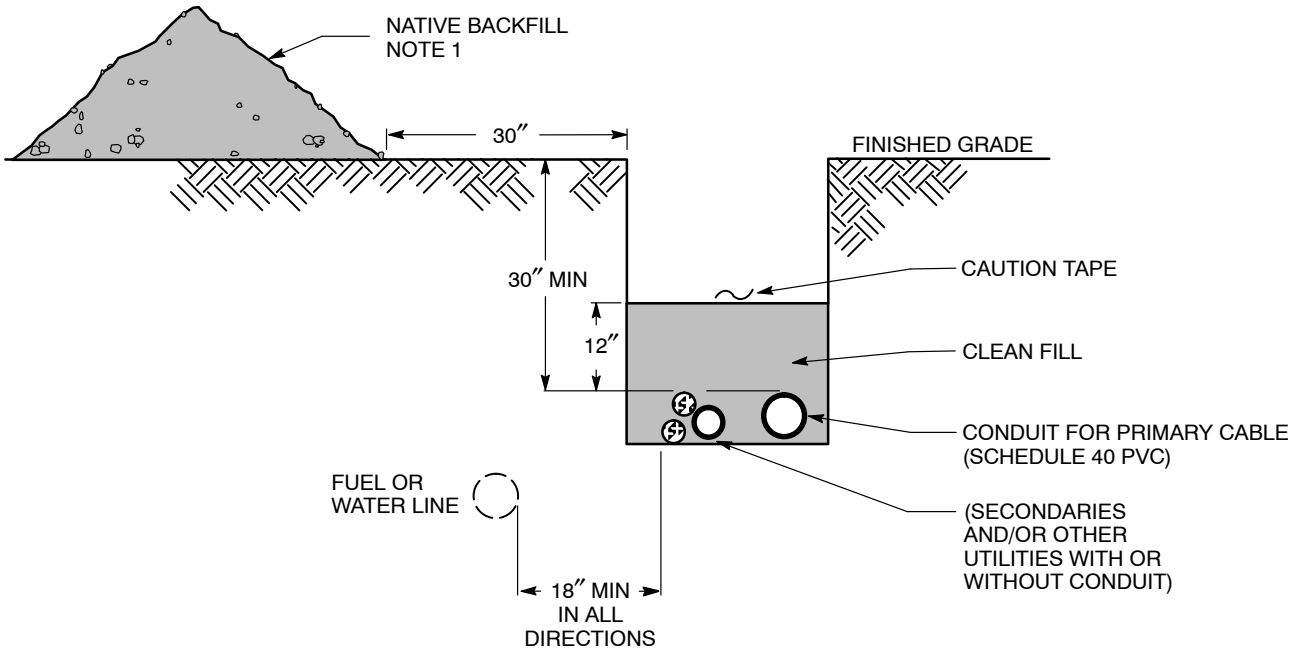
8.29.1.3.9:

We believe that the placement of the proposed ground mount system meets and goes far beyond all of the requirements other than the square footage restriction and that it will not be visible from any neighboring parcels for a long distance.

SCOPE – All direct–buried primary cables shall be of the jacketed type. The cables may be random–laid with the secondaries and other utilities under certain conditions, detailed in **DTR 44.101**.

INSTALLATION IN TRENCH – All direct–buried cables shall be installed at a depth of at least 30 inches in the following order:

1. Ensure that the bottom of the trench is well–tamped and free of rocks.
2. Install the conduit, gluing all couplings.
3. Install secondaries and other utility cables or conduits in the trench.
4. Backfill with twelve inches clean fill not to contain stones larger than two inches in maximum diameter.
5. Install cable warning tape twelve inches over the conduit.
6. Fill in the remainder of the trench with native backfill.
7. Install pull line, including ten feet of slack, and secure to conduit plug at each end of conduit run.



CROSS SECTION OF JOINT TRENCH

Notes

1. The trench shall be backfilled immediately following placement of the conduit.
2. One quarter inch diameter nylon pull line and plastic conduit plugs to be supplied and installed by contractor.
3. The internal surface of the conduit shall be free of sharp edges or burrs, which could damage the cable.

ORIGINAL	SINGLE–PHASE PRIMARY CABLE INSTALLATION DIRECT–BURIED – IN CONDUIT			CT/MA
6/24/98				
APPROVED				
10/11/12	NORTHEAST UTILITIES	CONSTRUCTION STANDARD	**DTR 50.103**	**6**

Hi Brendan,

Sorry I was not able to get back to you yesterday as I was working the storm restoration from Wed night. I have attached the specs for the project on a very high level. We can work out the details for placement of the equipment but I wanted to give you some info now.

You will need to install :

6 – H-020 concrete vaults

3 – C-710 fiberglass covers

2 – P-009 concrete tops for the two requested transformer locations

1 – P-017 concrete top for the switch vault (provision for the extension on the high side of the current barn)

4,000 feet of 3 inch schedule 40 electrical grade PVC (2 @ 3 inch conduits from the base of the pole for the primary installation) I measured approx. 2,000 feet total length so you need to have about 4,000 feet of 3 inch conduit.

2 – steel sweeps 36 inch radius (at base of the pole)

12 – 5/8's ground rods along with # 6 copper wire to bond the system. (see spec sheets)

The estimate for the Eversource installation of the primary wire, two primary transformers , one primary switch vault, two spans of underground service conductor is around 15K. I will provide a actual cost letter when you choose to move forward with the project. I will put this paper work aside and wait to hear back from you on what you want to do for the work order.

Hope this helps.

Let me know if you have any questions

Matthew Grindle

Eversource Energy

Field Engineering Designer II

48 Tolland Stage Rd

Tolland CT, 06084

860-871-3478

Gmail **Brendan Foley <befoley11@gmail.com>**

Edits to plans

Andre | ShopSolar.com <andre.r@shopsolarkits.com> Wed, Jun 18 at 12:05 PM
To: Brendan Foley <befoley11@gmail.com>

Hi Brendan,

To answer your previous question on mounting details " I was also hoping you could ask the ground mount folks a question for us. So we are under a 12′ height restriction with our town, however we can get a waiver if need be. But my question is would it be a problem for us to bury the footings a few feet underground so long as the panels don't hit the ground? It looks like we should have some room to do that and it would definitely help us with permitting. I don't really see how it could negatively affect the structural integrity of the mounts. Lmk.. schematic attached. "

The Engineering team provided an answer: It is acceptable to reduce the post height above grade as long as all of the other dimensions remain the same. If the customer needs to trim the post is should be done from the bottom.

If you have further questions, please keep it on this thread. Thanks!

Regards,
Andre

[Quoted text hidden]

9 EDGERTON ROAD
N/F WILLIAM & IRENE URKO

5 EDGERTON ROAD
N/F MICHAEL & WENDEE MILLS

115 CASE STREET
N/F NICHOLAS A MAHON

131 CASE STREET
N/F DAVID & KERRIE STEELY

143 CASE STREET
N/F SHARI-LYN MAHON

CASE STREET

TOWN OF BARKHAMSTED
SOUTH ROAD REAR
PARCEL 27-34-32B
N/F RUSTY TRUCK FARM LLC

TOWN OF BARKHAMSTED
SOUTH ROAD
PARCEL 27-34-34
N/F MAXINE MILLER

TOWN OF BARKHAMSTED
TOWN OF GRANBY

458.93'
S 75°05'17" E

1471.14'
S 75°34'14" E

PROPERTY LINE - TYPICAL

N 10°52'36" E 1180.04'

25' ACCESS EASEMENT IN FAVOR OF
N/F RUSTY TRUCK FARM LLC
TOWN OF BARKHAMSTED
SOUTH ROAD REAR
PARCEL 27-34-32B

INLAND WETLANDS

LIMIT TOWN OF GRANBY
OFFICIAL INLAND
WETLANDS

AREA OF INLAND WETLANDS
712,013± SQ. FT.
16.346± ACRES

PROPERTY OF
RUSTY TRUCK FARM LLC
123R CASE STREET
SREA = 4,974,686 SQ. FT.
114.203 ACRES

505.28'
S 75°52'39" E

391.01'
S 76°00'42" E

25' ACCESS EASEMENT IN FAVOR OF
N/F RUSTY TRUCK FARM LLC
TOWN OF BARKHAMSTED
SOUTH ROAD REAR
PARCEL 27-34-32B

455.05'
S 15°39'05" W

N 17°15'15" E
455.05'

266.40'
N 68°19'09" W

440.00'
N 76°00'45" W

EX. REBAR

S 21°10'12" W
42.62'

S 58°01'50" W
90.00'

MATCH MARK

WETLANDS LINE FROM SOIL SCIENTIST

SEE 40 SCALE PLANS FOR EROSION CONTROLS, NOTES AND UPLAND REVIEW AREAS

UTILITY STATEMENT

UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE. THE EXISTENCE OF WHICH ARE UNKNOWN TO THIS SURVEYOR. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION.
CALL BEFORE YOU DIG 1-800-922-4455.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

STATE OF CONNECTICUT
BRIAN E. BERNO
No. 70084
LICENSED LAND SURVEYOR

REVISIONS:
5/4/22 - PER TOWN STAFF

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

NOT VALID UNLESS LIVE SIGNATURE AND EMBOSSED SEAL IS AFFIXED

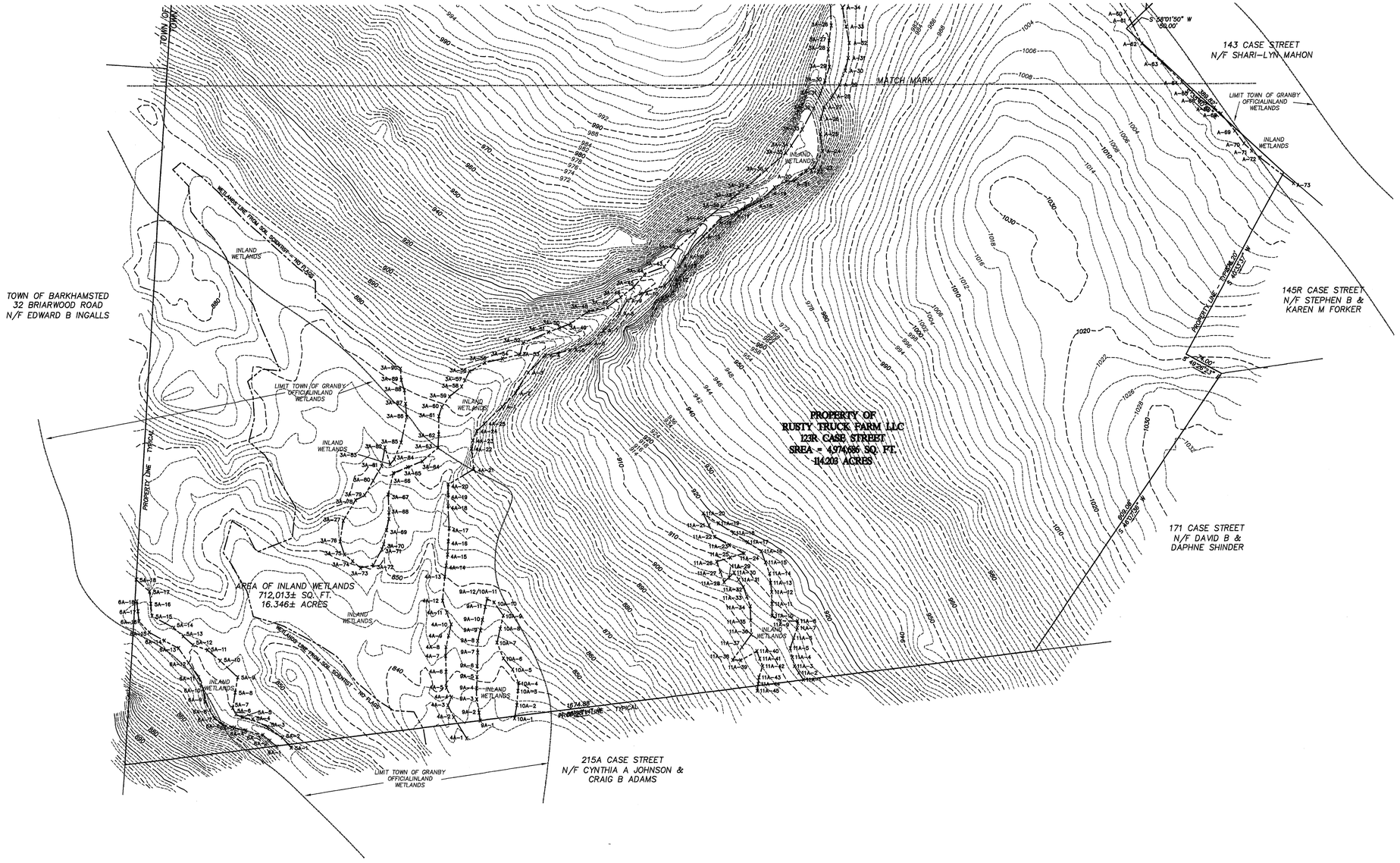
DENNO LAND SURVEYING & CONSULTING, LLC
2 TUNXIS RD STE. 214 TARIFFVILLE, CT 06081

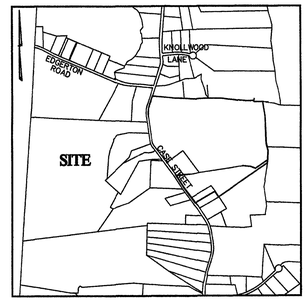
SITE PLAN & WETLANDS AMENDMENT PLAN

PREPARED FOR

RUSTY TRUCK FARM LLC
123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET NO.
1"=100'	4/6/22	1 OF 12





KEY MAP

MAP REFERENCES:

1. "COMPALATION PLAN LAND OWNED BY SCOTT K. & MARYANN GOODELL TO BE CONVEYED TO KURT CLAYWELL ETAL CASE STREET GRANBY, CONNECTICUT SCALE 1"=150' DATE JUNE, 2002 SHEET NO. 1 OF 1 M-02-45A NASCIMBENI & JAHNE SURVEYORS, P.C. AVON, CONNECTICUT."

SURVEY NOTES:

THIS MAP HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS PREPARED AND ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.

THE TYPE OF SURVEY PERFORMED IS AN IMPROVEMENT LOCATION SURVEY.

BOUNDARY DETERMINATION CATEGORY-RESURVEY BASED ON A DEPENDENT RESURVEY.

THIS PLAN CONFORMS TO HORIZONTAL ACCURACY CLASS A-2.

TOPOGRAPHY IN THE AREA OF THE PROPOSED HOUSE AND WETLAND CROSSING IS TAKEN FROM FIELD TOPOGRAPHY BY DENNO LAND SURVEYING. THE REMAINING CONTOURS ARE TAKEN FROM PLANS PROVIDED BY THE LAND OWNER. VERTICAL ACCURACY IN THE FIELD TOPOGRAPHY AREAS IS CLASS T-2.

HORIZONTAL DATUM IS BASED ON MAP REFERENCE. VERTICAL DATUM IS ASSUMED.

SEE 40 SCALE PLANS FOR EROSION CONTROLS, NOTES AND UPLAND REVIEW AREAS

UTILITY STATEMENT

UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO THIS SURVEYOR. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION.
CALL BEFORE YOU DIG 1-800-922-4455.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

STATE OF CONNECTICUT
BRIAN E. DENNO
No. 70264
LICENSED LAND SURVEYOR

REVISIONS:
5/4/22 - PER TOWN STAFF

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

NOT VALID UNLESS LIVE SIGNATURE AND EMBOSSED SEAL IS AFFIXED

DENNO LAND SURVEYING & CONSULTING, LLC
2 TUNXIS RD STE. 214 TARIFFVILLE, CT 06081

SITE PLAN & WETLANDS AMENDMENT PLAN

PREPARED FOR

RUSTY TRUCK FARM LLC

123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET NO.
1"=100'	4/6/22	2 OF 12

5' EDGERTON ROAD
N/F MICHAEL & WENDEE MILLS

INLAND WETLANDS

115 CASE STREET
N/F NICHOLAS A MAHON

131 CASE STREET
N/F DAVID & KERRIE STEELY

CASE STREET

PROPERTY OF
RUSTY TRUCK FARM LLC
123R CASE STREET
AREA = 4,974,686 SQ. FT.
114.203 ACRES

1471.14'

ROADSIDE SWALE TYPICAL

O BE RESTORED TO.
E, LOAMED AND SEEDED.
ROTECTED WITH AN
ROL MATT AND SEDIMENT
ABLE.

200' FROM LOCATED STREAM

INSTALL 12"ø HDPE IN A BED OF STONE KEYED INTO EXISTING GRADE WITH INLET & OUTLET PROTECTION SIDE SLOPES TO BE REGRADED TO DIRECT WATER TOWARDS PIPE. WORK TO BE DONE DURING DRY CONDITIONS.

S 76°52'19" E
25' ACCESS EASEMENT IN FAVOR OF
N/F RUSTY TRUCK FARM LLC
TOWN OF BARKHAMSTED
SOUTH ROAD REAR
PARCEL 27-34-32B

305.22'

351.01'
S 76°00'42" E

100' SETBACK FROM WETLANDS

INVASIVE MULTIFLORA ROSE REMOVED IN THIS AREA AND RYE HAS BEEN PLANTED ALONG WITH APPLE TREES. PLANNED CHRISTMAS TREE PLANTING YEAR 2

SEE MITIGATION PLAN SHEET 9 OF 12 FOR MITIGATION AREA DESIGN

FIRST 20' OF DRIVEWAY TO BE PAVED PER TOWN REQUIREMENTS

INVASIVE MULTIFLORA ROSE TO BE REMOVED IN THIS AREA AND RYE TO BE PLANTED. PLANNED CHRISTMAS TREE PLANTING YEAR 3

INVASIVE MULTIFLORA ROSE REMOVED IN THIS AREA, NOW A CLOVER FIELD. PLANNED CHRISTMAS TREE PLANTING YEAR 1

FARM BUILDING
36.0'

RECLAIM PROCESS DRIVE

440.00'
N 76°00'45" W

EX. REBAR

266.40'
N 88°19'09" W

ROCK WALL 2'± TALL

INVASIVE MULTIFLORA ROSE REMOVED IN THIS AREA, NOW A CLOVER FIELD. PLANNED CHRISTMAS TREE PLANTING YEAR 1

115.27'
S 89°58'54" W

EXISTING STONE LINED SWALE TO BE REGRADED AND IMPROVED SEE DETAIL

S 21°40'12" W
42.62'

ADDITIONAL SEDIMENT LOGS TO BE SET AT BASE OF ROCK WALL

ROCK WALL 6'± TALL

ROCK WALL 7'± TALL

ROCK WALL 8'± TALL

ROCK WALL 2'± TALL

EXISTING STONE LINED SWALE TO BE REGRADED AND IMPROVED SEE DETAIL

228.73'
S 21°40'12" W

APPROXIMATE AREA OF HISTORIC FARM DUMP. RIRES, METAL SCRAP AND OTHER BULKY WASTE EXCAVATED AND REMOVED FROM THE SITE. AREA FILLED WITH CLEAN FILL FROM THE SITE.

100' SETBACK FROM WETLANDS

PROPOSED 12" DRIVE @ 14.5% MAX. GRADE

84B
84C
45B

SEE SHEET 3
SEE SHEET 1

SEE SHEET 1
SEE SHEET 2

WETLANDS
). FT.
RES

KEY CODES FOR SOIL AND EROSION CONTROL

CE:	CONSTRUCTION ENTRANCE	F:	GEOTEXTILE SILT FENCE
DC:	DUST CONTROL	TSP:	TEMPORARY SOIL PROTECTION
LG:	LAND GRADING	OP:	OUTLET PROTECTION
WB:	WATER BAR	TST:	TEMPORARY SEDIMENT TRAP
SL:	SEDIMENT LOG	SWD:	STORM WATER DISCHARGE POINT
EWC:	EXISTING WOOD CHIPS	SCD:	STONE CHECK DAM
WC:	WOOD CHIPS	HB:	HAY BALES

LEGEND

EXISTING CONTOUR	G.T.D. GRADE TO DRAIN
272.2 EXISTING SPOT GRADE	F SILT FENCE
258 PROPOSED CONTOUR	CE CONSTRUCTION ENTRANCE PAD
+271.0 PROPOSED SPOT GRADE	TF 271.0 TOP OF FRAME ELEVATION
LIMIT OF EXISTING VEGETATION	EXISTING CATCH BASIN
LIMIT OF EXISTING VEGETATION TO REMAIN	62C SOILS TYPES

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

UTILITY STATEMENT

UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO THIS SURVEYOR. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION.
CALL BEFORE YOU DIG 1-800-922-4455.

STATE OF CONNECTICUT · MICHAEL S. CHESEBRO · 28442 · LICENSED PROFESSIONAL ENGINEER

SEDIMENTATION & EROSION CONTROL PLAN 1

REVISIONS:
5/4/22 - PER TOWN STAFF

STATE OF CONNECTICUT · BRIAN E. DENNO · 16994 · LICENSED LAND SURVEYOR

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

NOT VALID UNLESS LIVE SIGNATURE AND EMBOSSED SEAL IS AFFIXED

DENNO LAND SURVEYING & CONSULTING, LLC
2 TUNXIS RD STE. 214 TARIFFVILLE, CT 06081

SITE PLAN & WETLANDS AMENDMENT PLAN
PREPARED FOR
RUSTY TRUCK FARM LLC
123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET NO.
1"=100'	4/6/22	3 OF 12

SEE SHEET 3
SEE SHEET 2

SEE SHEET 1
SEE SHEET 2

AREA OF INLAND WETLANDS
712,013± SQ. FT.
16.346± ACRES

INLAND WETLANDS

PROPERTY OF
RUSTY TRUCK FARM LLC
123R CASE STREET
AREA = 4,974,686 SQ. FT.
114.203 ACRES

AREA OF WETLANDS DISTURBED
72± SQ. FT.

INLAND WETLANDS

EXISTING 36"ø RCP
FL=979.4
ADD. 8' SECTION OF NEW
CLASS V 36"ø RCP
FL=979.5
DRIVE TO BE
MINIMUM 12' WIDE

RECLAIM PROCESS DRIVE

RECLAIM PROCESS DRIVE

100' SETBACK FROM WETLANDS

INSTALL WOODEN GUARDRAIL ALONG BOTH EDGES OF ROAD FOR CAR PROTECTION ADJACENT WATER

AREA OF NEW DRIVE POND

36"ø RCP
FL=979.1

EXISTING STEEL PLATE BRIDGE

84C

PROPOSED 12' DRIVE @ 14.8% MAX. GRADE

100' SETBACK FROM WETLANDS

APPROXIMATE AREA OF HISTORIC FARM DUMP. RIRES, METAL SCRAP AND OTHER BULKY WASTE EXCAVATED AND REMOVED FROM THE SITE. AREA FILLED WITH CLEAN FILL FROM THE SITE.

131 CASE STREET
N/F DAVID & KERRIE STEELY

135.27'
S 24°59'42" W

CONSTRUCTION FABRIC & WOODEN TIMBERS TO BE SET OVER STEEL PLATE TO PREVENT SEDIMENT FROM ENTERING WETLANDS. ONCE THE BORROW PIT HAS BEEN REGRADED AND STABILIZED THE STEEL PLATE AND LOGS ARE TO BE REMOVED AND THE WETLANDS RESTORED PER THE DIRECTION OF REMA ECOLOGICAL SERVICES. SEE REPORT

3

INLAND WETLANDS

469.02'
S 15°29'05" W

131 CASE STREET
N/F DAVID & KERRIE STEELY

EXISTING GRAVEL PIT
3,541 C.Y.± EXCAVATED TO BE GRADED, LOAMED AND SEEDED EROSION CONTROL TO REMAIN UNTIL A GOOD CATCH OF GRASS ESTABLISHED

S 58°01'50" W
50.00'

143 CASE STREET
N/F SHARI-LYN MAHON

PROPOSED DRIVE

FF=1013.25
CONC.=1012.25
GAR.=1012.25

1012.4

WORK ROOM
1021.0

1021.0

POSSIBLE FUTURE HOME

3

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GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

STATE OF CONNECTICUT
MICHAEL S. CHESEBRO
28452
LICENSED PROFESSIONAL ENGINEER

SEDIMENTATION & EROSION CONTROL PLAN 2

REVISIONS:
5/4/22 – PER TOWN STAFF

STATE OF CONNECTICUT
BRIAN E. REGAN
LICENSED ENVIRONMENTAL PROFESSIONAL

TO MY KNOWLEDGE AND BELIEF THIS MAPPING IS SUBSTANTIALLY CORRECT AS NOTED HEREON

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DENNO LAND SURVEYING & CONSULTING, LLC
2 TUNXIS RD STE. 214 TARIFFVILLE, CT 06081

SITE PLAN & WETLANDS AMENDMENT PLAN

PREPARED FOR

RUSTY TRUCK FARM LLC
123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET NO.
1"=100'	4/6/22	4 OF 12

XX-XX

S 75°05'17" E
458.52'

25' ACCESS EASEMENT IN FAVOR OF
N/F RUSTY TRUCK FARM LLC
TOWN OF BARKHAMSTED
SOUTH ROAD REAR
PARCEL 27-34-32B

9' EDGERTON ROAD
N/F WILLIAM & IRENE URKO

S 75°35'14" E
1471.14'

61C

61B

INLAND WETLANDS

3

5A-44
5A-43
5A-42
5A-41
5A-40
5A-39
5A-38
5A-37
5A-36
5A-35
5A-34
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6A-14
6A-15
6A-16
6A-17
6A-18
6A-19
6A-20
6A-21
6A-22
6A-23
6A-24
6A-25
6A-26
6A-27
6A-28
6A-29
6A-30

100'

100' SETBACK FROM WETLANDS

200' FROM LOCATED STREAM

200'

200'

B-1
B-2
B-3
B-4
B-5
B-6

CONTRACTOR TO REMOVE SEDIMENT BY HAND TOOLS AND RESTORE AREA

CONTRACTOR TO REMOVE SEDIMENT BY HAND TOOLS AND RESTORE AREA

CONTRACTOR TO REMOVE SEDIMENT BY HAND TOOLS AND RESTORE AREA TO PREVIOUS CONDITION AND PLANT NATIVE WETLANDS VEGETATION

230'± AREA TO BE RESTORED TO ORIGINAL GRADE, LOAMED AND SEE AREA TO BE PROTECTED WITH AN EROSION CONTROL MATT AND SEDIM LOGS UNTIL STABLE.

AREA OF WETLANDS DISTURBED
440± SQ. FT.

AREA FILLED WITH WOOD CHIPS. DISTURBANCE IN THE WETLANDS TO BE RESTORED PER THE DIRECTION OF REMA ECOLOGICAL SERVICES. SEE REPORT

AREA OF INLAND WETLANDS
712,013± SQ. FT.
16.346± ACRES

INLAND WETLANDS

SEE SHEET 3
SEE SHEET 1

SEE SHEET 3
SEE SHEET 2

PROPERTY OF
RUSTY TRUCK FARM LLC
123R CASE STREET
AREA = 4,974,686 SQ. FT.
114.203 ACRES

LEGEND

EXISTING CONTOUR	G.T.D. GRADE TO DRAIN
X272.2 EXISTING SPOT GRADE	F SILT FENCE
258 PROPOSED CONTOUR	CE CONSTRUCTION ENTRANCE PAD
+271.0 PROPOSED SPOT GRADE	TF= 271.0 TOP OF FRAME ELEVATION
LIMIT OF EXISTING VEGETATION	EXISTING CATCH BASIN
LIMIT OF EXISTING VEGETATION TO REMAIN	62C SOILS TYPES

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
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STATE OF CONNECTICUT
MICHAEL S. CHEEK
28442
LICENSED PROFESSIONAL ENGINEER

REVISIONS:
5/4/22 - PER TOWN STAFF

STATE OF CONNECTICUT
BRIAN E. DENNO
LAND SURVEYOR

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

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DENNO LAND SURVEYING & CONSULTING, LLC
2 TUNXIS RD STE. 214 TARIFFVILLE, CT 06081

SEDIMENTATION & EROSION CONTROL PLAN 3

SITE PLAN & WETLANDS AMENDMENT PLAN

PREPARED FOR

RUSTY TRUCK FARM LLC
123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET NO.
1"=100'	4/6/22	5 OF 12



LEGEND

EXISTING CONTOUR	G.T.D. GRADE TO DRAIN
X272.2 EXISTING SPOT GRADE	SILT FENCE
PROPOSED CONTOUR	CE CONSTRUCTION ENTRANCE PAD
+271.0 PROPOSED SPOT GRADE	TF= 271.0 TOP OF FRAME ELEVATION
LIMIT OF EXISTING VEGETATION	EXISTING CATCH BASIN
LIMIT OF EXISTING VEGETATION TO REMAIN	

EROSION CONTROL SEQUENCE

1. INSTALL STONE CONSTRUCTION ENTRANCE PAD.
2. SET SILT FENCE LINE DOWNHILL FROM EXCAVATION SITE.
3. STRIP AND STOCKPILE TOPSOIL. RING STOCKPILE WITH SILT FENCE.
4. EXCAVATE FOR AND CONSTRUCT FOUNDATION
5. INSTALL SANITARY SEWER, WATER, GAS AND OTHER UTILITIES.
6. BACKFILL AND GRADE ALL DISTURBED AREAS.
7. STABILIZE ALL DISTURBED AREAS AS SOON AS POSSIBLE WITH TOPSOIL AND PERMANENT (LAWN) SEEDING.

KEY CODES FOR SOIL AND EROSION CONTROL

CE: CONSTRUCTION ENTRANCE	F: GEOTEXTILE SILT FENCE
DC: DUST CONTROL	TSP: TEMPORARY SOIL PROTECTION
LG: LAND GRADING	OP: OUTLET PROTECTION
SS: CATCH BASIN SILT SACK	TST: TEMPORARY SEDIMENT TRAP
SL: SEDIMENT LOG	SWD: STORM WATER DISCHARGE POINT
EWC: EXISTING WOOD CHIPS	SCD: STONE CHECK DAM
WC: WOOD CHIPS	

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GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

STATE OF CONNECTICUT MICHAEL S. CHERNY 28442 LICENSED PROFESSIONAL ENGINEER

REVISIONS:
5/4/22 – PER TOWN STAFF

STATE OF CONNECTICUT BRIAN E. DENNO 15 LICENSED LAND SURVEYOR

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SITE PLAN & WETLANDS AMENDMENT PLAN

PREPARED FOR

RUSTY TRUCK FARM LLC
123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET
1"=20'	4/6/22	6 OF 12

SEPTIC SYSTEM DESIGN

SPECIAL CONDITIONS

____	SYSTEM DESIGN LARGER THAN 2,000 GPD.	____	WATER SUPPLY WATERSHED
__X__	HIGH GROUND WATER (< 3 FT.)	____	POSSIBLE SEASONAL HIGH GROUND WATER
____	WATERCOURSE, MARSH OR POND	____	POSSIBLE SEASONAL FLOODING
____	LIMITED SUITABLE AREA	____	EXCESSIVE SLOPE (OVER 25%)
____	MARGINAL SOIL (30-60 MINS./IN)	____	SHALLOW LEDGE (< 5 FT)
____	UNDERLYING TIGHT SOIL (< 4 FT.)		
____	OTHER _____		

CONCLUSIONS

__X__	SUITABLE FOR SEWAGE DISPOSAL	____	RETEST DURING WET SEASON
____	UNSUITABLE FOR SEWAGE DISPOSAL	____	ENGINEER'S PLAN REQUIRED
____	ADDITIONAL INVESTIGATION REQUIRED		

DESIGN RECOMMENDATIONS

NUMBER OF BEDROOMS: 5

GARBAGE DISPOSAL: Y

MIN. UNIFORM PERC. RATE (MIN./IN.): 10.0

DESIGN PERC. RATE (MIN./IN.): 10.0

REQUIRED LEACHING AREA (S.F.): 660

SEPTIC TANK CAPACITY (GAL.): 1,500

MLSS CALCULATION

RESTRICTIVE LAYER = 27 IN.
SLOPE = 6.5%
FLOW FACTOR = 525/300 = 1.75 + .25 PER ADD'L BEDROOM = 2.0
PERC. RATE = UP TO 10.0 MIN./IN. = 1.0

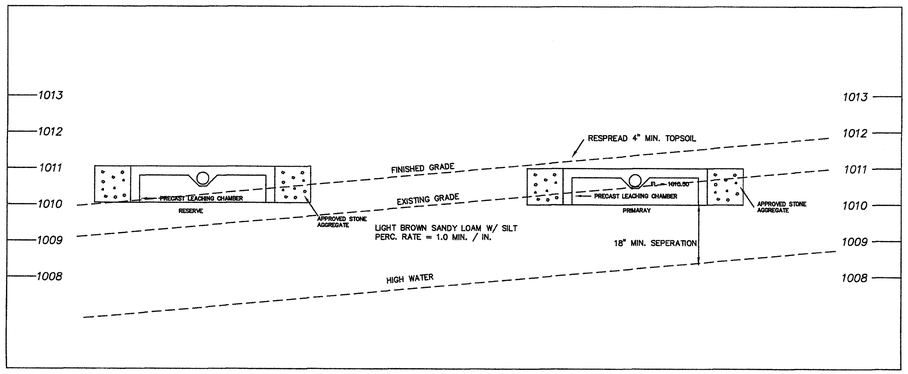
MLSS REQUIRED = HF X FF X PF
= 28 X 2.0 X 1.0
= 56'

MLSS PROVIDED = 112'

USE 112 FEET OF 12" LEACHING GALLERIES FOR THE INITIAL AND RESERVE.
PROPOSED EFFECTIVE LEACHING AREA = 112 LF X 5.9 SF / LF = 660.8 SF

SOILS TESTS:

TEST HOLE	MIN. UNIFORM SEEPAGE RATE (MIN./INCH)	SOIL PROFILE (DEPTH IN INCHES)
1	10 @ 18"	0–10 TOPSOIL & LEAF LITTER 10–21 LIGHT BROWN LOAM W/ SILT 39–67 GRAY COMPACT SAND & GRAVEL 21 MOTTLES NO WATER NO HARDPAN NO LEDGE 21 ROOTS
2	10 @ 20"	0–8 TOPSOIL & LEAF LITTER 8–30 LIGHT BROWN LOAM W/ SILT 30–67 GRAY COMPACT SAND & GRAVEL 30 MOTTLES NO WATER NO HARDPAN NO LEDGE 40 ROOTS
3	10 @ 20"	0–9 TOPSOIL & LEAF LITTER 9–29 LIGHT BROWN SANDY LOAM W/ SILT 29–72 COMPACT MED. SAND & GRAVEL W/ SMALL STONES 29 MOTTLES NO WATER NO HARDPAN NO LEDGE 29 ROOTS
4	10 @ 20"	0–9 TOPSOIL & LEAF LITTER 9–27 ORANGE BROWN SANDY LOAM 39–67 COMPACT MED. SAND & GRAVEL W/ SMALL STONES 27 MOTTLES NO WATER NO HARDPAN NO LEDGE 27 ROOTS
5		0–9 TOPSOIL & LEAF LITTER 9–31 ORANGE BROWN SANDY LOAM 31–70 COMPACT MED. SAND & GRAVEL W/ SMALL STONES 31 MOTTLES NO WATER NO HARDPAN NO LEDGE 31 ROOTS



SECTION A-A THROUGH LEACHING FIELD

HOR.: 1" = 1'
VERT.: 1" = 1'

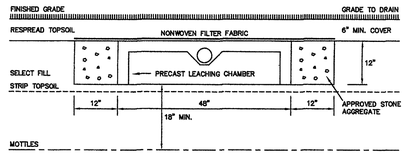
SEPTIC SYSTEM INSTALLATION SCHEDULE:

1. CONTRACTOR SHALL OBTAIN APPROVAL TO START CONSTRUCTION FROM THE DESIGN ENGINEER AND THE NORTH CENTRAL DISTRICT HEALTH DEPARTMENT (NCDHD). CONSTRUCTION SHALL OCCUR DURING LOW SOIL MOISTURE CONDITIONS.
2. SEPTIC TANK AND LEACHING TRENCH CONSTRUCTION SHALL CONFORM TO THE REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS OF THE CONNECTICUT PUBLIC HEALTH CODE (LATEST REVISION).
3. REMOVE BRUSH, ROOTS, TOPSOIL, ETC. FROM SYSTEM AREA. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR RESPREADING AFTER CONSTRUCTION. SCARIFY SURFACE.
4. SELECT FILL PLACED WITHIN AND ADJACENT TO THE LEACHING SYSTEM SHALL BE COMPRISED OF CLEAN SAND, OR SAND AND GRAVEL, FREE FROM ORGANIC MATTER AND FOREIGN SUBSTANCES. THE SELECT FILL SHALL MEET THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE APPROVED BY A PROFESSIONAL ENGINEER FOR USE WITHIN THE LEACHING AREA:
   - THE SELECT FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN THE 3 INCH SIEVE.
   - UP TO 45 % OF THE DRY WEIGHT OF THE REPRESENTATIVE SAMPLE MAY BE RETAINED ON THE #4 SIEVE (THIS IS THE GRAVEL PORTION OF THE SAMPLE).
   - THE MATERIAL THAT PASSES THE #4 SIEVE IS THEN REWEIGHED AND THE SIEVE ANALYSIS STARTED.
   - THE REMAINING SAMPLE SHALL MEET THE FOLLOWING GRADATION CRITERIA:

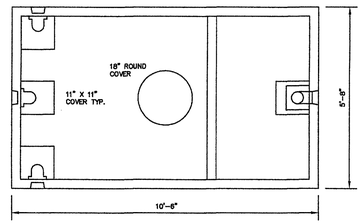
SIEVE SIZE	PERCENT PASSING	
	WET SIEVE	DRY SIEVE
#4	100	100
#10	70 – 100	70 – 100
#40	10 – 50 *	10 – 75
#100	0 – 20	0 – 5
#200	0 – 5	0 – 2.5

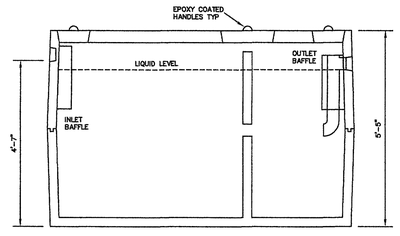
* PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75 % IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10 % AND THE #200 SIEVE DOES NOT EXCEED 5 %.

5. FILL SHALL BE PLACED IN 12" LIFTS AND COMPACTED TO 90% OPTIMUM MODIFIED PROCTOR DENSITY AND MOISTURE CONTENT.
6. CONSTRUCT LEACHING TRENCHES IN FILL AND COVER COMPLETELY WITH NONWOVEN FILTER FABRIC.
7. CAREFULLY BACKFILL WITH APPROVED MATERIAL AFTER INSPECTION. DO NOT BACKFILL WITH BOULDERS. DO NOT RUN EQUIPMENT OVER BACKFILLED TRENCH.
8. COVER WITH TOPSOIL. FERTILIZE, SEED, AND MULCH.
9. ALL SOLID SEWAGE DISTRIBUTION PIPE AFTER SEPTIC TANK SHALL BE 4" PVC ASTM D3034 SDR-35 LAID AT 1.0% MINIMUM PITCH.



LEACHING TRENCH SECTION





DESIGN NOTES

1. CONCRETE – 4000 PSI, 28 DAYS
2. INLET BAFFLE – PLASTIC WITH INLET PIPE SEALS
3. 4" PVC OUTLET BAFFLE AND GAS TRAP CAST MONOLITHICALLY
4. REINFORCEMENT – STEEL WIRE MESH 6" X 6", 10 GAGE
5. TONGUE AND GROOVE JOINT SEALED WITH MASTIC SEALANT

1,500 GALLON TWO COMPARTMENT SEPTIC TANK

ARROW CONCRETE PRODUCTS AC-3-1500-2 OR EQUAL

STATE OF CONNECTICUT MICHAEL S. CHESEBRO 28442 LICENSED PROFESSIONAL ENGINEER

SEPTIC SYSTEM DETAILS PLAN

REVISIONS:
5/4/22 – PER TOWN STAFF

STATE OF CONNECTICUT BRIAN E. DENNO LICENSED LAND SURVEYOR

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

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DENNO LAND SURVEYING & CONSULTING, LLC
dba NASCIMBENI & JAHNE SURVEYORS
2 TUNXIS RD STE. 214 TARIFFVILLE, CT 06081

SITE PLAN & WETLANDS AMENDMENT PLAN
PREPARED FOR
RUSTY TRUCK FARM LLC
123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET NO.
N.T.S.	4/6/22	7 OF 12

EROSION AND SEDIMENTATION CONTROL PLAN

REFERENCE IS MADE TO THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (2002)AS AMENDED, AND TO THE TOWN HIGHWAY ENGINEERING STANDARDS AND SPECIFICATIONS. THE GUIDELINES ARE OBTAINABLE FROM THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION, STATE OFFICE BUILDING, HARTFORD, CONNECTICUT 06106, AND SHOULD BE USED AS A REFERENCE IN CONSTRUCTING THE EROSION AND SEDIMENT CONTROLS INDICATED ON THESE PLANS.

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.

AFTER CONSTRUCTION, GRADE, RESPREAD TOPSOIL AND STABILIZE SOIL BY SEEDING AND MULCHING SO AS TO PREVENT EROSION.

THE CONTRACTOR SHALL NOTIFY THE TOWN ENGINEER AT THE BEGINNING AND END OF EACH STEP OF THE CONSTRUCTION PROCEDURE AND SHALL NOT PROCEED WITH THE NEXT STEP UNTIL THE DIRECTOR OF COMMUNITY DEVELOPMENT HAS INSPECTED THE WORK.

THE STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION OF CONNECTICUT D.O.T. FORM 818 ARE THE OFFICIAL SPECIFICATIONS FOR CONSTRUCTION IN THE TOWN.

SPECIAL PROVISIONS REGARDING WETLANDS AND WATERCOURSES

GENERAL

WHENEVER CONSTRUCTION SHALL TAKE PLACE IN AREAS DESIGNATED AS WETLANDS, REGULATED AREAS OR AREAS TO BE ECOLOGICALLY PROTECTED, THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWNG REGULATIONS:

ANY PROCEDURES INVOLVING WATERCOURSES SHALL BE CONDUCTED IN SUCH A MANNER AS TO PREVENT INJURY TO PERSONS OR PUBLIC HEALTH, AND TO PREVENT FLOODING OF PUBLIC OR PRIVATE PROPERTY.

ALL EXISTING VEGETATION SHALL BE PROTECTED, AND ONLY THAT CLEARING AND CUTTING WHICH IS ABSOLUTELY NECESSARY FOR THE PROPOSED CONSTRUCTION OR TO CLEAR THE PERMANENT RIGHT-OF-WAY SHALL BE ALLOWED.

ALL REGULATED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR EXCEPT AS SHOWN ON THE APPROVED GRADING PLAN.

EXCESS EXCAVATED MATERIAL, INCLUDING THAT RESULTING FROM CLEARING AND GRUBBING, SHALL NOT BE DEPOSITED WITHIN THE REGULATED AREA EXCEPT AS SHOWN ON THE APPROVED GRADING PLAN.

SEDIMENTATION CONTROL

ALL REGULATED AREAS AND WATERCOURSES SHALL BE PROTECTED FROM SEDIMENTATION BOTH DURING AND AFTER CONSTRUCTION. THIS PROVISION APPLIES PARTICULARLY TO DEWATERING ACTIVITIES, STORAGE OF EXCAVATED OR STOCKPILED MATERIAL AND TRENCH OR DITCH EXCAVATION.

WORK WITH REGULATED AREAS

IF PORTIONS OF THIS PROJECT ARE TO BE CONSTRUCTED IN WETLANDS, REGULATED AREAS AND WOODED AREAS, THE INTENT OF THIS CONTRACT IS TO LIMIT DISTURBANCE OF THESE AREAS TO WHAT IS ABSOLUTELY NECESSARY FOR CONSTRUCTION AND TO RESTORE THE AREAS AS CLOSELY AS POSSIBLE TO THEIR ORIGINAL NATURAL STATE. THE DEVELOPER WILL OBTAIN THE NECESSARY PERMIT FROM THE TOWN WETLANDS COMMISSION. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE PERMIT, THE MAPS HELD BY THE TOWN INDICATING THE LIMITS OF REGULATED AREAS AND CONDITIONS FOR CONSTRUCTION WITHIN THESE AREAS. THE CONTRACTOR SHALL BE REQUIRED TO STRICTLY ADHERE TO ALL REQUIREMENTS AND RESTRICTIONS IMPOSED BY THE WETLANDS PERMIT.

STRIPPING AND STOCKPILING

THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM OR ORGANIC MATERIAL PRIOR TO TRENCHING OPERATIONS AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. IN AREAS DESIGNATED AS REGULATED AREAS, THE UPPER STRATA TO A DEPTH OF 2 FEET SHALL BE STRIPPED AND STORED SEPARATELY. DURING BACKFILLING, THESE MATERIALS SHALL BE REPLACED AND FINISHED AS THEY EXISTED BEFORE CONSTRUCTION BEGAN, EXCEPT FOR SPECIAL ACCESS WAYS AS NOTED ON THE PLANS.

THE CONTRACTOR SHALL NOT INTRODUCE ANY QUANTITIES OF FILL MATERIALS INTO ANY AREAS DESIGNATED AS REGULATED AREAS EXCEPT AS SHOWN ON THE APPROVED GRADING PLANS.

THE CONTRACTOR SHALL MAINTAIN ALL BACKFILLED EXCAVATION IN PROPER CONDITION UNTIL EXPIRATION OF THE MAINTENANCE PERIOD. ALL DEPRESSIONS APPEARING IN THE BACKFILLED EXCAVATION SHALL BE PROPERLY FILLED AND RESEEDED IF NECESSARY.

DISPOSAL OF TREES AND BRUSH

ALL SAPLING TREES AND BRUSH CUT ON THE JOB SHALL BE CHIPPED FOR DISPOSAL. WOOD CHIPS SHALL BE 1/8 INCH NOMINAL THICKNESS WITH NOT LESS THAN 50 PERCENT OF THE CHIPS HAVING AN AREA NOT LESS THAN ONE (1) SQUARE INCH, NOR MORE THAN SIX (6) SQUARE INCHES. THE CHIPS SHALL BE DISPOSED OF BY UNIFORM SPREADING OVER THE PROJECT IN WOODED AREAS DESIGNATED BY THE ENGINEER.

ALL OTHER CUT TREES AND STUMPS SHALL BE REMOVED FROM THE REGULATED AREAS.

EROSION AND SEDIMENTATION CONTROL MEASURES

F.. SYNTHETIC FILTER BARRIER FENCE AS SPECIFIED IS TO BE INSTALLED AT ALL LOCATIONS AS INDICATED ON THE PLANS TO INTERCEPT SILT AND SEDIMENT BEFORE IT REACHES THE DRAINAGE SYSTEM, WETLANDS OR WATERCOURSES. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR TO BE USED AS FILL IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. THE FENCE IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE FENCE IS TO REMAIN IN PLACE AND TO BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE FENCE ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

ESTABLISHING VEGETATION COVER ON DISTURBED AREAS

1. SCARIFY SURFACE OF ALL AREAS TO BE TOPSIDE AND PLACE A MINIMUM OF 4" OF TOPSOIL ON ALL AREAS TO BE SEEDED.
2. APPLY LIME AT A RATE OF TWO TONS OF GROUND LIMESTONE PER ACRE. (100 LBS./1000 SQ. FT.)
3. FERTILIZE
   a) FOR SPRING SEEDING, APPLY 10-10-10 FERTILIZER AT A RATE OF 300 LBS. PER ACRE (7 LBS./1000 SQ. FT.) AND WORK INTO SOIL. SIX TO EIGHT WEEKS LATER, APPLY AN ADDITIONAL 300 LBS. PER ACRE ON THE SURFACE.
   b) FOR FALL SEEDING, APPLY 10-10-10 FERTILIZER AT A RATE OF 600 LBS. PER ACRE (14 LBS./1000 SQ. FT.) AND WORK INTO SOIL.
4. SMOOTH AND FIRM SEEDBED, APPLY SEED UNIFORMLY AT THE RATE SPECIFIED FOR THE SEED TYPE AND COVER SEED WITH NOT MORE THAN 1/4" OF SOIL.
5. MULCH IMMEDIATELY WITH HAY FREE FROM WEAK SEEDS, AT A RATE OF 3 BALES PER 1000 SQ. FT.

6. PERMANENT SEEDINGS, WHERE AN AREA WILL BE EXPOSED FOR MORE THAN ONE YEAR, OR WHERE FINAL GRADING IS COMPLETE:

AREA WHERE SEED MIX APPLIES	SEEDING MIXTURE BY WEIGHT	RATE PER 1000 SQ. FT.	SEEDING DATES
ALL LAWN AREAS	CREEPING RED FESCUE KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	0.45 LB 0.45 LB 0.10 LB 1.00 LB	APRIL 15 – JUNE 15 OR AUGUST 15 – SEPT 15
ROAD CUTS & FILLS AND DIVERSION DITCHES	CREEPING RED FESCUE REDTOP TALL FESCUE OR SMOOTH BROMEGRASS	0.45 LB 0.05 LB 0.45 LB 0.95 LB	APRIL 15 – JUNE 15 OR AUGUST 15 – SEPT 15
VERY STEEP SLOPES	CREEPING FESCUE REDTOP CROWN VETCH	0.45 LB 0.05 LB 0.35 LB 0.85 LB	APRIL 15 – JUNE 15 OR AUGUST 15 – SEPT 15
NO MAINTENANCE AREAS	RED CANARYGRASS REDTOP	0.45 LB 0.10 LB 0.55 LB	APRIL 15 – JUNE 15 OR AUGUST 15 – SEPT 15

IF TREES ARE TO BE RETAINED, THE SEED MIX SHOULD BE ADAPTED FOR SHADY CONDITIONS.

7. TEMPORARY SEEDING: TO PROTECT THE SOIL OVER THE WINTER.

SPECIES	RATE/1000 SQ. FT.	OPTIMUM SEEDING [1,3] DATE	OPTIMUM SEED [2] DEPTH
ANNUAL RYEGRASS	1.0	3/1 – 6/15 8/1 – 10/1	0.5
PERENNIAL RYEGRASS	1.0	3/15 – 6/15 8/1 – 10/1	0.5
WINTER RYE	3.0	4/15 – 6/15 8/15 – 10/1	1.0
OATS	2.0	3/1 – 6/15 8/1 – 10/1	1.0
WHEAT	3.0	4/1 – 6/15 8/15 – 10/1	1.0
MILLET	0.5	6/1 – 7/1 5/15 – 8/15	1.0
SUDANGRASS	0.7	5/15 – 8/15	1.0
BUCKWHEAT	0.4	4/1 – 9/15	1.0
WEEPING LOVEGRASS	0.2	6/1 – 7/1	0.25

1 MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR CAN BE IRRIGATED.
2 SEED AT TWICE THE INDICATED DEPTH FOR SANDY SOIL.
3 THE FALL SEEDING DATES MAY BE EXTENDED 15 DAYS IN THE COASTAL TOWNS OF NEW LONDON, MIDDLESEX, NEW HAVEN AND FAIRFIELD COUNTIES.

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

ORGANIC MULCH MATERIALS AND APPLICATION RATES

MULCHES	RATES PER ACRE	RATES PER 1000 SQ.FT.[2]	NOTES
STRAW OR HAY	1 1/2 – 2 TONS	70 – 90 LBS.	FREE FROM WEEDS AND COARSE MATTER. MUST BE ANCHORED. SPREAD WITH MULCH BLOWER OR BY HAND.
WOOD FIBER	1000 – 2000 LBS.	25 – 50 LBS.	FIBERS 4MM OR LONGER. DO NOT USE ALONE IN WINTER OR DURING HOT, DRY WEATHER. APPLY AS SLURRY.
CORN STALKS	4 – 6 TONS	185 – 275 LBS.	CUT OR SHREDDED IN 4-6 INCH LENGTHS. AIR DRIED. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER OR BY HAND.

2 SEED AT TWICE THE INDICATED DEPTH FOR SANDY SOIL.

INSTALLATION REQUIREMENTS FOR ORGANIC MULCHES

ORGANIC MULCHES MAY BE USED IN ANY AREA WHERE MULCH IS REQUIRED, SUBJECT TO THE RESTRICTIONS NOTED IN FIGURE 7-1.

1. MATERIALS

   SELECT MULCH MATERIAL BASED ON SITE CONDITIONS, AVAILABILITY OF MATERIALS, AND LABOR AND EQUIPMENT. FIGURE 7-1 LISTS THE MOST COMMONLY USED ORGANIC MULCHES. OTHER MATERIALS MAY BE USED WITH THE PERMISSION OF THE APPROVING AUTHORITY.

2. PRIOR TO MULCHING

   COMPLETE THE REQUIRED GRADING AND INSTALL NEEDED SEDIMENT CONTROL MEASURES.

3. APPLICATION

   MULCH MATERIALS SHALL BE SPREAD UNIFORMLY, BY HAND OR MACHINE.

   APPROXIMATELY 1000 SQUARE FOOT SECTIONS AND PLACE 70-90 LBS (1-1/2 TO 2 BALES) OF STRAW OR WHEN SPREADING STRAW OR HAY MULCH BY HAND, DIVIDE THE AREA TO BE MULCHED INTO

   HAY IN EACH SECTION TO INSURE UNIFORM DISTRIBUTION.

4. ORGANIC MULCH ANCHORING

   STRAW OR HAY MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT WINDBLOWING. OTHER ORGANIC MULCHES DO NOT REQUIRE ANCHORING. THE FOLLOWING METHODS OF ANCHORING STRAW OR HAY MAY BE USED.

   A. MULCH ANCHORING TOOL

      THIS IS A TRACTOR-DRAWN IMPLEMENT DESIGNED TO PUNCH MULCH INTO THE SOIL SURFACE. THIS METHOD PROVIDES MAXIMUM EROSION CONTROL WITH STRAW. IT IS LIMITED TO USE ON SLOPES NO STEEPER THAN 3 TO 1 (3 HORIZONTALLY TO 1 VERTICALLY), WHERE EQUIPMENT CAN OPERATE SAFELY. MACHINERY SHALL BE OPERATED ON THE CONTOUR.

   B. TRACKING

      APPLY MULCH AND DRIVE TRACKED EQUIPMENT UP AND DOWN SLOPE OVER ENTIRE SURFACE SO CLEAT MARKS ARE PARALLEL TO CONTOUR.

   C. MULCH NETTINGS

      INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

MAINTENANCE

ALL MULCHES MUST BE INSPECTED PERIODICALLY. IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. NETTING SHOULD BE INSPECTED AFTER RAINSTORMS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, REINSTALL NETTING AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE. INSPECTIONS SHOULD TAKE PLACE UNTIL GRASSES ARE FIRMLY ESTABLISHED. GRASSES SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED WHICH IS MATURE ENOUGH TO CONTROL SOIL EROSION AND TO SURVIVE SEVERE WEATHER CONDITIONS. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTING, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE; REPAIR AS NEEDED.

NOTE:

STUMPS SHALL BE REMOVED FROM THE SITE OR GROUND ON SITE TO BE USED AS MULCH. STUMPS SHALL NOT BE BURIED ON SITE.

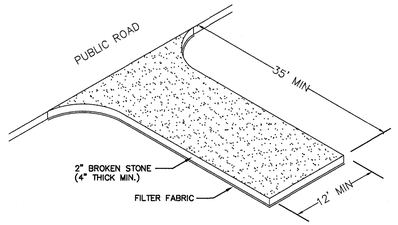
REGISTRATION WITH THE DEP IS REQUIRED FOR THE OVER ALL SITE DISTURBANCE OF MORE THAN 5 ACRES BUT LESS THAN 10 ACRES.

INSTALLATION REQUIREMENTS

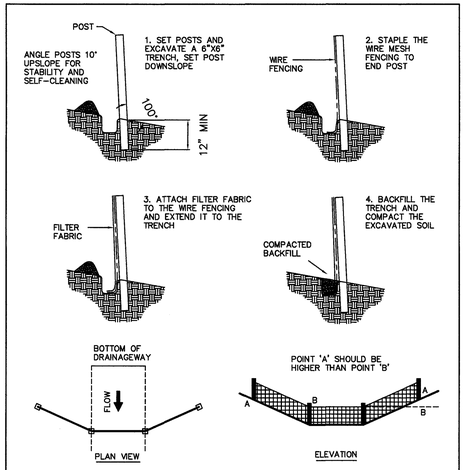
THE LENGTH, WIDTH AND DEPTH SHOWN ON THIS DETAIL ARE THE MINIMUM REQUIREMENTS FOR A DRY, SANDY SITE. EACH SITE IS DIFFERENT AND SOME SITES WILL REQUIRE THE INSTALLATION OF A LARGER CONSTRUCTION ENTRANCE PAD (CE) PRIOR TO THE START OF CONSTRUCTION TO ACHIEVE PROPER SEDIMENTATION CONTROL. THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONAL MATERIAL. A STRUCTURAL SOIL STABILIZATION FABRIC SHALL BE PLACED ON THE SUBGRADE PRIOR TO THE PLACEMENT OF THE STONE TO PREVENT PUMPING. THE STONE SHALL BE PLACED TO THE SPECIFIED DIMENSIONS. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS. IF WASH RACKS ARE USED, THEY SHOULD BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

MAINTENANCE

THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AND WIDTH AS SITE CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ACCUMULATIONS OF SEDIMENT, DIRT AND DEBRIS ON THE ADJACENT ROAD SHALL BE SUFFICIENT INDICATION THAT THE CE IS UNDERSIZED AND THE CONTRACTOR SHALL TAKE IMMEDIATE STEPS TO REPAIR, REPLACE OR ENLARGE THE CE AS REQUIRED TO ELIMINATE SAID ACCUMULATION. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.



CONSTRUCTION ENTRANCE PAD
SCALE: NONE



SILT FENCE
SCALE: NONE

SOIL EROSION AND SEDIMENTATION CONTROL NARRATIVE

1.1 PURPOSE AND DESCRIPTION OF PROJECT: THE PROPOSED PROJECT IS FOR A SINGLE FAMILY HOME, DRIVEWAY AND UTILITIES, INCLUDING THE EXTENSION OF THE EXISTING 36"ø RCP PIPE AT THE EXISTING DIRT ROAD AT THE POND CROSSING.

1.2 TOTAL AREA OF THE SITE: THE SITE CONSISTS OF 114.203 ACRES.

1.3 SITE-SPECIFIC EROSION OR SEDIMENT CONTROL CONCERNS AND ISSUES: THE PROPOSED HOUSE AND DRIVEWAY ARE LOCATED ON VACANT FAMLAND AND WOODS. THE PROPOSED DRIVEWAY IS PROPOSED TO CROSS OVER AN EXISTING 36"ø RCP ON AN EXISTING FARM ROAD, WORK IN THE AREA OF THE CROSSSING SHOULD ACCUR DURING A DRY PERIOD. NORMAL SE&SC MEASURES WILL BE ADEQUATE TO PROTECT THE SITE.

1.4 PHASES OF DEVELOPMENT: ANY CLEARING WILL BE FIRST, THEN EROSION CONTROL MEASURES WILL BE INSTALLED, THE SITE WILL BE STRIPPED AND THE MATERIAL WILL BE STORED AS SHOWN ON THE PLANS. THE DRIVEWAY AND PIPES SHALL BE INSTALLED, UTILITIES, DRAINAGE WILL BE INSTALLED AND THE HOUSE AND SEPTIC CONSTRUCTED. THE SITE WILL BE STABILIZED, LANDSCAPING PUT IN. ONCE THE SITE IS STABILIZED THE EROSION CONTROLS WILL BE REMOVED

1.5 PLANNED START DATE: ONCE APPROVAL IS GRANTED, ESTIMATED TO TAKE 9-12 MONTHS TO COMPLETE.

1.6 LOCATION OF E&S INFORMATION: SEE SHEETS 3, 4 & 5 OF THE SITE PLANS AND THE DETAIL SHEETS FOR EROSION CONTROL LOCATIONS AND DETAILS.

EROSION AND SEDIMENTATION CONTROL CHECKLIST

PROJECT: RUSTY TRUCK FARM LLC
LOCATION: 123R CASE STREET
PROJECT DESCRIPTION: PROPOSED RESIDENTIAL HOME
PARCEL AREA: 114.203 ACRES

RESPONSIBLE PERSONNEL:

BRENDAN FOLEY (860) 989-5053
P.O. BOX 406
NEW HARTFORD, CONNECTICUT 06057

EROSION AND SEDIMENT CONTROL PLAN PREPARER:

DENNO LAND SURVEYING & CONSULTING, LLC (860) 408-9167
2 TUNXIS ROAD SUITE 210
TARIFFVILLE, CONNECTICUT 06081

CHECKLIST:

WORK DESCRIPTION Erosion & Sediment Control Measures	LOCATION	DATE INSTALLED	INITIALS	DATE REMOVED	INITIALS
CONSTRUCTION ENTRANCE PAD	CASE STREET				
SILT FENCE	TOE OF SLOPES				
	STOCKPILES				
TOPSOIL, MULCH & SEED	ALL DISTURBED AREAS				

MAINTENANCE OF MEASURES:

LOCATION	DESCRIPTION OR NUMBER	DATE	INITIALS
CASE STREET	CONSTRUCTION ENTRANCE PAD		
TOE OF SLOPES	SILT FENCE		
STOCKPILES	SILT FENCE		
ALL DISTURBED AREAS	TOPSOIL, MULCH & SEED		

PROJECT DATES:

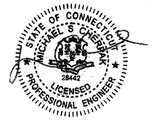
DESCRIPTION	DATE	INITIALS
DATE OF GROUNDBREAKING FOR PROJECT		
DATE OF FINAL STABILIZATION		

ENFORCEMENT ORDER SCHEDULE:

1. INSTALL CONSTRUCTION ENTRANCE PAD AT NEW DRIVE.
2. INSPECT AND REPAIR EXISTING EROSION CONTROLS.
3. INSTALL ALL NEW EROSION AND SEDIMENTATION CONTROL MEASURES PER THE APPROVED SEDIMENTATION & EROSION CONTROL PLANS.
4. ALL EROSION CONTROLS TO BE INSPECTED WEEKLY AND AFTER EVERY RAIN EVENT. CLEAR AND REMOVE ANY SEDIMENT AND REPAIR OR REPLACE EROSION CONTROLS AS NESSACCEARY.
5. INSTALL WATER BARS, STONE SWALE AND REGRADE EXISTING DRIVE ON THE STEEP SLOPE.
6. WHEN SITE CONDITIONS PERMIT THE CONTRACTOR IS TO GO INTO THE AREAS WHERE SEDIMENT HAS BEEN DEPOSITED IN THE UPLAND REVIEW AREA AND WETLANDS AND REMOVE THE SEDIMENT WITH HAND TOOLS.
7. ALONG THE NORTHERLY PROPERTY LINE AT THE WESTERN END OF THE NEW FARM ROAD THE AREA IS TO BE REGRADED, LOAMED AND SEEDED. SEE GRADING PLAN FOR LIMITS OF WORK.
8. 12"ø HDPE PIPE TO INSTALLED AS SHOWN ON THE GRADING PLAN IN THE AREA OF THE LOW SPOT AS SHOWN ON THE GRADING PLANS. WORK TO BE DONE UNDER DRY WEATHER CONDITIONS.
9. DISTURBED WETLANDS AREA TO BE REGRADED AND HAVE ANY MATERIAL DEPOSITED IN THE WETLANDS REMOVED PLANT NATIVE WETLAND VEGETATION PER THE SOILS SCIENTISTS RECAMONDATIONS.
10. STABILIZE THE SITE.
11. APPLY FOR AND RECEIVE APPROVAL FROM THE TOWN COMMISSIONS BEFORE ANY FURTHER WORK IS PERFORMED ON THE SITE.

CONSTRUCTION SCHEDULE:

1. DEVELOPER'S SURVEYOR TO STAKE AND CLEARLY MARK THE EDGE OF VEGETATION TO REMAIN UNDISTURBED.
2. ERECT BRIGHT NYLON BARRIER TAPE ALONG EDGE OF CLEARING.
3. REMOVE TREES, BRUSH AND STUMPS IN AREAS TO BE CLEARED.
4. INSTALL ANY ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED.
5. STRIP AND STOCK TOPSOIL, PROTECT FROM EROSION
6. EXTEND PIPE AT POND CROSSING, GRADE AND STABIZE DRIVE.
7. CONSTRUCT MITIGATION AREA IN THE NORTH EAST CORNER OF THE SITE.
8. CONSTRUCT HOUSE, DRIVE, SEPTIC, UTILITIES AND INSTALL WELL.
9. REGRADE TOPSOIL AND SEED BORROW PIT.
10. REMOVE STEEL PLATEAND LOGS AT BORROW PIT, RESTORE AREA PER REPORT BY REMA.
11. GRADE, STABILIZE, SEED AND MULCH ALL DISTURBED AREAS.
12. ONCE SITE IS STABILIZED REMOVE ALL EROSION CONTROLS



SEDIMENTATION & EROSION CONTROL DETAILS

REVISIONS:
5/4/22 – PER TOWN STAFF

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

NOT VALID UNLESS LIVE SIGNATURE AND EMBOSSED SEAL IS AFFIXED

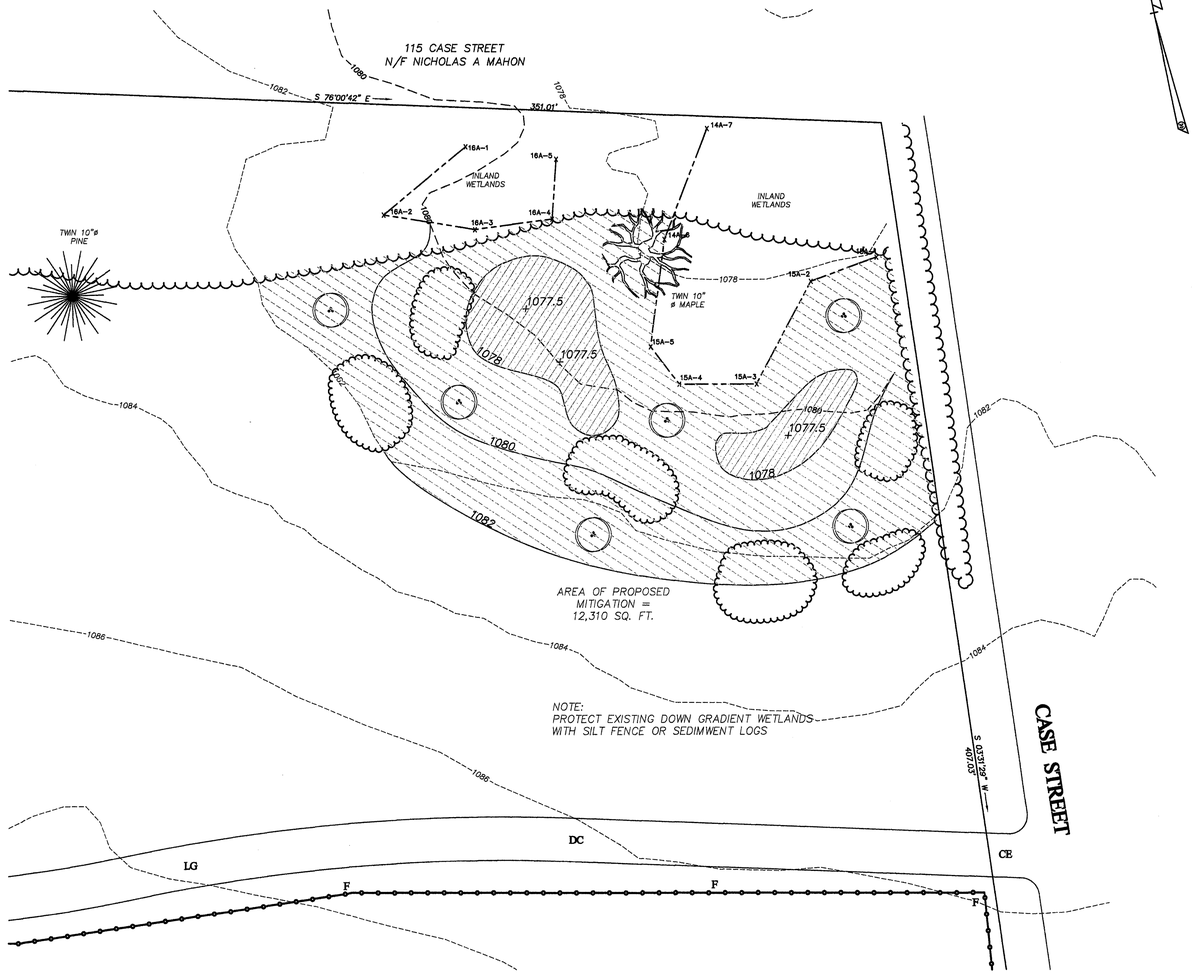
DENNO LAND SURVEYING & CONSULTING, LLC
2 TUNXIS RD STE. 210 TARIFFVILLE, CT 06081

SITE PLAN & WETLANDS AMENDMENT PLAN
PREPARED FOR
RUSTY TRUCK FARM LLC
123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET NO.
N.T.S.	4/6/22	8 OF 12

LEGEND

- SHRUB CLUSTER
- MARSH (SUMPS)
- WET MEADOW/SCRUB SHRUB (MOSAIC)
- PROPOSED TRE
- 1080 PROPOSED CONTOUR
- +271.0 PROPOSED SPOT GRADE
- LIMIT OF EXISTING VEGETATION TO REMAIN



PROPOSED MITIGATION AREA

SCALE: 1" = 20'

MITIGATION PLAN

REVISIONS:
5/4/22 – PER TOWN STAFF

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

NOT VALID UNLESS LIVE SIGNATURE AND EMBOSSED SEAL IS AFFIXED

DENNO LAND SURVEYING & CONSULTING, LLC
dba NASCIMBENI & JAHNE SURVEYORS
2 TUNXIS RD STE. 214 TARIFFVILLE, CT 06081

SITE PLAN & WETLANDS AMENDMENT PLAN

PREPARED FOR

RUSTY TRUCK FARM LLC
123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET NO.
N.T.S.	4/6/22	9 OF 12

MITIGATION PLAN FOR CREATION OF WETLAND HABITATS

IMPLEMENTATION NOTES

1.0 INTRODUCTION

WETLAND MEADOW, SHALLOW MARSH, AND SCRUB SHRUB SWAMP CREATION BY SHALLOW EXCAVATION, AND HERBACEOUS AND WOODY PLANTINGS, WILL TAKE PLACE IN THE NORTHEASTERN CORNER OF THE OVERALL SITE, IMMEDIATELY WEST OF CASE STREET, AND JUST SOUTH AND WEST OF THE PROPERTY BOUNDARIES.

THE WETLAND WILL BE CREATED BETWEEN APPROXIMATELY ELEVATIONS 1078.0 AND 1082.0 FEET, AND EXPAND UPON EXISTING WET MEADOW AND SCRUB SHRUB WETLAND HABITATS IN THIS AREA. IN ADDITION TO WET MEADOW AND SCRUB SHRUB HABITATS, TWO DEEPER "SUMPS" WILL CREATE MARSH HABITAT WITH A PROLONGED SEASONALLY FLOODED REGIME, WHICH WILL ATTRACT BREEDING BY AMPHIBIANS, SUCH AS PICKEREL FROG, EASTERN TOAD, AND WOOD FROG.

SOILS AT THE WETLAND CREATION SITE ARE MODERATELY WELL DRAINED AND UNDERLAIN BY SANDY GLACIAL TILL, WITH A SOMEWHAT COMPACT SUBSOIL AT DEPTH.

THOUGH GOOD-QUALITY NATIVE VEGETATION DOMINATES THE ADJACENT EXISTING WETLANDS, THE SELECTED CREATION AREA HAS MODERATELY LOW HABITAT VALUE, EVEN THOUGH REMOVAL OF MULTIFLORA ROSE HAS PREVIOUSLY BEEN REMOVED BY THE PROPERTY OWNER.

IN-KIND MITIGATION IS PROPOSED. THE GOAL IS TO CREATE AN ECOLOGICAL COMMUNITY WITH COMPARABLE FUNCTIONS AS THOSE BEING LOST AT THE PROPOSED DRIVEWAY CROSSING, ALBEIT NOT THE SAME COVER TYPE (I.E., FORESTED). HOWEVER, THE INCLUSION OF MARSH HABITAT, CAPABLE OF AMPHIBIAN BREEDING, IS CONSIDERED FAVORABLE AND AN ENHANCMENT TO THE OVERALL WETLAND HABITATS WITHIN THE OVERALL PROPERTY AND AT THE LOCATION OF THE WETLAND MITIGATION. THE MITIGATION GOAL IS CREATE AT LEAST ***10,000 SQAURE FEET*** OF PRODUCTIVE WETLAND HABITAT, TO OFFSET THE WETLAND HABITAT TAKEN BY THE PROPOSED DRIVEWAY.

THE WETLAND CREATION GOAL IS 100% COVER, AND 95% COVER BY NATIVE SPECIES, BY THE END OF THE THREE-YEAR MONITORING PERIOD. PLANT SPECIES WERE SELECTED TO ENCOMPASS THE FOLLOWING CRITERIA: FOOD PLANTS FOR CATEPILLARS, BEETLES, AND

OTHER INSECTS; FRUIT, SEED, AND NUT PRODUCTION IN DIFFERENT SEASONS, INCLUDING PERSISTENT WINTER FRUIT AND SPRING SEEDS; FORAGE FOR VERTEBRATE HERBIVORES; SUITABLE MICRO-HABITATS FOR OVERWINTERING INSECTS; AND NECTAR AND POLLEN THROUGHOUT THE GROWING SEASON (SEE TABLE 3). SPECIES ALREADY PRESENT ON THE SITE, WERE SELECTED FIRST, AS THEY ARE ALREADY USED BY THE LOCAL FAUNAL ASSEMBLAGE.

THE WETLAND CREATION SHALL BE ACCOMPLISHED GENERALLY VIA SHALLOW EXCAVATION, EXCEPT AS NOTED ON THE PLAN FOR THE TWO "SUMPS." IN THE AREAS THAT ARE NOT ENCOMPASSED WITHIN THE PROPOSED CONTOURS AS SHOWN ON THE PLAN (E.G., 1078.0, 1080.0, 1082.0), BUT STILL WITHIN AREAS INDICATED AS "WET MEADOW AND SCRUB-SHRUB MOSAIC," EXCAVATION WILL BE LESS THAN A FOOT IN DEPTH, AND ENTAIL THE REMOVAL AND STOCKPILING OF THE EXISTING TOPSOIL, THE REMOVAL OF 5 TO 10 INCHES OF SANDY SUBSOIL, AND THE REPLACEMENT OF THE SALVAGED/STOCKPILED TOPSOIL TO REALIZE FINAL GRADE IN THESE AREAS. IN FACT, THE TOPSOIL STRIPPED FROM THE ENTIRE MITIGATION AREA WILL BE REUSED "AS-IS" WITHIN THE GRADED AREAS, SINCE IT CONTAINS MANY FACULTATIVE AND FACULTATIVE-WET NATIVE PLANTS (E.G., SENSITIVE FERN, ROUGH-STEM GOLDENROD, ETC.).

NOTE: *ALL WETLAND CREATION WORK, SHALL BE SUPERVISED BY AN ECOLOGIST (OR WETLAND SCIENTIST), INCLUDING INITIAL GRADING, PLANTING, MARKING INVASIVES IN ADJACENT UPLAND BUFFER AREAS, AND MARKING ANY NATIVE MATERIALS FOR SALVAGE, PRIOR TO TOPSOIL STRIPPING. A PRE-IMPLEMENTATION MEETING SHALL TAKE PLACE AT LEAST ONE MONTH PRIOR TO PLAN IMPLEMENTATION, BETWEEN THE WETLAND SCIENTIST, THE SITE CONTRACTOR, THE LANDSCAPER, AND TOWN STAFF AT THE TOWN'S DISCRETION.*

3.0 WETLAND CREATION

PREPARATION

1. ORDER THE TRAYS OF HERBACEOUS PLUGS AND THE SEED MIX, FOR DELIVERY RIGHT AFTER COMPLETION OF GRADING. STORE IN SHADE WHEN THEY ARRRIVE.
2. EARTHWORK FOR THE WETLAND MITIGATION WILL TAKE PLACE IN APRILMAY, OR IN AUGUST, SO THAT PLANTINGS CAN BE INSTALLED IMMEDIATELY AFTERWARDS, EITHER IN LATE SPRING OR VERY EARLY FALL SEASONS. PREFERRABLY IT SHALL COMMENCE DURING THE SAME YEAR THAT PROJECT CONSTRUCTION BEGINS.
3. INSTALL *PERIMETER EROSION CONTROLS* AROUND THE MITIGATION AREA AS SHOWN ON PLAN: CORRECTLY TRENCHED AND STAKED SILT FENCE PER THE *2002 CONNECTICUT EROSION & SEDIMENTATION CONTROL GUIDELINES* (2002 GUIDELINES).

EARTHWORK

4. CLEAR AND GRUB THE WETLAND MITIGATION AREA (INCLUDING IMMEDIATELY ADJACENT UPLANDS).
5. REMOVE THE TOPSOIL FROM THIS LOCATION & PLACE IN THE DESIGNATED SOIL STOCKPILE AREA, NEARBY. INSTALL A PERIMETER BARRIER ON THE DOWNSLOPE SIDE OF THE STOCKPILE (SILT FENCE). A SIX TO EIGHT INCH LAYER OF TOPSOIL WILL BE PUT BACK INTO THE WETLAND CREATION AREA, AFTER GRADING IS COMPLETE.
6. SUBSOIL FROM THE WETLAND CREATION AREA WILL BE TRUCKED TO OTHER PARTS OF THE SITE, BUT NOT CLOSER THAN 50 FEET TO A WETLAND BOUNDARY. *INSTALL PERIMETER EROSION CONTROL SILT FENCING* AROUND THE SOIL PILES, WHICH SHOULD STABILIZED WITH SEEDING AND/OR STRAW.
7. IN THE NEWLY GRADED AREAS WITHIN THE WETLAND CREATION AREA, AFTER THE TOPSOIL THAT WAS ORIGINALLY STRIPPED FOR THIS SAME AREA IS PREPLACED TO REALIZE FINAL GRADE, A HALF-INCH TOP-DRESSING WITH LEAF-COMPOST SHALL BE APPLIED, TO FORM THE PLANTING MEDIUM FOR SEEDING AND WOODY STOCK.
8. **EXCAVATION, GRADING, AND TRANSPLANTING** WILL TAKE PLACE UNDER THE DIRECTION OF THE WETLAND SCIENTIST. GRADING WILL FOLLOW THE PLAN, BUT IN THE EVENT OF UNEXPECTED SOIL AND HYDROLOGIC CONDITIONS, THE WETLAND SCIENTIST MAY MAKE IN-FIELD ADJUSTMENTS.
9. OVEREXCAVATE BY EIGHT INCHES TO ACCOMODATE A MINIMUM OF EIGHT INCHES OF TOPSOIL (AFTER SETTLING) FROM THE STOCKPILE, TO BRING THE MITIGATION AREA TO THE DESIRED ELEVATIONS.
10. NO MACHINERY WILL BE ALLOWED WITHIN THE AREAS WHERE TOPSOIL WITH PROPAGULES HAS BEEN PLACED. TOPSOIL PLACEMENT SHALL PROCEED FROM BACK TO FRONT.

PLANTINGS

11. **ORDER THE WOODY PLANTING MATERIALS** FOR DELIVERY DURING THE PLANTING WINDOWS LISTED ABOVE (MID TO LATE SPRING OR EARLY FALL). STORE IN SHADE WHEN THEY ARRRIVE AND INSTALL WITHIN THREE DAYS OF DELIVERY.
12. A QUALIFIED WETLAND PROFESSIONAL OR ECOLOGIST SHALL SPECIFY PLANTING AND SEEDING LOCATIONS, AND MARK ANY SHRUBS AND PERENNIAL WILDFLOWERS TO BE TRANSPLANTED. THE PROFESSIONAL WILL DIRECT THE INSTALLATION, EITHER BY STAKING PLANTING LOCATIONS WITH A WIRE FLAG OR BAMBOO STAKE LABELED WITH THE SPECIES NAME OR CODE; OR POTTED STOCK MAY ALSO BE DIRECTLY PLACED AT PLANTING LOCATION.

13. **INSTALL THE PURCHASED WOODY MATERIALS, THEN ANY TRANSPLANTS, AND THEN THE HERBACEOUS PLUGS.** SAVE THE POTS FROM PURCHASED WOODY PLANTS FOR USE IN TRANSPLANTING. SPREAD SEED MIXES AFTER ALL PLANTS ARE INSTALLED.
14. IN THE UPLAND BUFFER STRIP ON THE WETLAND PERIMETER, PLACE WOODY PLANTINGS IN AREAS WHERE WOODY INVASIVES HAVE BEEN REMOVED. IN AREAS THAT HAVE NOT YET BEEN CLEARED AND GRADED, CLEAR EXISTING HERBACEOUS VEGETATION FROM A TWO TO THREE-FOOT DIAMETER CIRCLE FOR EACH POTTED PLANTING, EITHER PURCHASED OR TRANPLANTED.
15. **WOODY PLANTINGS AND LARGE HERBACEOUS PERENNIALS (PURCHASED AND TRANSPLANTS)** (SEE TABLE 1 AND TABLE 2) SHALL BE PLANTED IN SAME-SPECIES CLUSTERS, ONE TO TWO FEET APART FOR HERBACEOUS PERENNIALS, FOUR TO SIX FEET APART, FOR SHRUBS, TEN FEET APART FOR SMALL TREE SEEDLINGS/SAPLINGS. LARGER TREES SHOULD BE NO CLOSER THAN EIGHT FEET FROM A SHRUB OR SMALL TREE.
16. DIG HOLES *BY HAND* TO *MINIMIZE COMPACTION* OF SOIL (MECHANICAL AUGERS ARE PROHIBITED). WATER HOLES BEFORE PLANTING, UNLESS SOIL IS ALREADY MOIST. ADD *SLOW RELEASE FERTILIZER* (OSMACOTE, MILORGANITE OR EQUIVALENT) TO PLANTING HOLE. PLACE PLANTS INTO HOLES AND REPLACE SOIL, SO THAT THERE IS FULL COVERAGE OF ROOTS, WITH *NO AIR SPACES* AND LEVEL SOIL AROUND THE PLANT. HOLES SHALL BE OVERSIZED (2X THE ROOT MASS DIAMETER) AND BACKFILLED WITH LOCAL TOPSOIL OR EXTRA TOPSOIL IN AN OVERSIZED TRANPLANT POT (NOT SUBSOIL REMOVED FROM BOTTOM PART OF HOLE).
17. MULCH WITH A THREE-INCH LAYER OF WELL-ROTTED HARDWOOD MULCH TO REDUCE COMPETITION FROM EXISTING MEADOW VEGETATION IN A THREE FOOT DIAMETER CIRCLE. LEAVE A GAP OF THREE INCHES AROUND EACH TRUNK. FORM SAUCERS AROUND ALL MULCHED TREE AND SHRUB PLANTINGS, TWO TO THREE INCHES HIGH, 36" ACROSS FOR NURSERY STOCK. WATER RIGHT AFTER PLANTING.
18. **HERBACEOUS PLUGS:** PLANT IN MID TO LATE AFTERNOON, OR UNDER SHADY CONDITIONS, WATER IMMEDIATELY AFTER PLANTING. SPACE PLUGS 12 TO 18 INCHES APART, PER PLAN (SEE TABLE 3) IN THE BARE SOIL AREAS, AND SPREAD SHREDDED LEAF-MULCH IN A SIX INCH CIRCLE AROUND EACH PLUG. PLANT IN SAME-SPECIES GROUPINGS OF VARIABLE SIZE AND SHAPE.
19. **SEEDING:** AFTER MIXING 1:1 WITH CLAY, NON-CLUMPING KITTY LITTER SPREAD SEED OVER BARE SOIL AREAS, AVOIDING MULCHED CIRCLES AROUND PLUGS. SEEDING RATE SHALL BE HALF THAT SPECIFIED FOR THE MIX, SINCE LOCAL SEEDS WILL COLONIZE, AND ARE PRESENT IN THE LOCAL TOPSOIL. IF GERMINATION RATES ARE LOW, OVER-SEED IN FALL IN YEAR 2.
20. FOR SPRING SEEDING IN MOIST, BUT NOT SATURATED SOIL, LIGHTLY RAKE IN SEED (LESS THAN ½ INCH DEEP), TAMP DOWN, AND LIGHTLY MULCH WITH STRAW (FREE OF

SEEDS) TO HOLD MOISTURE FOR GERMINATION. FOR FALL SEEDING, WAIT UNTIL AFTER HARD FROST; SEED MAY SIMPLY BE SOWN. SNOW AND FROST WILL INCORPORATE INTO THE SOIL. NOTE THAT COLD STRATIFICATION WILL INCREASE GERMINATION RATES (OF SOME SPECIES IN A FALL SEEDING, BUT MORE SEEDS WILL ALSO BE EATEN BY WILDLIFE OR WASHED AWAY. IF SOIL IS SATURATED, BROADCAST SOIL ON SURFACE WITHOUT RAKING.
21. SPREAD A THIN LAYER OF *STRAW MULCH* OVER ALL SEEDED AREAS WITHOUT STANDING WATER, ALLOWING SOME LIGHT PENETRATION.
22. FOR PLUGS IN THE WET MEADOW AND FOR SEED GERMINATION, WATERING SEVERAL TIMES A WEEK IS ESSENTIAL, IN DRY WEATHER. FOR IRRIGATION, SET UP A PUMP DRAWING ON LOCAL WATER, OR FROM A WATER TANK BROUGHT TO THE SITE.

4.0 PROTECTION FROM HERBIVORY

1. WOODY PLANTINGS WILL BE MONITORED DURING THE FIRST AND SECOND GROWING SEASONS AFTER PLAN IMPLEMENTATION FOR EXCESSIVE HERBIVORY. IF OBSERVED, THE WETLAND ECOLOGIST MAY PROPOSE ADDITIONAL CONTROLS/METHODS TO REDUCE HERBIVORY. DEER FENCE MAY BE CONSIDERED, AS THE MITIGATION AREA IS RELATIVELY SMALL.
2. AS AN INITIAL CONTROL, THE ORGANIC FERTILIZER MILORGRANITE SHALL BE USED AT EACH SHRUB/TREE PLANTING, AND ALONG THE PERIMETER OF THE ENTIRE MITIGATION AREA. THIS FERTILIZER IS A MILD TO MODERATE DETERENT TO HERBIVORY BY DEER, BUT WOULD HAVE TO RE-APPLIED EVERY TWO MONTHS TO BE EFFECTIVE.

5.0 INITIAL FOLLOW-UP AND MAINTENANCE

1. PERIMETER SEDIMENT CONTROLS. MAINTAIN PER THE 2002 CT E&S GUIDELINES, CHECK AFTER EACH RAIN MORE THAN ONE INCH. REMOVE SILT FENCE AS SOON AS GROUND IS VEGETATED (>70% COVER) TO PREVENT IMPEDING ANIMAL MOVEMENT TO AND FROM ADJACENT SEASONALLY SATURATED WETLANDS. SEDIMENT COLLECTED BY THESE DEVICES WILL BE REMOVED AND PLACED UPLAND IN A MANNER THAT PREVENTS ITS EROSION AND TRANSPORT TO EXISTING WETLANDS.
2. IRRIGATION: WATER ALL SEEDED AREAS, PLANTINGS AND/OR TRANSPLANTS AT LEAST WEEKLY IN DROUGHTY PERIODS. MORE FREQUENT WATERING WILL INCREASE PLANTINGS SUCCESS. FOR PLUGS, MORE FREQUENT WATERING COULD BE NEEDED.

6.0 INVASIVE PLANT CONTROL

1. THE ECOLOGIST WILL FLAG WOODY INVASIVES TO BE REMOVED IN THE VICINITY OF THE WETLAND MITIGATION AREA.
2. INVASIVE PLANT CONTROL WITHIN THE AREA OF PRESERVATION SHALL TAKE PLACE FOR **TWO (2) YEARS** FOLLOWING THE YEAR OF PLAN IMPEMENTATION (I.E., YEAR 2 THROUGH YEAR 3) FOLLOWING THE PROCEDURES PROMULGATED BY THE CT INVASIVE PLANT WORKING GROUP (CIPWG).

7.0 MONITORING

1. INSPECTIONS BY A QUALIFIED WETLAND PROFESSIONAL OR ECOLOGIST SHALL TAKE PLACE DURING THE GROWING SEASON. THE THREE MONTHS FOLLOWING INSTALLATION, AND TWICE DURING EACH OF THE **TWO (2) NEXT GROWING SEASONS**, AT THE WETLAND MITIGATION AREA, ONCE IN LATE MAY THROUGH JUNE, AND ONCE IN EARLY FALL. ADDITIONAL INSPECTIONS MAY BE NECESSARY AT THE DISCRETION OF THE WETLAND SCIENTIST TO ENSURE THE SUCCESS OF THE WETLAND CREATION.
2. DURING INSPECTIONS, CHECK MITIGATION AREA FOR SEEDLINGS OF THE FOLLOWING *INVASIVE* SPECIES AND MECHANICALLY REMOVE: COMMON REED, MORROW'S HONEYSUCKLE, AUTUMN OLIVE, MULTIFLORA ROSE, ASIATIC BITTERSWEET, JAPANESE BARBERRY, GLOSSY BUCKTHRON, BURNING BUSH, MUGWORT, AND GARLIC MUSTARD. INSPECTIONS SHALL BE DONE BY THE WETLANDS PROFESSIONAL, WHO COULD ALSO IDENTIFY OTHER INVASIVE PLANT SPECIES, BUT PERSONNEL OR THE PROPERTY OWNER TRAINED BY THE PROFESSIONAL IN IDENTIFICATION OF INVASIVE SEEDLINGS MAY ASSIST WITH MECHANICAL REMOVAL (WEEDING).
3. *COMPETING PLANTS:* IF THE WETLANDS PROFESSIONAL DETERMINES THAT EXCESSIVE NUMBERS OF SEEDLINGS OF A PARTICULAR NATIVE SPECIES HAVE GERMINATED ON SITE (E.G. CATTAIL), REMOVE THEM BY HOEING OR HAND PULLING. COLONIZATION BY A VARIETY OF NATIVE SPECIES IS EXPECTED AND IS DESIRABLE.
4. *REMEDIAL MEASURES* SUCH AS REPLACEMENT PLANTINGS, HYDROLOGIC ADJUSTMENTS, AND DEER BROWSING PROTECTION, MAY BE RECOMMENDED AND SUPERVISED BY THE WETLAND SCIENTIST AND IMPLEMENTED BY THE PROPERTY OWNER, FOR SIGNFICANT PROBLEMS.

TABLES OF PLANTING MATERIALS FOR WETLAND CREATION AREA
123R Case Street, West Granby, Connecticut

Table 1. Trees

Hydrologic Zones: Zone A: Saturated/Shallow inundation; **Zone B:** seasonally saturated, moist
Zone C: moderately well drained, usually moist

Scientific Name	Zone	Common Name	Size	Shade tolerant?	Form	Wetland Creation Area	Totals
FULL SIZE TREES							
Acer rubrum	B,C	Red Maple	4'-6'	N	nursery pot	3	3
Nyssa sylvatica	B,C	Black gum	4'-6'	Y	nursery pot	3	3
Total:							6
SMALL TREES/LARGE SHRUBS							
Amelanchier canadensis	C	Shadblow	3'-4'	Y/N	nursery pot	2	2
Salix sericea	B	Silky willow	3'-4'	N	nursery pot	2	2
Juniperus virginiana	C	Red cedar	2'-4'	Y	nursery pot	3	3
Total:							7

Table 2. Shrubs

Scientific Name	Zone	Common Name	Size	Shade tolerant?	Form	Totals
MEDIUM TO LOW SHRUBS						
Aronia arbutifolia	B,C	Chokeberry	3'-4'	N	nursery pot	5
Corylus americana	C	American Hazelnut	2'-3'	Y	nursery pot	5
Spiraea latifolia	B	Meadowsweet	3'-4'	N	nursery pot	15
Spiraea tomentosa	B	Steeplebush	12" - 24"	N	nursery pot	15
Sambucus canadensis	B	American elderberry	3'-4'	N	nursery pot	5
Cephalanthus occidentalis	A	Buttonbush	3'-4'	N	nursery pot	8
Vaccinium corymbosum	B	Highbush blueberry	3'-4'	Y	nursery pot	6
Rosa palustris	A,B	Swamp rose	3'-4'	Y	nursery pot	5
Total:						64

Table 4: Seed Mixes for Wetland Creation Area

		Pounds of Seed Mix		
		Wetland Creation Area	Buffer by Wetland Creation Area	Totals
NEWP Seed Mix #1	For all graded areas except middle			
Erosion Control Restoration Mix for Moist Soils	of the two sumps if inundated	3		3
1 lb/1,250 sf				
NEWP, Seed Mix #3	*For upper portion of wetland creation area*			
NE Conservation Wildlife Mix	*and buffer zone extending to the limit of*	1	2	3
1 lb/1,750 sf	*grading or soil disturbance*			
		4	2	6

Notes:
1. Mix 1:1 with filler (coarse sand, kitty litter, Speedy Dry) to help correctly divide seed packages and for even spreading.
2. Mixes contain seeds with a range of hydrologic tolerances, so different species will thrive in different areas.
3. Plants will set seed and spread further, increasing in density, becoming concnetrated in most suitable areas.
4. Mulch (do not seed) areas under and around plug & shrub clusters, to exclude weeds and hold moisture. (Coverage specified assumes area occupied by mulched woody plantings has been subtracted.)
5. A late fall seeding will require 20% more seed, because some seed wil be lost to wash off and herbivory, but germination rates will actually be higher the following spring, due to the cold winter stratification of the seed.
6. Since the original topsoil is being utilized seeding rate can be 50% of what is indicated.

Sources:
New England Wetland Plants, 820 West Street, Amherst, Massachusetts 01002; phone: 413-548-9000

Table 3. Herbs

Hydrologic Zones: Zone A: Saturated/Shallow inundation; **Zone B:** seasonally saturated, moist
Zone C: moderately well drained, usually moist; **Zone D:** well-drained to excessively well drained

Scientific Name	Zone	Common Name	Form	NWI*	Spacing	Wetland Creation Area	Totals
Asclepias incarnata	A,B	Swamp milkweed	2"plug	OBL	2'OC	50	50
Carex stipata	A,B	Wrinkle-sheathed sedge	2" plug	OBL	2'OC	50	50
Eupatoreum maculatum	B	Spotted Joe Pye weed	2" plug	FACW	3'OC	50	50
Scirpus atrovirens	A,B	Green bulrush	2" plug	OBL	2'OC	50	50
Schoenoplectus tabernaemontani	A	Softstem bulrush	2" plug	OBL	3'OC	50	50
Vernonia noveborecensis	B	New York ironweed	2" plug	FACW	3'OC	50	50
Total:							300

** NWI Status (National Wetland Inventory; National Wetland Plant List: Northcentral & Northeast)*

NOTES:
1. Preferably plant marsh herbs before August 15th, other herbaceous plantings between April 15 & June 15.
2. Transplanting of both herbaceous and woody material is best done in early spring, before May 15th.
3. Purchased woody material may be installed either in the spring (April 15th to June 15th), or in the fall (August 15th to Oct.15th)
4. Note that systemic triclopyr herbicide is released from the decomposing roots of treated invasives, and can harm non-target native vegetation, including plantings. For this reason the invasive management plan calls for a first stage of mechanical removal with spot herbicide treatment limited to small resprouts in the two years following implementation.
5. Plant in same species groupings of three to six shrubs, ten to twenty herbs,

MITIGATION NOTES

REVISIONS:
5/4/22 – PER TOWN STAFF

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

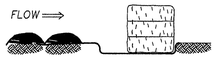
NOT VALID UNLESS LIVE SIGNATURE AND EMBOSSED SEAL IS AFFIXED

DENNO LAND SURVEYING & CONSULTING, LLC
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SITE PLAN & WETLANDS AMENDMENT PLAN
PREPARED FOR
RUSTY TRUCK FARM LLC
123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET NO.
N.T.S.	4/6/22	10 OF 12

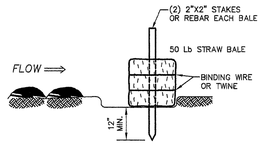
1) EXCAVATE A 6" DEEP TRENCH AS SHOWN.



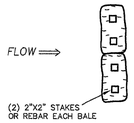
TRENCH WIDTH FOR (F,H) = WIDTH OF HAYBALE + 8"

TRENCH WIDTH FOR (F) = 6"

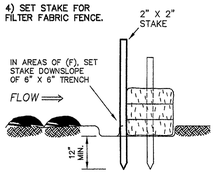
2) PLACE AND STAKE STRAW BALES, TWO STAKES PER BALE.



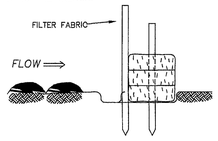
3) BUTT BALES FIRMLY TOGETHER AND WEDGE LOOSE STRAW BETWEEN BALES TO CREATE A CONTINUOS BARRIER.



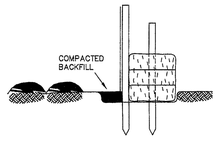
4) SET STAKE FOR FILTER FABRIC FENCE.



5) ATTACH THE FILTER FABRIC TO THE STAKES AND EXTEND IT TO THE TRENCH.



9) BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.



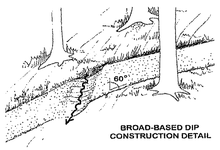
NOTES:

1. FILTER FABRIC FENCE BACKED WITH A ROW OF HAY BALES IS TO BE INSTALLED AS SHOWN ON EROSION CONTROL PLANS BY SYMBOL F,H.
2. FILTER FABRIC FENCE IS TO BE INSTALLED AS SHOWN ON EROSION CONTROL PLANS BY SYMBOL F.
3. HAY BALES SHALL BE MAINTAINED AND/OR REPLACED AS REQUIRED OR AS DIRECTED BY THE TOWN ENGINEER.
4. PLACE HAY BALES SUCH THAT TWINE OR BINDING WIRE IS PARALLEL TO THE EXISTING GROUND.
5. IN AREAS OF FILTER FABRIC FENCE (F), ELIMINATE STEPS 2 AND 3.

FILTER FABRIC FENCE BACKED WITH A ROW OF HAY BALES (F,H) AND FILTER FABRIC FENCE (F)

DRIVEWAYS ON STEEP (OVER 10%) SLOPES

A driveway angled across a steep slope will intercept runoff. Creating a series of broad-based dips to act as water bars – shallow channels across the drive at an angle of about 60° - to direct water into established vegetation is one solution. An infiltration area can be created at the foot of the driveway to absorb runoff before it reaches the road.

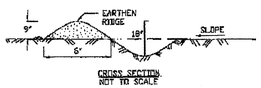


BROAD-BASED DIP CONSTRUCTION DETAIL

Water bars should be spaced as follows:

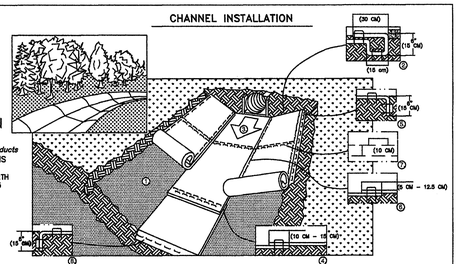
Slope	Spacing (ft)
Less than 5%	125
5-10%	100
10 -20%	75
20-35 %	50
Greater than 35%	25

Install water bars as soon as the driveway is cleared and graded. Runoff is directed to an undisturbed area or an area that has been stabilized.



CROSS SECTION NOT TO SCALE

CHANNEL INSTALLATION



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EROSION CONTROL *Products Guaranteed* SOLUTIONS

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1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) 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" (30 CM) ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. 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.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" (10 CM –15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (5 CM –12.5 CM) (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M – 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE:
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

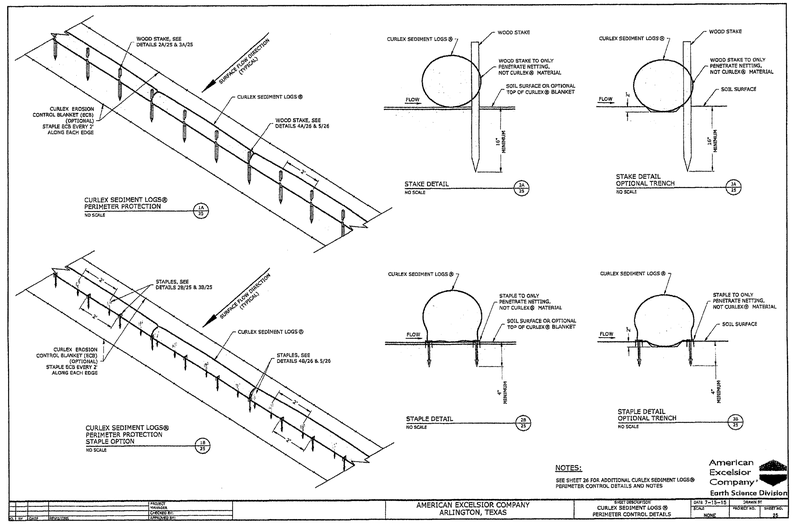
NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

REV. 01/05

EROSION CONTROL MATTING INSTALLATION

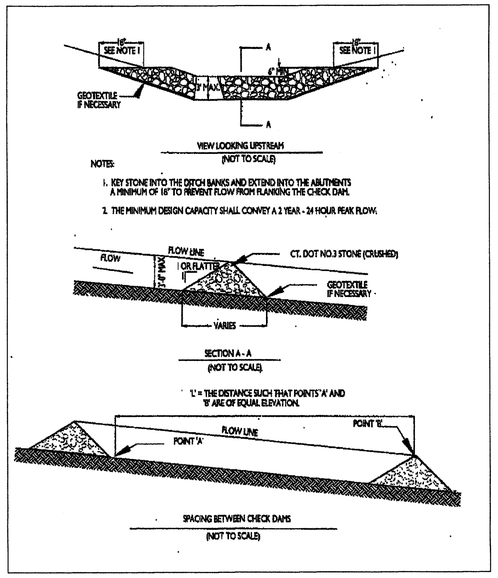
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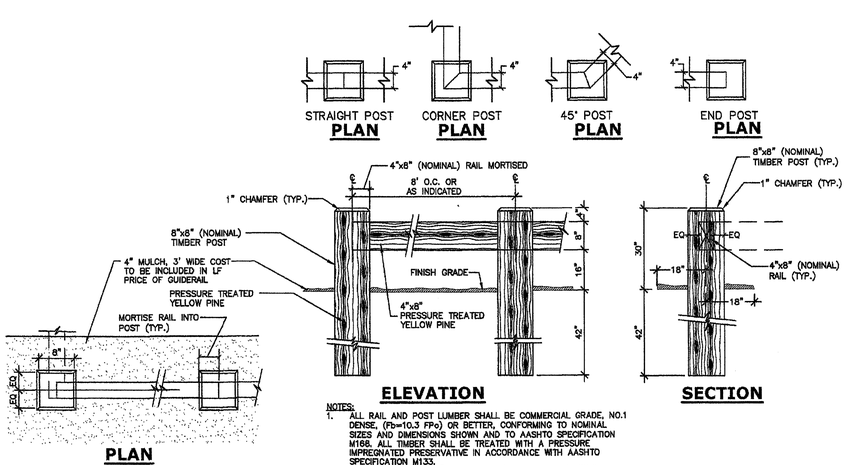


NOTES:
SEE SHEET 26 FOR ADDITIONAL CURLEX SEDIMENT LOGS® PERIMETER CONTROL DETAILS AND NOTES

American Excelsior Company
Earth Science Division

		AMERICAN EXCELSIOR COMPANY ARLINGTON, TEXAS	SHEET DESCRIPTION: CURLEX SEDIMENT LOGS ® PERIMETER CONTROL DETAILS





NOTES:
1. ALL RAIL AND POST LUMBER SHALL BE COMMERCIAL GRADE, NO.1 DENSE, (Fb=10.3 FPo) OR BETTER, CONFORMING TO NOMINAL SIZES AND DIMENSIONS SHOWN AND TO AASHTO SPECIFICATION M168. ALL TIMBER SHALL BE TREATED WITH A PRESSURE IMPREGNATED PRESERVATIVE IN ACCORDANCE WITH AASHTO SPECIFICATION M133.
2. BOLTS SHALL BE 3/4" DIAM., ASTM 307, WITH APPROPRIATE NUTS AND WASHERS (ALL HOT DIPPED GALVANIZED)
3. BACK FILL AROUND EACH POST WITH SUITABLE NATIVE MATERIAL IN 1' LIFTS
4. CONTRACTOR TO PROVIDE 90°, 45° OR END POSTS WHERE REQUIRED.
5. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ENTIRE SYSTEM.

TIMBER GUIDE RAIL

NOT TO SCALE

STATE OF CONNECTICUT
MICHAEL S. CHERBAK
28442
LICENSED PROFESSIONAL ENGINEER

REVISIONS:
5/4/22 – PER TOWN STAFF

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

NOT VALID UNLESS LIVE SIGNATURE AND EMBOSSED SEAL IS AFFIXED

DENNO LAND SURVEYING & CONSULTING, LLC
dba NASCIMBENI & JAHNE SURVEYORS
2 TUNXIS RD STE. 214 TARIFFVILLE, CT 06081

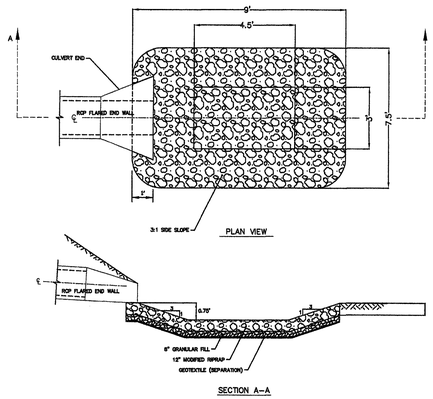
DETAILS 1

SITE PLAN & WETLANDS AMENDMENT PLAN

PREPARED FOR

RUSTY TRUCK FARM LLC
123R CASE STREET
GRANBY, CONNECTICUT

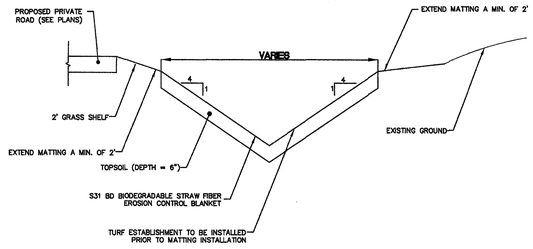
SCALE	DATE	SHEET NO.
N.T.S.	4/6/22	11 OF 12



PREFORMED SCOUR HOLE TYPE 1

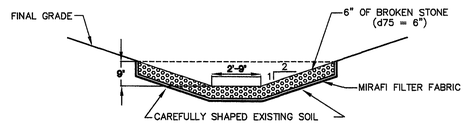
N.T.S.

(OP) OUTLET PROTECTION
RIP RAP PLUNGE POOL



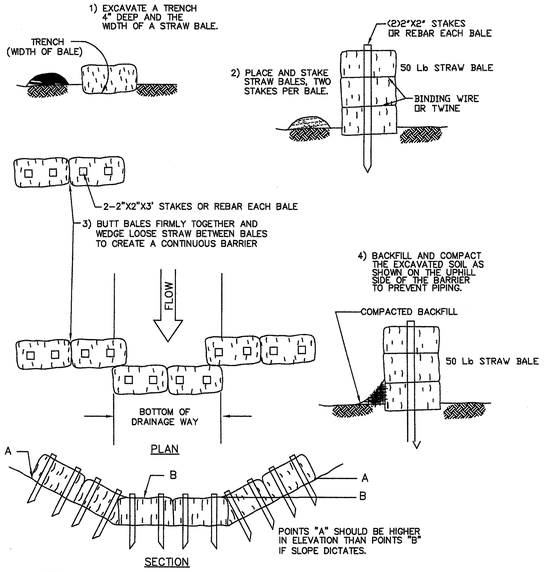
GRASS SWALE DETAIL

N.T.S



STONE SWALE DETAIL

SCALE: NONE

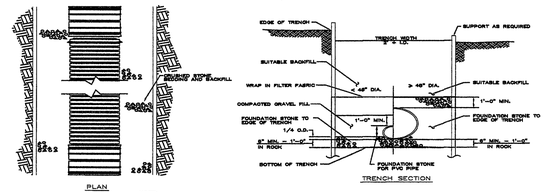


NOTES:

1. HAY BALES SHALL BE MAINTAINED AND/OR REPLACED AS REQUIRED OR AS DIRECTED BY THE ENGINEER.
2. PLACE HAY BALES SUCH THAT TWINE OR BINDING WIRE IS PARALLEL TO THE EXISTING GROUND.

TYPICAL
BALED HAY/STRAW FOR
EROSION CONTROL

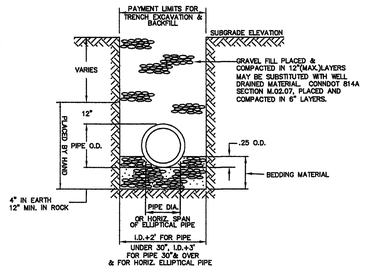
Not to Scale



NOTES:
1. HIGH DENSITY POLYETHYLENE PIPE (HDPE) SHALL BE HANCOR HI-Q, OR SIM. WITH "BELL-TITE" W/O WATER TIGHT JOINTS WITH RUBBER GASKETS, OR EQUAL PRODUCT APPROVED BY SITE ENGINEER.
2. REFER TO OTHER DETAILS FOR INFILTRATION PIPES.
3. INSTALL PER DETAIL & MANUFACTURER INSTRUCTIONS, PARTICULARLY REGARDING BACKFILL & COMPACTION.
4. ADD FILTER FABRIC AROUND CRUSHED STONE

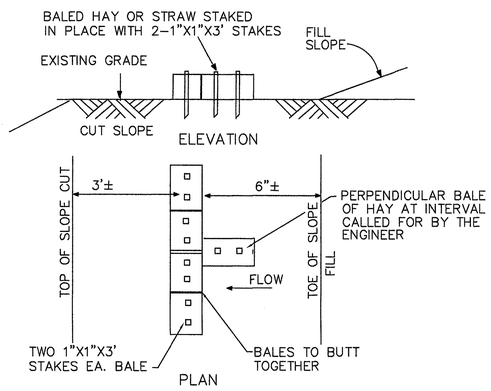
TYP. HDPE STORM SEWER PIPE INSTALLATION

N.T.S.

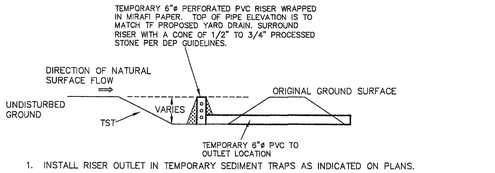


NOTES:
1. ANY CONCRETE PIPE USED TO BE MINIMUM CLASS IV UNLESS OTHERWISE SPECIFIED.
2. USE WATERTIGHT RUBBER GASKETS IN ALL PIPE JOINTS.

STORM SEWER TRENCH

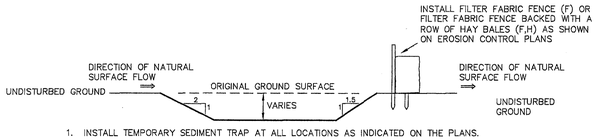


SEDIMENTATION CONTROL BALES AT TOP OR TOE OF SLOPES



1. INSTALL RISER OUTLET IN TEMPORARY SEDIMENT TRAPS AS INDICATED ON PLANS.
2. WHEN TST STORAGE DEMANDS HAVE BEEN ELIMINATED AND TST'S ARE REMOVED, ALL TEMPORARY 6"ø PVC AND RISERS ARE TO BE CUT FROM YARD DRAINS OR CATCH BASINS AND REMOVED. CAP AND SEAL ALL 6"ø TST PVC INLETS TO YARD DRAINS OR CATCH BASINS.

TST RISER OUTET



1. INSTALL TEMPORARY SEDIMENT TRAP AT ALL LOCATIONS AS INDICATED ON THE PLANS.
2. PLEASE REFER TO SECTION 5-11 SEDIMENT IMPOUNDMENTS, BARRIERS AND FILTERS, TEMPORARY SEDIMENT TRAP (TST) OF THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL FOR DETAILED DESCRIPTIONS OF THE CONSTRUCTION OF TEMPORARY SEDIMENT TRAPS (TST).
3. SEE OUTLET DETAIL TO RIGHT.

TEMPORARY SEDIMENT TRAP (TST)

STATE OF CONNECTICUT
MICHAEL S. CHERAM
28442
LICENSED
PROFESSIONAL ENGINEER

DETAILS 2

REVISIONS:
5/4/22 – PER TOWN STAFF

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

NOT VALID UNLESS LIVE SIGNATURE AND EMBOSSED SEAL IS AFFIXED

DENNO LAND SURVEYING & CONSULTING, LLC
2 TUNXIS RD STE. 210 TARIFFVILLE, CT 06081

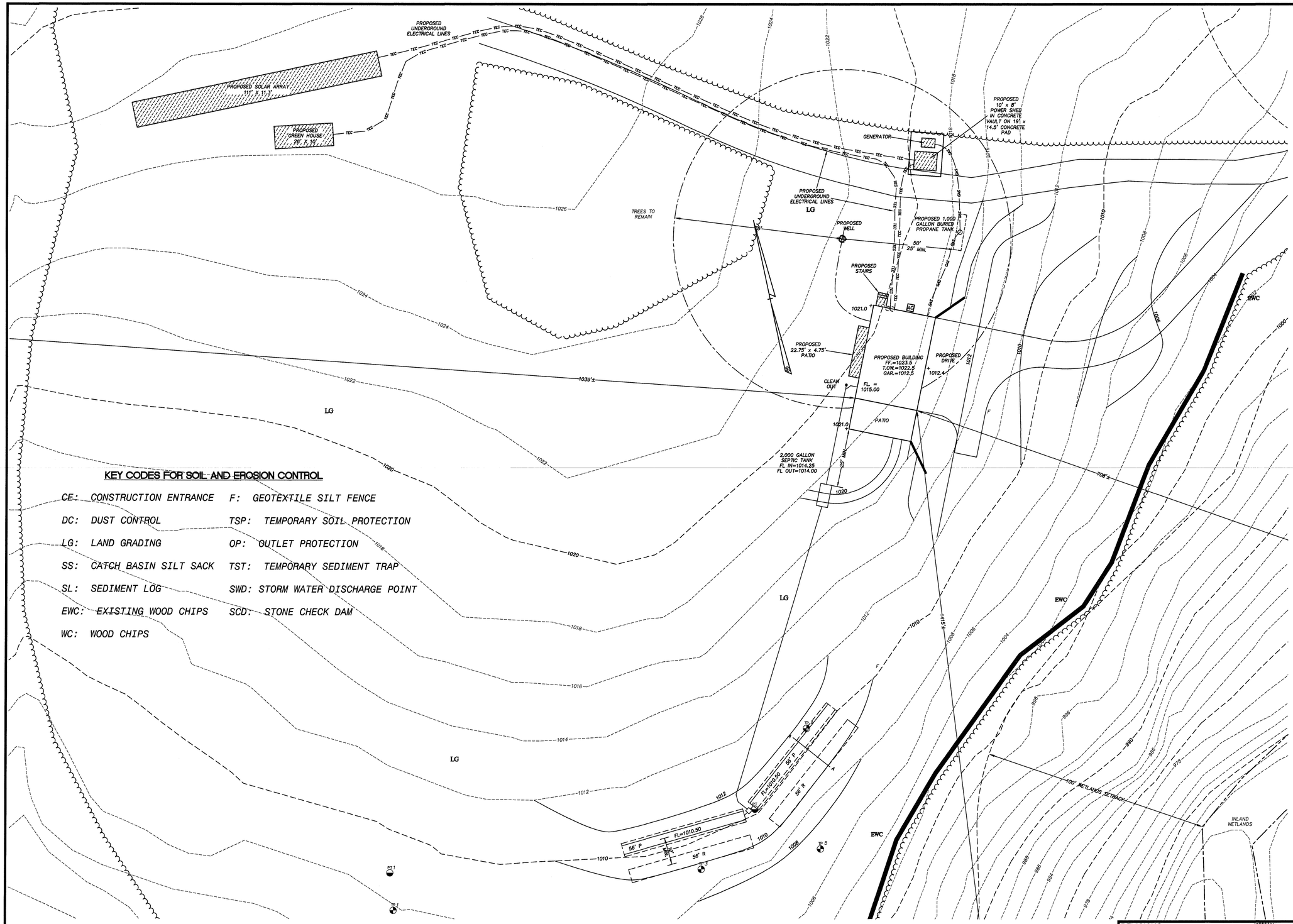
SITE PLAN & WETLANDS AMENDMENT PLAN

PREPARED FOR

RUSTY TRUCK FARM LLC

123R CASE STREET
GRANBY, CONNECTICUT

SCALE	DATE	SHEET NO.
N.T.S.	2/3/22	12 OF 12



KEY CODES FOR SOIL AND EROSION CONTROL

CE: CONSTRUCTION ENTRANCE	F: GEOTEXTILE SILT FENCE
DC: DUST CONTROL	TSP: TEMPORARY SOIL PROTECTION
LG: LAND GRADING	OP: OUTLET PROTECTION
SS: CATCH BASIN SILT SACK	TST: TEMPORARY SEDIMENT TRAP
SL: SEDIMENT LOG	SWD: STORM WATER DISCHARGE POINT
EWC: EXISTING WOOD CHIPS	SCD: STONE CHECK DAM
WC: WOOD CHIPS	

LEGEND

- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- LIMIT OF EXISTING VEGETATION
- LIMIT OF EXISTING VEGETATION TO REMAIN
- G.T.D. GRADE TO DRAIN
- SILT FENCE
- CE CONSTRUCTION ENTRANCE PAD
- TF= TOP OF FRAME ELEVATION
- EXISTING CATCH BASIN

EROSION CONTROL SEQUENCE

1. INSTALL STONE CONSTRUCTION ENTRANCE PAD.
2. SET SILT FENCE LINE DOWNHILL FROM EXCAVATION SITE.
3. STRIP AND STOCKPILE TOPSOIL. RING STOCKPILE WITH SILT FENCE.
4. EXCAVATE FOR AND CONSTRUCT FOUNDATION
5. INSTALL SANITARY SEWER, WATER, GAS AND OTHER UTILITIES.
6. BACKFILL AND GRADE ALL DISTURBED AREAS.
7. STABILIZE ALL DISTURBED AREAS AS SOON AS POSSIBLE WITH TOPSOIL AND PERMANENT (LAWN) SEEDING.

UTILITY STATEMENT

UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO THIS SURVEYOR. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-922-4455.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

STATE OF CONNECTICUT MICHAEL S. CHERNAT 28145 LICENSED PROFESSIONAL ENGINEER

REVISIONS:
5/4/22 – PER TOWN STAFF
6/4/22 – PER TOWN STAFF
7/6/22 – PER TOWN STAFF
6/02/25 – WELL, SOLAR ARRAY, PROPANE TANK
6/17/25 – GREEN HOUSE, STAIRS, OA/C & CONC. PAD

STATE OF CONNECTICUT BRIAN E. DENNO 21

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

NOT VALID UNLESS LIVE SIGNATURE AND EMBOSSED SEAL IS AFFIXED

DENNO LAND SURVEYING & CONSULTING, LLC
2 TUNXIS RD STE. 214 TARIFFVILLE, CT 06081

SITE PLAN & WETLANDS AMENDMENT PLAN

PREPARED FOR

RUSTY TRUCK FARM LLC

123R CASE STREET

GRANBY, CONNECTICUT

SCALE	DATE	SHEET
1"=20'	4/6/22	6 OF 12

PROPERTY OF
RUSTY TRUCK FARM LLC
123R CASE STREET
AREA = 4,974,686 SQ. FT.
114.203 ACRES

INLAND WETLANDS

84C

3

ROCK WALL 7'± TALL

ROCK WALL 8'± TALL

ROCK WALL 2'± TALL

ADDITIONAL SEDIMENT LOGS TO BE 6'± TALL SET AT BASE OF ROCK WALL

ADDITIONAL SEDIMENT LOGS TO BE SET AT BASE OF ROCK WALL

INVASIVE MUL... ROSE REMOVED AREA; NOW A C... FIELD. PLANNED C... TREE PLANTING YE...

RECLAIM PROCESS DRIVE

EXISTING STONE LINED SWALE TO BE REGRADED AND IMPROVED SEE DETAIL

100' SETBACK FROM WETLANDS

PROPOSED 12' DRIVE @ 14.8% MAX. GRADE

228.72' S 32°26'38" W

APPROXIMATE ARE... DUMP. RIRES, ME... BULKY WASTE EX... FROM THE SITE. ... CLEAN FILL FROM ...

131 CASE STREET
N/F DAVID & KERRIE STEEL

5A-4 5A-5 5A-6 5A-7 5A-8 5A-9 5A-10 5A-11 5A-12 5A-13 5A-14 5A-15 5A-16

6A-90 6A-91 6A-92 6A-93 6A-94 6A-95 6A-87 6A-86 6A-85 6A-84 6A-83 6A-82 6A-81 6A-80 6A-79 6A-78 6A-77 6A-76 6A-75 6A-74 6A-73 6A-72 6A-71 6A-70 6A-69 6A-89 6A-88

7A-1 7A-2 7A-3 7A-4 7A-5

EX. REBAR

EWC SCD SL TST WB SD

1040 1050 1030

LEGEND

EXISTING CONTOUR	G.T.D. GRADE TO DRAIN
$X_{272.2}$ EXISTING SPOT GRADE	F SILT FENCE
258 PROPOSED CONTOUR	CE CONSTRUCTION ENTRANCE PAD
$+_{271.0}$ PROPOSED SPOT GRADE	TF= 271.0 TOP OF FRAME ELEVATION
LIMIT OF EXISTING VEGETATION	□ EXISTING CATCH BASIN
LIMIT OF EXISTING VEGETATION TO REMAIN	62C SOILS TYPES





6A-40
6A-39
6A-41
6A-38
6A-42
6A-43
6A-44
6A-45
6A-46
6A-47
6A-48
6A-49
6A-50
6A-51
6A-52
6A-53
6A-54
6A-55
6A-56
6A-57
6A-63
6A-64
6A-62
6A-61
6A-60
6A-59
6A-36
6A-37
994
992
990
1000
998
INLAND
WETLANDS
AREA OF WETLANDS
DISTURBED
72± SQ. FT.
EXISTING 36"ø RCP
FL=979.4
ADD 8' SECTION OF NEW
CLASS V 36"ø RCP
FL=979.5
DRIVE TO BE
MINIMUM 12' WIDE
EWC
SL
WB
OR
TST
983.7
983.5
984.2
RECLAIM PROCESS
DRIVE
12A-10
12A-9
12A-8
12A-11
12A-7
12A-12
12A-6
12A-5
12A-1
12A-2
12A-3
3A-1
3A-2
3A-3
3A-4
3A-5
3A-6
3A-7
3A-8
3A-9
3A-10
3A-11
3A-12
3A-13
3A-14
3A-15
3A-16
3A-17
3A-18
3A-19
3A-20
36"ø RCP
FL=979.1
AREA OF
NEW DRIVE
POND
EXISTING
STEEL PLATE
BRIDGE
INSTALL WOODEN
GUARDRAIL ALONG
BOTH EDGES OF
ROAD FOR CAR
PROTECTION
ADJACENT WATER
A-36
A-37
A-38
A-39
A-40
A-41
A-42
A-43
A-44
A-45
A-46
A-47
A-48
A-49
A-50
A-51
988
990
EX
3,54
TO
ER
REM

NEW PV SYSTEM: 24.600 kW DC, 36.000 kW AC & NEW 85.80 kWH ENERGY STORAGE

PROPERTY OWNER: BRENDAN FOLEY

123 R CASE ST GRANBY, CONNECTICUT 06063

GENERAL NOTES

1.1.1 **PROJECT NOTES:**
1.1.2 THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 690, ALL MANUFACTURERS'S LISTING AND INSTALLATION INSTRUCTIONS,
1.1.3 ALL PV SYSTEM COMPONENTS; MODULES, UTILITY-INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC 690.4: **PV MODULES:** UL1703, IEC61730, AND IEC61215, AND NFPA 70 CLASS C FIRE **INVERTERS:** UL 1741 CERTIFIED, IEEE 1547, 929, 519 **COMBINER BOX(ES):** UL 1703 OR UL 1741 ACCESSORY
1.1.4 MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC. IF UNAVAILABLE, MAX DC VOLTAGE CALCULATED ACCORDING TO NEC 690.7.
1.1.5 ALL INVERTERS, PHOTOVOLTAIC MODULES, PHOTOVOLTAIC PANELS, AND SOURCE CIRCUIT COMBINERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND LISTED FOR THE APPLICATION PER 690.4 (D). SHALL BE INSTALLED ACCORDING TO ANY INSTRUCTIONS FROM LISTING OR LABELING [NEC 110.3].
1.1.6 ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.

1.2.1 **WORK INCLUDES:**
1.2.2 PV GROUND MOUNT - SKY-RACK 2.0 GROUND MOUNT
1.2.3 PV RACKING SYSTEM INSTALLATION - SDE: SKY-RACK 2.0 GROUND MOUNT
1.2.4 PV MODULE AND INVERTER INSTALLATION - MSE410HT0B/EG4-18KPV-12LV (240V)
1.2.5 PV EQUIPMENT GROUNDING - NEW GROUND ROD 5/8" X 8' CU, ARRAY FRAME TO #6 AWG SOLID CU
1.2.6 PV SYSTEM WIRING
1.2.7 PV LOAD CENTERS (IF INCLUDED)
1.2.8 PV METERING/MONITORING (IF INCLUDED)
1.2.9 PV DISCONNECTS (IF INCLUDED)
1.2.10 PV FINAL COMMISSIONING
1.2.11 (E) ELECTRICAL EQUIPMENT RETROFIT FOR PV
1.2.12 SIGNAGE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE

SYSTEM SPECIFICATIONS

SYSTEM SIZE:	24.600 kW DC, 36.000 kW AC, 85.800 kWh
	(60) MISSION SOLAR: MSE410HT0B, 410W
	(3) EG4 ELECTRONICS: EG4-18KPV-12LV (240V)
	(6) EG4 ELECTRONICS: 14.3KWH WALLPOWERPRO
ATTACHMENT TYPE:	SDE: SKY-RACK 2.0 GROUND MOUNT

PROJECT INFORMATION

CUSTOMER INFO

PROPERTY OWNER:	BRENDAN FOLEY
ACCOUNT HOLDER:	BRENDAN FOLEY

AUTHORITIES HAVING JURISDICTION

BUILDING:	GRANBY TOWN
ZONING:	GRANBY TOWN

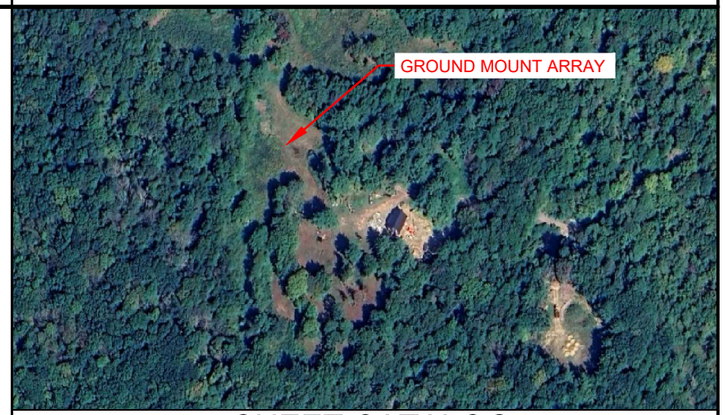
DESIGN SPECIFICATIONS

RISK CATEGORY:	I
CONSTRUCTION:	SINGLE FAMILY
ZONING:	RESIDENTIAL
GROUND SNOW LOAD:	35 PSF
WIND EXPOSURE:	B
WIND SPEED:	110 MPH

APPLICABLE CODES & STANDARDS

BUILDING:	2022 CT STATE BUILDING CODE
	2022 CT STATE FIRE SAFETY CODE
	2022 CT STATE FIRE PREVENTION CODE
ELECTRICAL:	NEC 2020

AERIAL PHOTO



SHEET CATALOG

PAGE NO.	DESCRIPTION
T - 001	COVER SHEET
A - 100	PROPERTY PLAN
A - 101	EQUIPMENT LOCATION OVERVIEW
A - 102	ELECTRICAL PLAN
A - 103	ATTACHMENT PLAN
E - 601	THREE LINE DIAGRAM
R - 001	PLACARDS

NEW PV SYSTEM: 24.6000 kWp
NEW ESS: 85.800 kWh

PROPERTY OWNER:

BRENDAN FOLEY
123 R CASE ST
GRANBY, CONNECTICUT 06063
APN:09003056-02100123R

ENGINEER OF RECORD

STATE OF CONNECTICUT
RICARDO E. PINO
37240
LICENSED PROFESSIONAL ENGINEER

REVISIONS

REV	DESCRIPTION	DATE

PAPER SIZE: 11" x 17" (ANSI B)

BARUN CORP
www.baruncorp.com

DATE: 5/22/2025
DESIGN BY: CB
CHECKED BY: RE

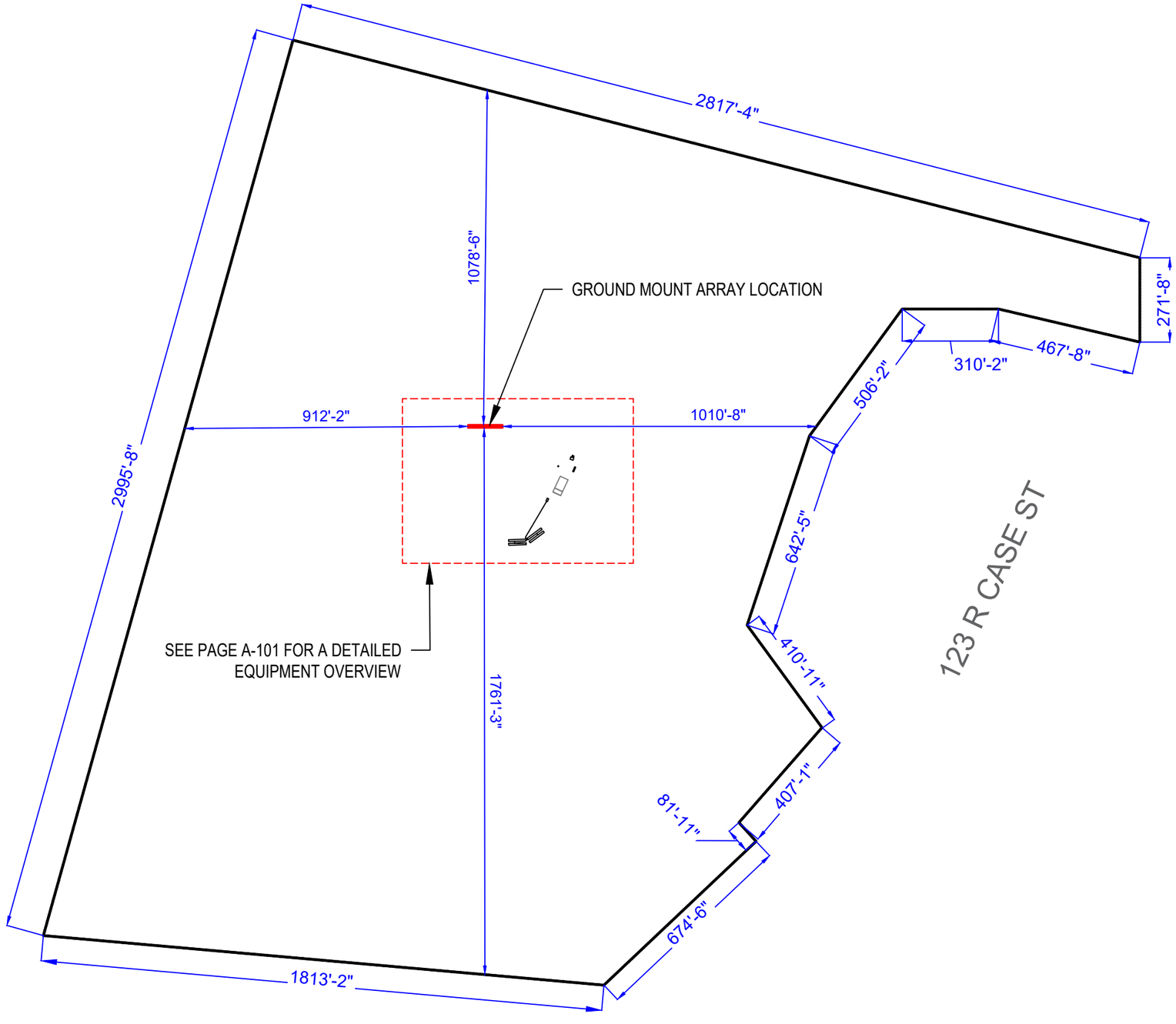
COVER SHEET
(PAGE T-001)

GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE

LEGEND

- Property line
- Property dimensions
- PV Module



N
W E
S

01 PROPERTY PLAN

SCALE: CUSTOM

NOTE: ADDITIONAL NEIGHBORING PARCELS NOT DEPICTED

NEW PV SYSTEM: 24.6000 kWp
NEW ESS: 85.800 kWh

PROPERTY OWNER:

BRENDAN FOLEY
123 R CASE ST
GRANBY, CONNECTICUT 06063
APN:09003056-02100123R

ENGINEER OF RECORD

STATE OF CONNECTICUT
RICARDO E. PINO
37240
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REVISIONS

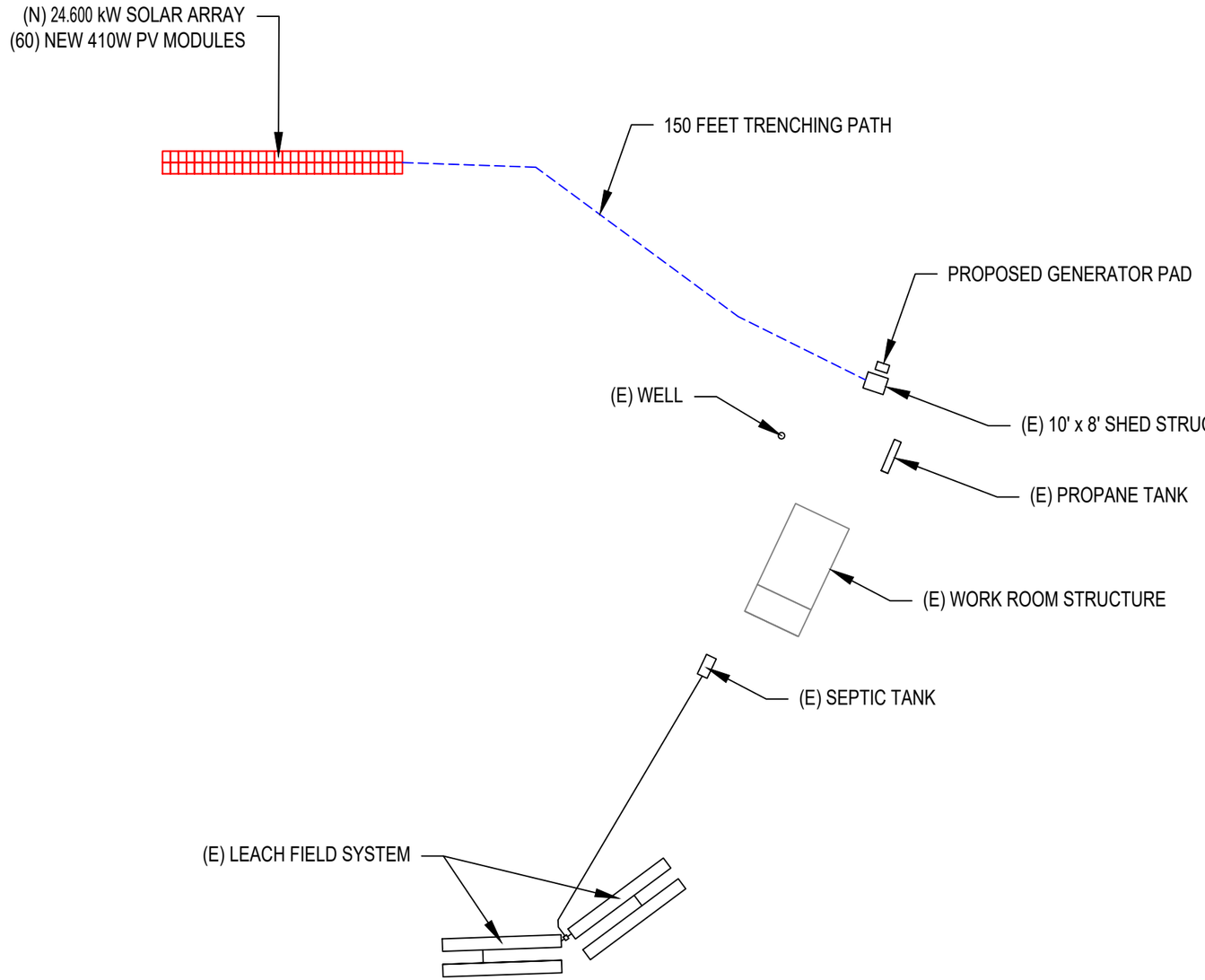
REV	DESCRIPTION	DATE

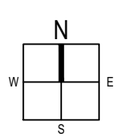
PAPER SIZE: 11" x 17" (ANSI B)

BARUN CORP
www.baruncorp.com

DATE: 5/22/2025
DESIGN BY: CB
CHECKED BY: RE

PROPERTY PLAN
(PAGE A-100)





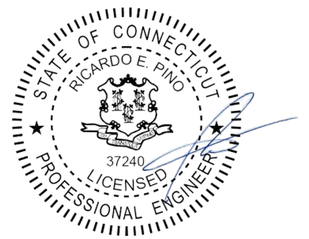
NOTE: ADDITIONAL NEIGHBORING PARCELS NOT DEPICTED

NEW PV SYSTEM: 24.6000 kWp
NEW ESS: 85.800 kWh

PROPERTY OWNER:

BRENDAN FOLEY
123 R CASE ST
GRANBY, CONNECTICUT 06063
APN:09003056-02100123R

ENGINEER OF RECORD



REVISIONS

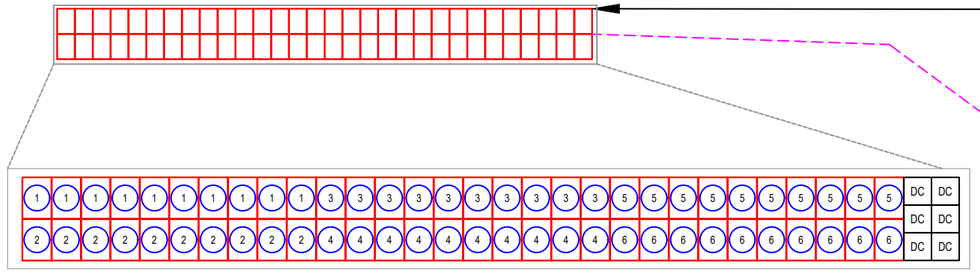
REV	DESCRIPTION	DATE

PAPER SIZE: 11" x 17" (ANSI B)

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EQUIPMENT LOCATION OVERVIEW
(PAGE A-102)

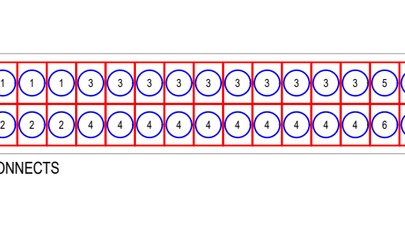


STRINGING DETAILS AND DC DISCONNECTS

GROUND MOUNT ARRAY ONE - 24.600 kW
(60) NEW 410W PV MODULES
AZIMUTH: 180°
ARRAY TILT: 15-55º

(N) 1" PVC CONDUIT FULLY BURIED MINIMUM 18" BELOW GRADE. TRENCHED AND BACKFILLED. (APPROX 350')

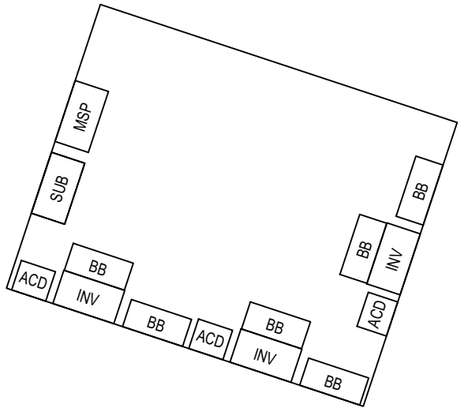
(E) 10' x 8' SHED STRUCTURE



(N) ELECTRICAL WARNING RIBBON BURIED 12" BELOW GRADE.

TRENCHING DETAIL

(N) 1" PVC CONDUIT FULLY BURIED MINIMUM 18" BELOW GRADE.



ELECTRICAL EQUIPMENT PLAN INSIDE SHED

LEGEND

MSP	Main Service Panel
SUB	Subpanel
INV	Inverter
ACD	AC Disconnect
BB	Battery Bank
DC	PV DC Disconnect
	PV Module
	Roof obstruction
	Conduit
1	PV String indicator

GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE

N / W / E / S

MODULE TYPE & QTY.	(60) MISSION SOLAR MSE410HT0B 410W
HYBRID INVERTER TYPE & QTY.	(3) EG4 ELECTRONICS EG4-18KPV-12LV (240V) ----

NEW PV SYSTEM: 24.6000 kWp
NEW ESS: 85.800 kWh

PROPERTY OWNER:

BRENDAN FOLEY
123 R CASE ST
GRANBY, CONNECTICUT 06063
APN:09003056-02100123R

ENGINEER OF RECORD

STATE OF CONNECTICUT · RICARDO E. PINO · 37240 · LICENSED PROFESSIONAL ENGINEER

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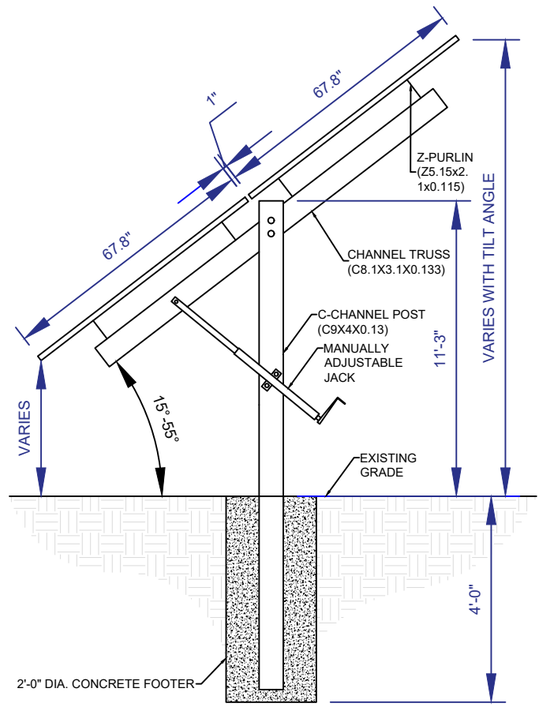
ELECTRICAL PLAN
(PAGE A-103)

01 ELECTRICAL PLAN
SCALE: 1/32" = 1'-0"

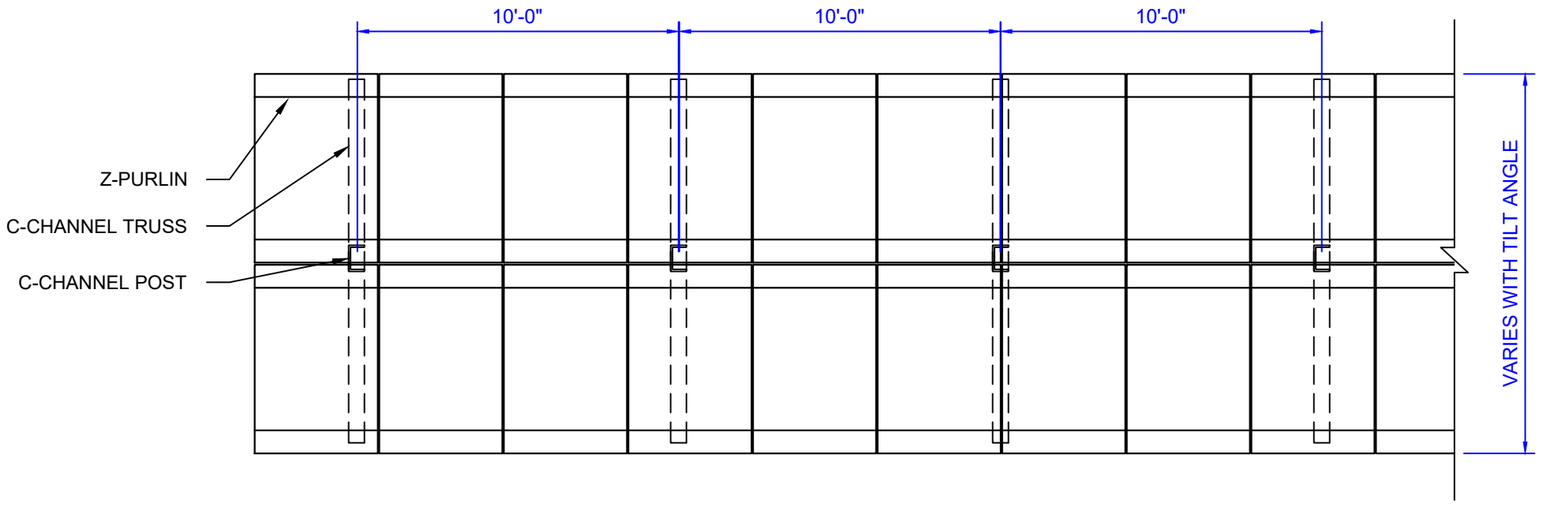
STRUCTURAL INFORMATION

ATTACHMENT TYPE: SDE SKY-RACK 2.0 GROUND MOUNT
MODULE MANUFACTURER: MISSION SOLAR
MODULE MODEL: MSE410HT0B
MODULE LENGTH: 67.8 IN.
MODULE WIDTH: 44.7 IN.
MODULE WEIGHT: 45.8 LBS.
PV MODULES TOTAL WEIGHT: 2748 LBS.
(SEE RESOURCE SHEET FOR FULL DIMENSION(S))
GAP BETWEEN MODULES: 0.5 IN.

STRUCTURAL SIDE VIEW DETAILS



ATTACHMENT PENETRATION GUIDE FOR INSTALL



01 ATTACHMENT PLAN
SCALE: NTS

NEW PV SYSTEM: 24.6000 kWp
NEW ESS: 85.800 kWh

PROPERTY OWNER:
BRENDAN FOLEY
123 R CASE ST
GRANBY, CONNECTICUT 06063
APN:09003056-02100123R

ENGINEER OF RECORD

STATE OF CONNECTICUT
RYAN NGO
36952
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

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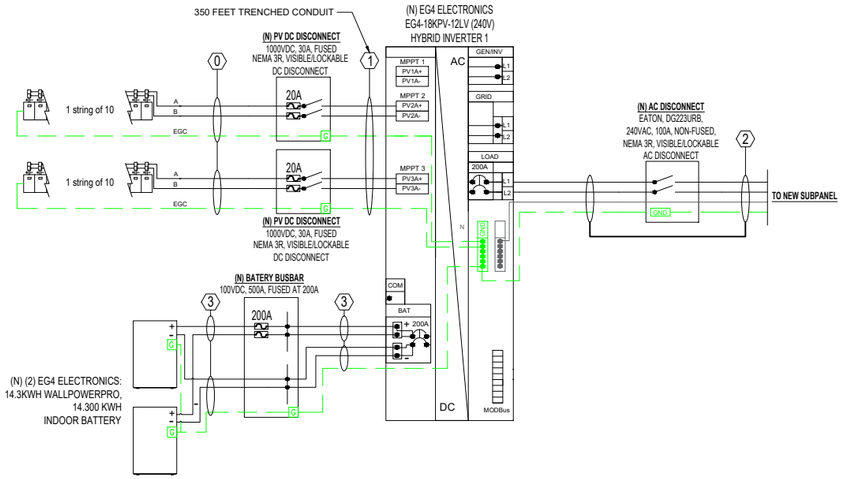
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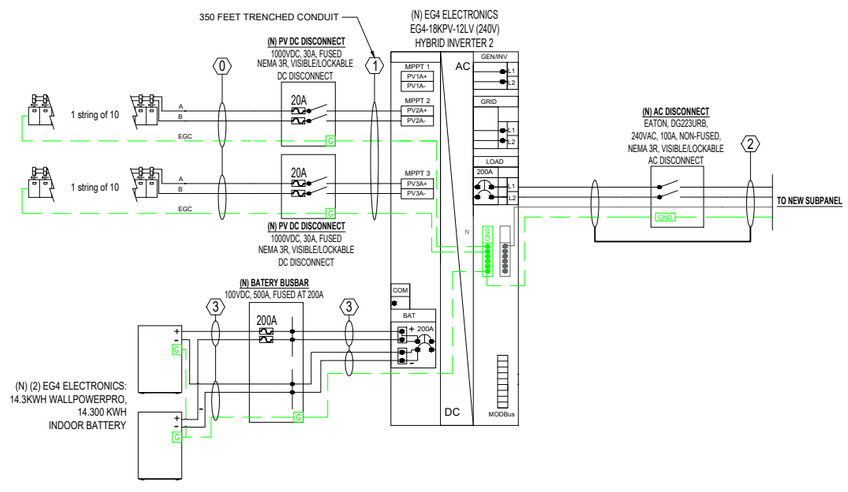
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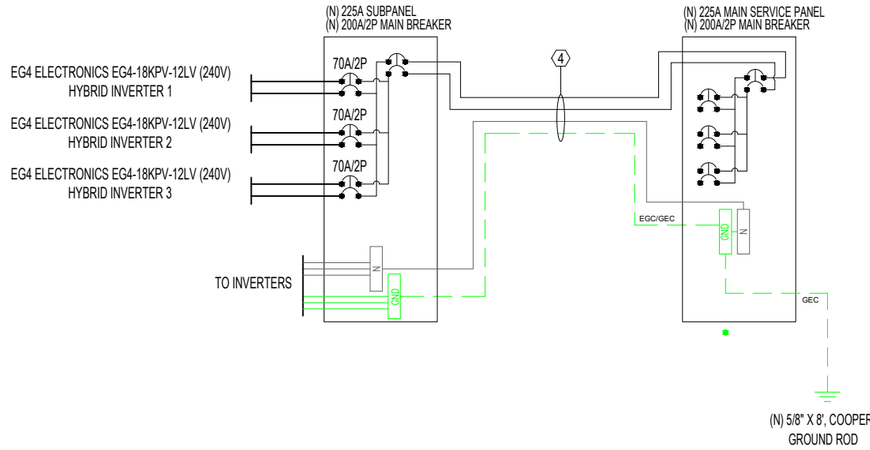
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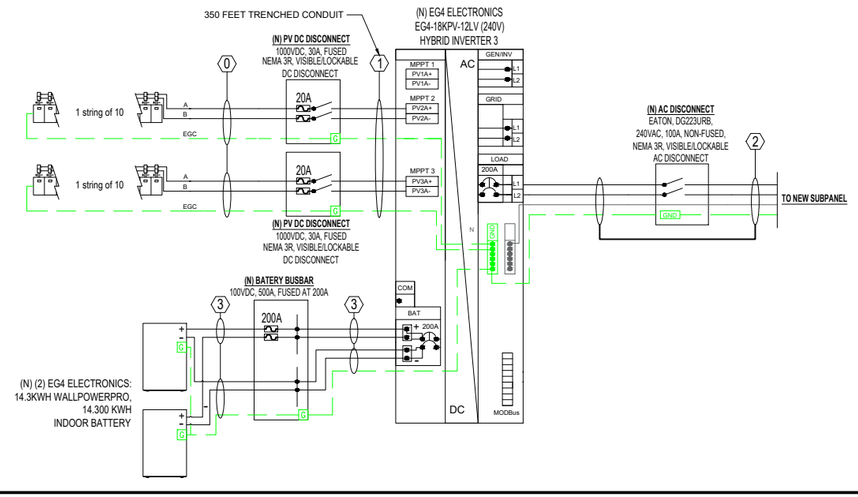
ATTACHMENT PLAN
(PAGE A-104)

PV EQUIPMENTS	BATTERY EQUIPMENTS	ADDITIONAL NOTES	
NEW 24.600 KW PV ARRAY (60) MSE410HT0B, 410W PV MODULES (3) EG4 ELECTRONICS EG4-18KPV-12LV (240V) HYBRID INVERTER	NEW 85.80 kWH ENERGY STORAGE (6) EG4 ELECTRONICS: 14.3KWH WALLPOWERPRO	1. SEE RESOURCE SHEETS FOR COMPONENT TECHNICAL DATA	









Voc* = MAX VOC AT MIN TEMP

CONDUCTOR AND CONDUIT SCHEDULE W/ELECTRICAL CALCULATIONS

TAG NO.	QTY	CONDUCTOR	CONDUIT	CURRENT CARRYING CONDUCTORS	OCPD	NEUTRAL	EGC	TEMP. CORR. FACTOR	CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT (125%)	BASE AMP.	DERATED AMP.	TERM. TEMP. RATING	AMP. @ TERMINAL	CIRCUIT LENGTH IN **Ft**
0	2	10 AWG PV WIRE, COPPER	FREE AIR	N/A	20A	N/A	6 AWG BARE, COPPER	0.71 (56°C)	1.0	13.90A	17.38A	40A	28.40A	90°C	35A	N/A
1	3	8 AWG THWN-2, COPPER	1" PVC SCH 40	4	N/A	N/A	10 AWG THWN-2, COPPER	0.71 (56°C)	0.8	13.90A	17.38A	55A	31.24A	75°C	50A	N/A
2	3	4 AWG THWN-2, COPPER	1" PVC SCH 40	2	70A	4 AWG THWN-2, COPPER	8 AWG THWN-2, COPPER	0.96 (34°C)	1.0	50.00A	62.50A	95A	91.20A	75°C	85A	N/A
3	1	3/0 AWG THWN-2, COPPER	1.5" FMC	2	200A	3/0 AWG THWN-2, COPPER	4 AWG THWN-2, COPPER	0.96 (34°C)	1.0	--	--	225A	216A	75°C	200A	N/A
4	1	3/0 AWG THWN-2, COPPER	2" PVC SCH 40	2	200A	3/0 AWG THWN-2, COPPER	4 AWG THWN-2, COPPER	0.96 (34°C)	1.0	150A	187.50A	225A	216A	75°C	200A	N/A

NEW PV SYSTEM: 24.6000 kWp
NEW ESS: 85.800 kWh

PROPERTY OWNER:

BRENDAN FOLEY
123 R CASE ST
GRANBY, CONNECTICUT 06063
APN:09003056-02100123R

ENGINEER OF RECORD

STATE OF CONNECTICUT
RICARDO E. PINO
37240
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THREE LINE DIAGRAM
(PAGE E-601)

RAPID SHUTDOWN
FOR SOLAR PV SYSTEM

LABEL 2
ON OR NO MORE THAN 3FT FROM RAPID SHUTDOWN SWITCH
[NEC 690.56 (C)(2)]

! WARNING !
POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL 3
AT POINT OF INTERCONNECTION
OVERCURRENT DEVICE
[NEC 705.12(B)(3)(2)]

! WARNING !
THIS EQUIPMENT FED BY MULTIPLE SOURCES
TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE SHALL NOT EXCEED AMPACITY OF BUSBAR

LABEL 4
LABEL LOCATION MAIN SERVICE PANEL
[NEC 705.12(B)(3)(3)]

PHOTOVOLTAIC POWER SOURCE

LABEL 5
AT (1) EXPOSED RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS; (2) COVERS OR ENCLOSURES OF PULL BOXES AND JUNCTION BOXES; (3) CONDUIT BODIES IN WHICH ANY OF THE AVAILABLE CONDUIT OPENINGS ARE UNUSED. [NEC 690.31(D) (2)]

MAIN PHOTOVOLTAIC
SYSTEM DISCONNECT

LABEL 6
LABEL LOCATION: AC DISCONNECT & MAIN SERVICE PANEL
[NEC 690.13(B)]

PHOTOVOLTAIC
AC DISCONNECT

LABEL 7
LABEL LOCATION: AC DISCONNECT
[NEC 690.13(B)]

! WARNING !
DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

LABEL 7
LABEL LOCATION: MAIN SERVICE PANEL
[NEC 690.59, 705.12(C)]

! WARNING !
ELECTRIC SHOCK HAZARD
TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.

LABEL 9
AT POINT OF INTERCONNECTION
[NEC 690.13(B), NEC 706.15(C)(4)]

PHOTOVOLTAIC AC DISCONNECT
MAX. AC OPERATING CURRENT: 50A AC
MAX. AC OPERATING VOLTAGE: 240V AC

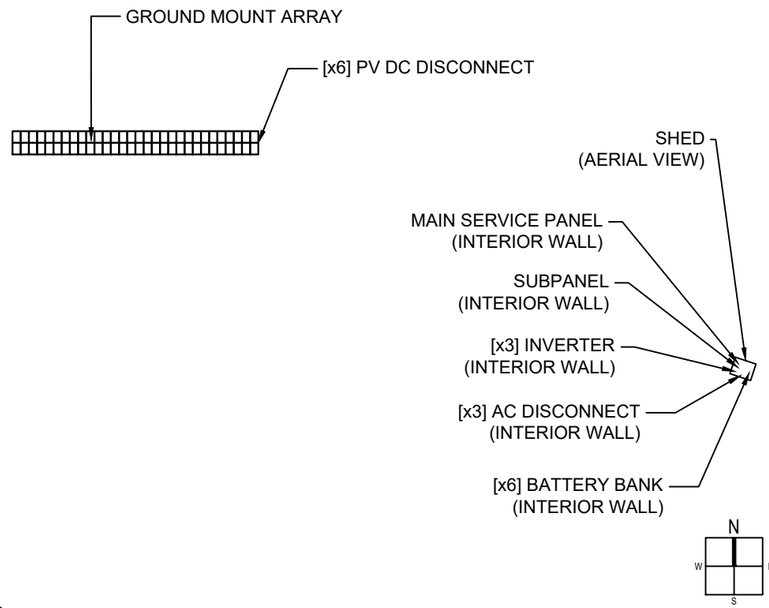
LABEL 10
LABEL LOCATION: AC DISCONNECT 1,2,3
[NEC 690.54]

MAXIMUM DC VOLTAGE
600 V
OF PV SYSTEM

LABEL 11
LABEL LOCATION: INVERTER 1,2,3
[NEC 690.53]

! CAUTION !

POWER TO THIS SERVICE IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS AS SHOWN PER NEC 705.10:

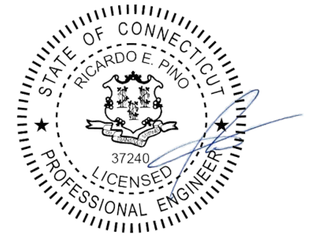


NEW PV SYSTEM: 24.6000 kWp
NEW ESS: 85.800 kWh

PROPERTY OWNER:

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GRANBY, CONNECTICUT 06063
APN:09003056-02100123R

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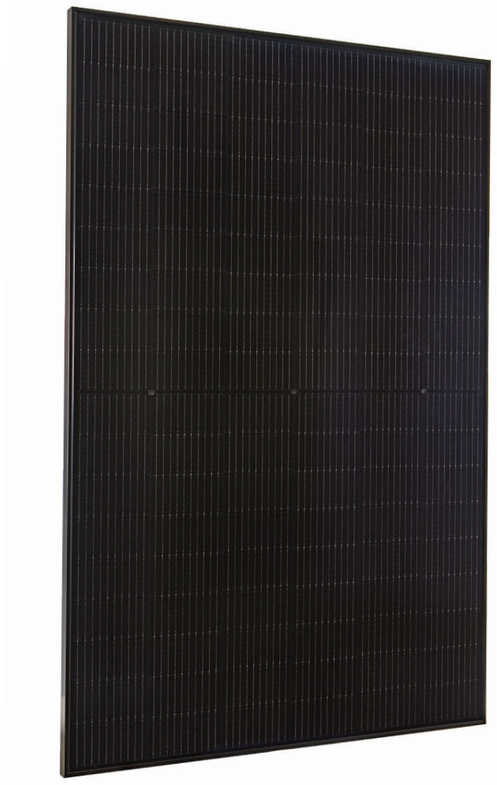
PLACARDS
(PAGE E-602)

MSE PERC 108HC

MISSION SOLAR ENERGY

410W
Class leading power output

Positive Power Tolerance
-0 to +3%



FRAME-TO-FRAME WARRANTY

Degradation guaranteed not to exceed 2% in year 1 and .55% annually from years 2 to 25 with 84.8% capacity guaranteed in year 25.
For more information, visit www.missionsolar.com/warranty

CERTIFICATIONS

If you have questions or concerns about certification of our products in your area, please contact Mission Solar Energy.

American Solar Built for the Long Haul

Mission Solar Energy is headquartered in San Antonio, Texas where we manufacture our modules. We produce American, high-quality solar modules ensuring the highest-in-class power output and best-in-class reliability. This product is tailored for residential and commercial applications. Every Mission Solar Energy solar module is certified and surpasses industry standard regulations, providing excellent performance over the long term.

America's Module Company®

Fair Trade Practices
- Free of forced labor at all stages of the supply chain
- Not subject to AD/CVD tariffs or investigations
- Polysilicon manufactured with sustainable hydroelectric power

Certified Reliability
- Tested to UL 61730 & IEC Standards
- PID resistant
- Resistance to salt mist corrosion

Advanced Technology
- M10 half-cut cell with 10 busbars
- Passivated Emitter Rear Contact
- Engineered for residential and commercial applications

Extreme Weather Resilience
- Up to 5,400 Pa snow and wind load
- In-house hail tests exceeded 35 mm at 23 m/s

BAA Compliant for Government Projects
- Buy American Act
- American Recovery & Reinvestment Act

MODULES ASSEMBLED DESIGNED & ENGINEERED IN THE USA OF U.S. AND NON-U.S. PARTS

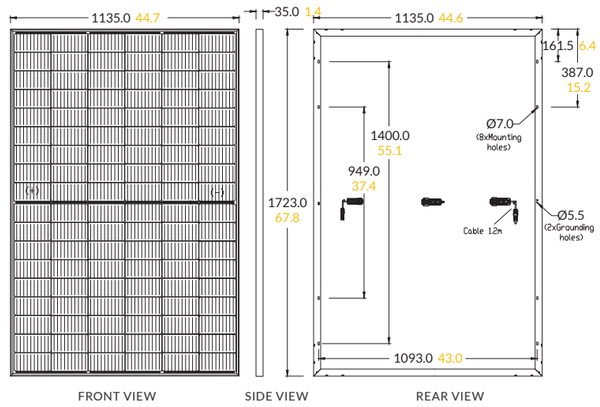
FRAME-TO-FRAME 25 YEAR WARRANTY

Class Leading
400-410W

MSE PERC 108HC

BASIC DIMENSIONS

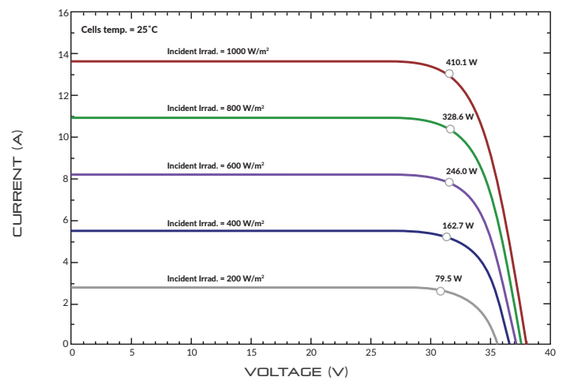
[UNITS: MM/IN]



CURRENT-VOLTAGE CURVE

MSE410HT0B: 410W, 108 HALF-CUT CELL SOLAR MODULE

Current-voltage characteristics with dependence on irradiance and module temperature



CERTIFICATIONS AND TESTS

IEC	61215, 61730, 61701
UL	61730

Mission Solar Energy
8303 S. New Braunfels Ave., San Antonio, Texas 78235
www.missionsolar.com | info@missionsolar.com

Mission Solar Energy reserves the right to make specification changes without notice.

C-MKTG-0033 VERSION: 3 VERSION DATE: 06/04/2024

ELECTRICAL SPECIFICATION

PRODUCT TYPE	MSExxxHT0B (xxx = P_{max})				
Power Output	P_{max}	W_p	400	405	410
Module Efficiency		%	20.5	20.7	21.0
Tolerance		%	0/+3	0/+3	0/+3
Short Circuit Current	I_{sc}	A	13.75	13.82	13.90
Open Circuit Voltage	V_{oc}	V	37.09	37.27	37.41
Rated Current	I_{mp}	A	12.92	13.00	13.07
Rated Voltage	V_{mp}	V	30.96	31.16	31.38
Fuse Rating		A	25A	25A	25A
System Voltage		V	1,000	1,000	1,000

TEMPERATURE COEFFICIENTS

Normal Operating Cell Temperature (NOCT)	45.52°C (±3.7%)
Temperature Coefficient of Pmax	-0.343%/°C
Temperature Coefficient of Voc	-0.254%/°C
Temperature Coefficient of Isc	-0.257%/°C

OPERATING CONDITIONS

Maximum System Voltage	1,000Vdc
Operating Temperature Range	-40°F to 185°F (-40°C to +85°C)
Maximum Series Fuse Rating	25A
Fire Safety Classification	Type 1*
Front & Back Load (UL Standard)	Up to 5,400 Pa front and 5,400 Pa back load. Tested to UL 61730
Hail Safety Impact Velocity	25mm at 23 m/s

**Mission Solar Energy uses quality sourced materials that result in a Type 1 fire rating. Please note, the 'Fire Class' Rating is designated for the fully-installed PV system, which includes, but is not limited to, the module, the type of mounting used, pitch and roof composition.*

MECHANICAL DATA

Solar Cells	P-PERC 182mm x 182mm
Cell Orientation	108 half-cut cells
Module Dimension	1723mm x 1135mm x 35mm
Weight	42 lbs. (19kg)
Front Glass	3.2mm tempered, low-iron, anti-reflective
Frame	35mm anodized interlocking
Encapsulant	Ethylene vinyl acetate (EVA)
Junction Box	Protection class IP68 with 3 bypass-diodes
Cable	1.2m, Wire 4mm² (12AWG)
Connector	MC4 Staubli PV-KBT4/6II-UR and PV-KST4/6II-UR

SHIPPING INFORMATION

Container Feet	Ship To	Pallets	Panels	410W Bin
53'	Most States	26	806	330.46 kW

Double Stack: (Horizontal Orientation): 31 panels per pallet

PALLET [31 PANELS]

Weight	Height	Width	Length
1,610 lbs. (730 kg)	51 in (129.5 cm)	47 in (119.4 cm)	70 in (119.4 cm)

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EG4® 18KPV-12LV

Hybrid Inverter/Charger

The EG4® 18KPV is a 48V split phase, hybrid inverter/charger capable of utilizing 18kW of PV and efficiently outputting 12kW of power while charging your battery bank. You can parallel up to 10 units for 120kWs of AC power and control multiple stations and units using the new EG4® monitoring software.

AC Coupling Capability

Remote Adjustments via EG4® Software

10-Year Warranty

All-In-One Hybrid Inverter

Capable of running entirely off the grid, using grid electricity, or selling power back to the grid.

600VDC Max

The extra high voltage enables lower cable sizing for the 3 MPPTs and a maximum recommended PV input of 21,000W. Eliminating the need for a combiner box.

Mountable Wi-Fi Device

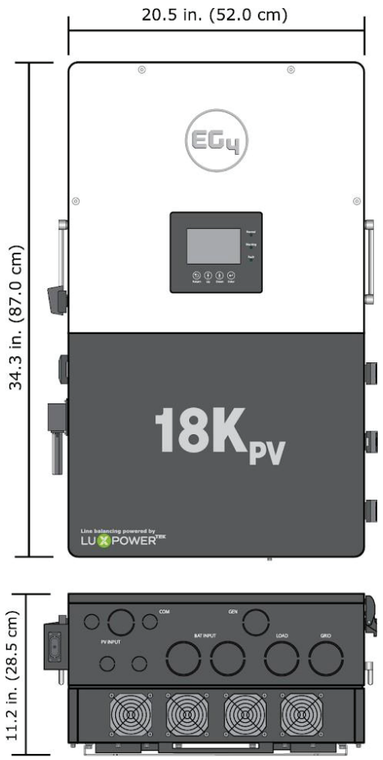
Enables wireless connection between our new monitoring platform and the 18KPV through the app or online website.

Closed-Loop Communications

Able to communicate with EG4® 48V batteries and other battery brands. *A firmware update is required for closed-loop communications with LifePower4 batteries.

High Frequency, Split Phase Output

Allows for 120/240V with a single unit or 120/208VAC service operation.



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EG4® Electronics | Specification Sheet

EG4® 18KPV-12LV

Hybrid Inverter/Charger

AC Input Data	
Nominal AC Voltage	240 | 208VAC
Frequency	50/60Hz
Max. Continuous AC Current	50A
AC Grid Output Data	
Max. Continuous Output Current	50A
AC Bypass (Grid)	200A
Rated Voltage	240VAC
Operating Voltage Range	180–270VAC
Nominal Power Output (W)	@240V 12kW/@208V 10.4kW
Operating Frequency	50/60Hz
Phase Shift	0.99@ full load
Reactive Power Adjust Range	(-0.8) – (+0.8) leading adjustable
Sync Inrush Current	35A
Backup/UPS AC Output Data	
Rated Output Current (240V/208V)	50A
AC Bypass (Generator)	90A
Nominal Output Voltage (V)	240 | 120/240 | 120/208 VAC
Rated Output Power (W)	@240VAC 12kW/@208VAC 10.4kW
Max Cont. Line Wattage	8kW per 120V
Peak Power (W)	With PV: 14.7kW (10 min), 15.5kW (5 min) Without PV: 13.5kW (10 min)
Operating Frequency	50/60Hz
THDV (Total Harmonic Distortion Voltage)	<5%
Switching Time	10ms
PV Input Data	
Number of MPPTs	3
Inputs per MPPT	2/1/1
Max. Usable Input Current	25/15/15A
Max. Short Circuit Input Current	31/19/19A
DC Input Voltage Range	100–600 VDC
Unit Startup Voltage	100 VDC
Load Output Minimum Voltage	>140 VDC
MPP Operating Voltage Range	120–500 VDC
Full Power MPPT Voltage Range	230–500 VDC
Nominal MPPT Voltage	360 VDC
Maximum Utilized Solar Power	18kW
Recommended Maximum Solar Input	21kW

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EG4® 18KPV-12LV

Hybrid Inverter/Charger

Efficiency	
Max. Efficiency @ PV to Grid	97.5%
Max. Efficiency @ Battery to Grid	94%
MPPT Efficiency	99.9%
Battery Charging Efficiency	95%
Battery Discharging Efficiency	94.5%
Idle Consumption (Normal mode)	≈70W
Idle Consumption (Standby mode)	≈18W
Battery Data	
Type	Lead-acid battery/Lithium battery
Max. Charge/ Discharge Current	250A
Nominal Voltage	48 VDC
Voltage Range	40–60 VDC
General Data	
Integrated Disconnect	DC switch
PV Reverse Polarity Protection	Yes
DC Switch Rating for each MPPT	Yes
Output Over-Voltage Protection Varistor	Yes
Output Over-Current Protection	Yes
Grid Monitoring	Yes
Anti-islanding Protection (Fast Zero Export)	Yes
Pole Sensitive Leakage Current Monitoring Unit	Yes
Surge Protection Device	Yes
Dimensions H×W×D	34.3×20.5×11.2 in. (87×52×28.5 cm)
Weight	121.25 lbs (55kg) 132.28 lbs (60kg) with the packaging
Cooling Concept	Fan
Topology	TL (Transformerless)
Relative Humidity	0-100%
Altitude	<2,000m
Operating Temperature Range	-25~60°C, >45° derating
Noise Emission	68dB @3ft
Display	Color touchscreen
Communication Interface	RS485/Wi-Fi/CAN
Standard Warranty	10* year standard warranty
	*See EG4® Warranty Registration for terms and conditions

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EG4® Electronics | Specification Sheet

EG4® 18KPV-12LV

Hybrid Inverter/Charger

Standards and Certifications	
Safety	
UL1741SB Rule 21	Yes
Rapid Shut Down (RSD) NEC 2020:690.12	Yes
Arc-Fault Circuit Interrupter (AFCI) NEC 2020:690.11 / UL1699B	Yes
Ground Fault Monitoring (GFDI) NEC 2020:690.41(B)	Yes
CSA 22.2.107.1	Yes
CSA 22.2.330	Yes
Grid Connection	
IEEE 1547.1:2020; IEEE 1547:2018	Yes
Hawaii Rule 14H	Yes
California Rule 21 Phase I, II, III	Yes
EMC	
FCC Part 15 Class B	Yes
Outdoor Rating	
NEMA 4X / IP65	Yes

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EG4® 14.3kWh WallPowerPro LFP Outdoor Battery

Built-In 200A BMS

51.2V 280Ah (48V Nominal)

10 Year Warranty >8000 Cycles at 80% DOD

82.6MWh Lifetime Production*

On-Board LCD Touch Screen

Easy to see BMS monitoring, and selectable closed-loop communications with EG4, Schneider, Solark, Victron, Growatt, Megarevo, Luxpower, and Deye inverters.

Dual On-Board Fire Arrestors

Offer fail-safe protection against thermal runaway.

Quick Connect Battery Cables

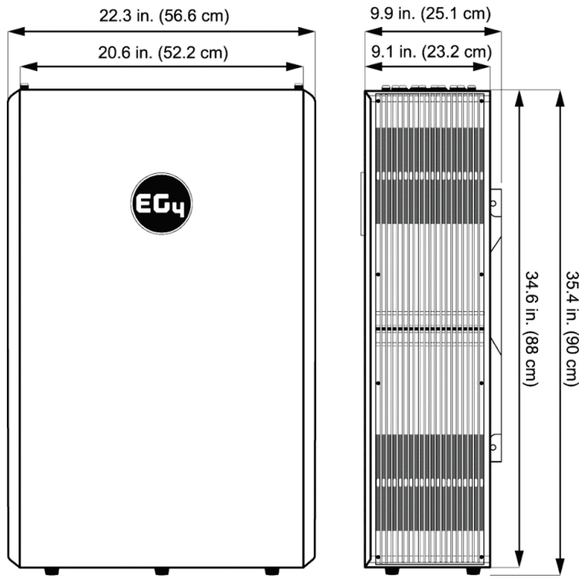
Included battery cables with Amphenol connectors allow for fast, safe, and reliable battery connections.

Integrated Self-Heating Feature

Heats the battery when the ambient temperature is low. A key feature for outdoor $LiFePO_4$ battery cell operation.

Innovative Emergency Stop Function

The optional ESS disconnect can shut down all batteries and inverters (if equipped with rapid shut down capability) with the push of a single button.



The perfect partner to the EG4® 18KPV

The included conduit box mates directly up to the connection ports of the 18KPV inverter cable box for sleek installation. For other inverters or stand-alone battery installation, the included conduit box cover plate should be installed.

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EG4® Electronics | Specification Sheet

EG4® 14.3kWh WallPowerPro LFP Outdoor Battery

Module Operating Parameters			
Parameter	**BMS**	**Recommended Charger Settings**	
Voltage	51.2V	/	
Capacity	280Ah	/	
Charging Voltage (Bulk/Absorb)	56.0V (+/-0.8V)	56.2V (+/-0.2V)	
Float	/	54V (+/-0.2V)	
Low DC Cutoff	44.8V	47-45.6V (start high, lower as needed)	
Charging Current	200A (Max. continuous)	60A - 160A	
Discharging Current	200A (Max. continuous)	160A	
Environmental Parameters			
Charging Range	32° to ≈113°F (0°C to ≈45°C)		
Discharging Range	-4°F to ≈122°F (-20°C to ≈50°C)		
Storage Range	-4°F to ≈122°F (-20°C to ≈50°C)		
Charging/Discharging Parameters			
Charge	**Spec**	**Delay**	**Recovery**
Cell Voltage Protection	3.8V	1 sec	3.45V
Module Voltage Protection	60.0V	1 sec	55.2V
Over Charging Current 1	>205A	10 sec	/
Over Charging Current 2	>225A	3 sec	/
Temperature Protection	<23°F or >158°F <-5°C or >70°C	1 sec	>32°F or <140°F >0°C or <60°C
Discharge	**Spec**	**Delay**	**Recovery**
Cell Voltage Protection	2.3V	1 sec	3.1V
Module Voltage Protection	44.8V	1 sec	48V
Over-Charging Current 1	>205A	10 sec	60 sec
Over-Charging Current 2	>300A	3 sec	60 sec
Short Circuit	>600A	<0.1 mS	
Temperature Protection	<-4°F or >167°F <-20°C or >75°C	1 sec	>14°F or <149°F >-10°C or <65°C
PCB Temp Protection	>230°F (>110°C)	1 sec	@ <176°F (<80°C)

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EG4® 14.3kWh WallPowerPro LFP Outdoor Battery

General Specifications			
Parameter	**Spec**		**Condition**
Cell Balance	120mA	Passive Balance	Cell Voltage Difference >40mV
Temperature Accuracy	3%	Cycle Measurement	Measuring Range -40°F to ≈212°F (-40°C to ≈100°C)
Voltage Accuracy	0.5%	Cycle Measurement	For Cells & Module
Current Accuracy	3%	Cycle Measurement	Measuring Range -200A - 200A
SOC	5%	/	Integral Calculation
Power Consumption	Sleep & Off Mode	<300uA	Storage/Transport/Standby
Power Consumption	Operating Mode	<25mA	Charging/Discharging
Communication Ports	RS485/CAN		Can be customized
Battery Heater Specifications			
Parameter	**Spec**		**Condition**
Voltage	56V		/
Power Consumption	224W		/
Internal Battery Temperature	≤32°F (0°C)/≥41°F (5°C)		Heat On/Heat Off
Physical Specifications			
Dimensions (H×W×D)	34.6 in.×22.3 in.×9.1 in. (88.0 cm×56.6 cm×23.2 cm)		
Weight	308.6 lbs. (140 kg) +/-1kg		
Design Life	>15 Years		
Cycle Life	>8000 Cycles, 0.5C 80% DOD		
Lifetime Production	82.6MWh*		

*(51.2V×280Ah/1000×80%×8000 cycles/1000)90%=MWh

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SKY-RACK 2.0 Ground Mount
Season Adjustable System

INSTALLATION GUIDE



For more information contact: kyle@sinclair-designs.net

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Tel: (01) 877.517.0311

www.sinclair-designs.com

PRODUCT SPEC SHEET

Fixed Tilt System or Season Adjustable - Module Clamp Kits or Direct to Frame





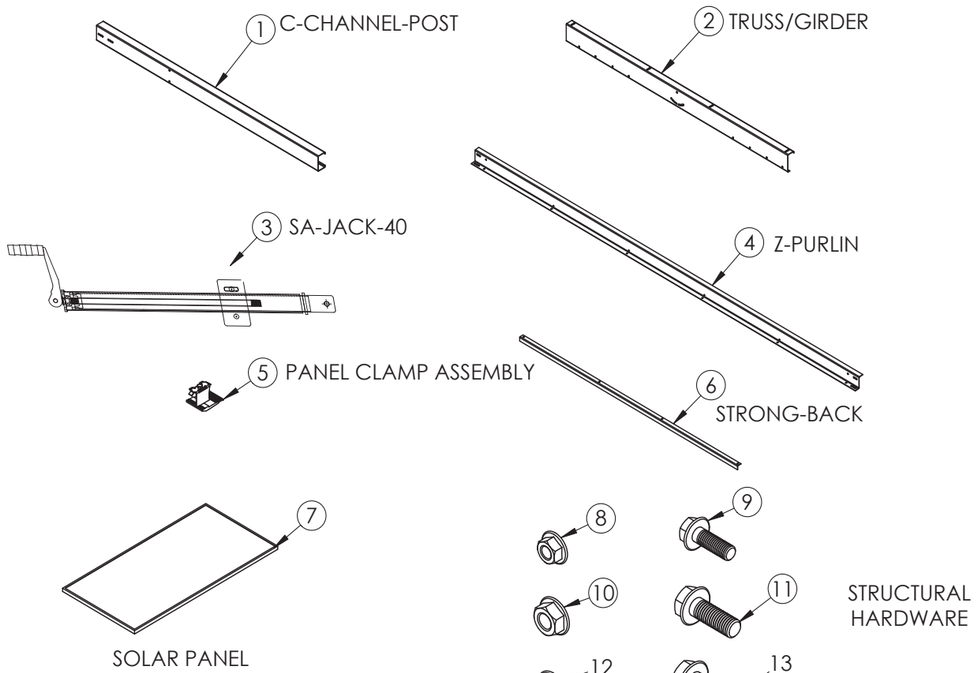
FIXED TILT ANGLES	FIXED TILT - 20, 25, 30, 35 DEGREES	TERRAIN	+/- 5DEG E/W
SEASON ADJUST ANGLES	15 - 60 DEGREES	WIRE MANAGEMENT	OPTIONAL POLY U-GUARD
MODULE ORIENTATION	TWO HIGH PORTRAIT	WARRANTY	20-25 YEARS
WIND LOAD	125 MPH	MATERIAL	GRADE 50-60 HSLA STEEL
SNOW LOAD	60 PSF	COATING	GALVANIZED W/CHEM TREAT
GROUND CLEARANCE	24 - 36 IN STANDARD	MANUFACTURING INFO	MADE IN THE USA
MODULE CLAMPS	SDE CLAMP KITS	STRUCTURAL CERTIFICATIONS	UL 2703 LISTED
OR DIRECT TO RAME	OPTIONAL	QUALITY CERTIFICATION	IS0-9001 2015







CLAMP DESIGN: Included Parts List

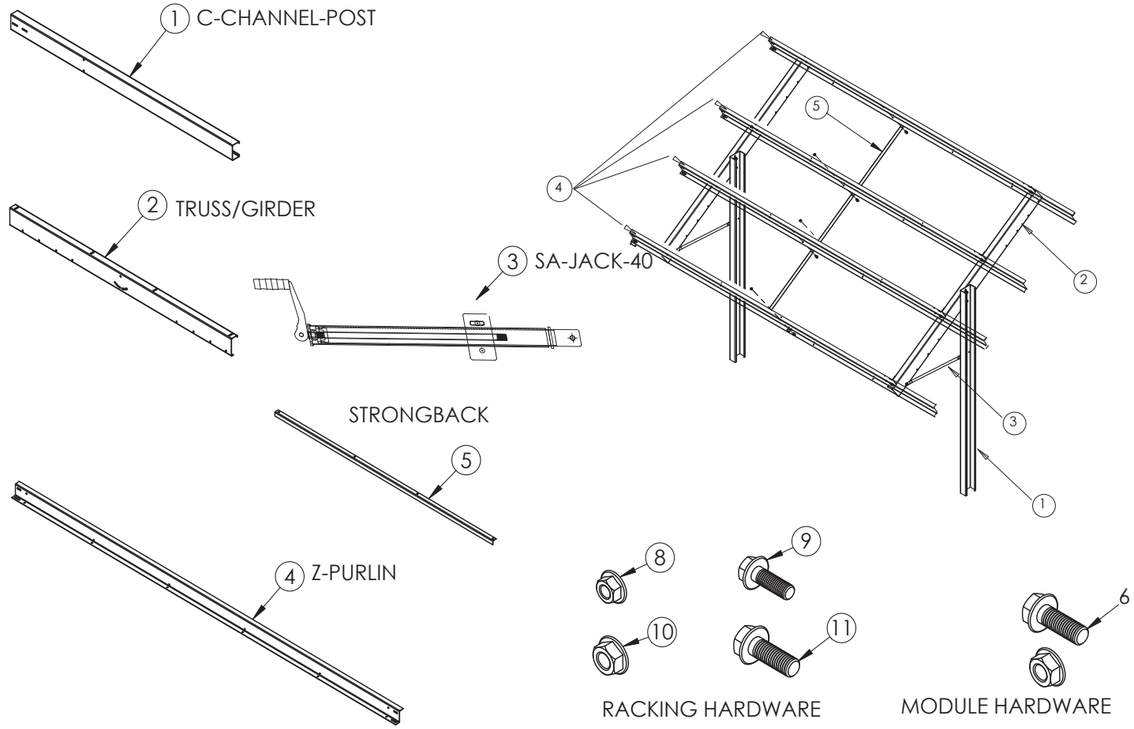


ITEM NO.		QTY
1	C-CHANNEL-POST	2
2	TRUSS/GIRDER	2
3	SA-JACK-40	2
4	Z-PURLIN	4
5	PANEL CLAMP ASSEMBLY	20
6	STRONG-BACK	1
7	PV MODULE	10
8	1/2-13 FLANGE HEAD NUT	14
9	1/2-13 X 1.5 FLANGE HEAD BOLT	14
10	5/8-11 FLANGE HEAD NUT	4
11	5/8-11 X 1.75 FLANGE HEAD BOLT	4

ITEM NO.	Recommended Installation Tools: 1/4 or 1/2 1500 in/lb MIN Impact Driver 1/2 - 3/4 - 15/16 in Impact Sockets (Always take extra batteries)	QTY
5	**TORQUE SPEC =10 ft/lbs**	20
	Over Torque of Clamps Could Result in Module Damage	
9	**TORQUE SPEC =57 ft/lbs**	14
11	**TORQUE SPEC = 112 ft/lbs**	2

Note: Z-PURLIN 49.5 East & West Cantilevers are available - See Design Requirements & Bill of Materials

DIRECT TO FRAME DESIGN: Included Parts List



ITEM NO.	DESCRIPTION	QTY
1	C-CHANNEL-POST	2
2	TRUSS/GIRDER	2
3	SA-JACK-40	2
4	Z-PURLIN	4
5	STRONG-BACK	1
6	1/4-20 SERRATED FLANGED BOLT/NUT	40
7	PV MODULE	10
8	1/2-13 FLANGE HEAD NUT	14
9	1/2-13 X 1.5 FLANGE HEAD BOLT	14
10	5/8-11 FLANGE HEAD NUT	4
11	5/8-11 X 1.75 FLANGE HEAD BOLT	4

TORQUE	Recommended Installation Tools: 1/4 or 1/2 1500 in/lb MIN Impact Driver 1/2 - 3/4 - 15/16 in Impact Sockets (Always take extra batteries)	
6	**TORQUE SPEC =6 ft/lbs**	40
9	**TORQUE SPEC =57 ft/lbs**	14
11	**TORQUE SPEC = 112 ft/lbs**	4

Note: Z-PURLIN 48.5 East & West Cantilevers are available - See Design Requirements & Bill of Materials







