



MEETING NOTICE AND AGENDA

MANSFIELD INLAND WETLANDS AGENCY

AUDREY P. BECK MUNICIPAL BUILDING ■ 4 SOUTH EAGLEVILLE ROAD ■ COUNCIL CHAMBER

WEDNESDAY, NOVEMBER 2, 2016 ■ 6:30 PM

REGULAR MEETING

1. CALL TO ORDER AND ROLL CALL
2. APPROVAL OF MINUTES
 - A. October 6, 2016
 - B. October 12, 2016 – FIELD TRIP NOTES
3. COMMUNICATIONS
 - A. CONSERVATION COMMISSION MINUTES
4. PUBLIC HEARINGS
 - A. W1575- WILLARD J. STEARNS & SONS, INC., BROWNS & COVENTRY ROAD, 9 LOT SUBDIVISION
(Item will be opened and IMMEDIATELY tabled to the 11/16/16 meeting)
5. OLD BUSINESS
 - A. W1574- 122-124 THORNBUSH ROAD LLC, 122-124 THORNBUSH ROAD, SITE WORK
Tabled
 - B. W1575- WILLARD J. STEARNS & SONS, INC., BROWNS & COVENTRY ROAD, 9 LOT SUBDIVISION
Tabled Pending Continued 11/16/16 Public Hearing
 - C. W1579- J.C. BEALL & K. HIGGINS, WOODLAND ROAD, WETLANDS CROSSING
Memo from Inland Wetlands Agent
 - D. W1580- E. HALL, 513 WORMWOOD HILL ROAD, 42' X 52' FARM BUILDING
Memo from Inland Wetlands Agent
 - E. W1581- EVERGREEN ENERGY, LLC., 205 PLEASANT VALLEY ROAD, GROUND MOUNTED SOLAR PANELS
Memo from Inland Wetlands Agent
 - F. OTHER
6. NEW BUSINESS
 - A. W1582- P. & L. LEWIS, RAVINE ROAD (PARCEL ID 14.18.8B), SINGLE FAMILY HOME
Memo from Inland Wetlands Agent
 - B. OTHER
7. REPORTS FROM OFFICERS AND COMMITTEES
8. OTHER COMMUNICATIONS AND BILLS
9. REPORTS FROM OFFICERS AND COMMITTEES
10. OTHER COMMUNICATIONS AND BILLS
11. ADJOURNMENT

MINUTES



DRAFT MINUTES

MANSFIELD INLAND WETLANDS AGENCY

AUDREY P. BECK MUNICIPAL BUILDING ■ 4 SOUTH EAGLEVILLE ROAD ■ COUNCIL CHAMBER

TUESDAY, OCTOBER 6, 2016 ■ REGULAR MEETING

MEMBERS PRESENT: J. Goodwin, C. Ausburger, B. Chandy, R. Hall, G. Lewis (arrived at 6:41pm), K. Rawn, B. Ryan, S. Westa (arrived at 7:16pm)

MEMBERS ABSENT: V. Ward

ALTERNATES PRESENT: P. Aho, K. Fratoni

ALTERNATES ABSENT: T. Berthelot

STAFF PRESENT: Jennifer Kaufman, Inland Wetlands Agent

Chairman Goodwin called the meeting to order at 6:31 p.m. and appointed Aho and Fratoni to act and Chandy was appointed as Acting Secretary in Ward's absence.

APPROVAL OF MINUTES:

A. SEPTEMBER 6, 2016 – REGULAR MEETING

Ryan MOVED, Rawn seconded, to approve the 09-06-2016 minutes as presented. MOTION PASSED UNANIMOUSLY. Hall and Fratoni noted for the record that they listened to the recording.

B. SEPTEMBER 14, 2016- FIELD TRIP NOTES

Noted.

COMMUNICATIONS:

The Conservation Commission draft minutes were noted.

OLD BUSINESS:

A. W1574- 122-124 THORNBUSH ROAD LLC, 122-124 THORNBUSH ROAD, SITE WORK

Item tabled.

B. W1575- WILLARD J. STEARNS & SONS, INC., BROWNS & COVENTRY ROAD, 9 LOT SUBDIVISION

Item tabled Pending a11/2/16 Public Hearing.

C. W1576- C. & J. RUSSEY-MILNE., 494 WORMWOOD HILL ROAD, 24' X 24' ADDITION

Rawn recused himself. Ryan MOVED, Hall seconded, to grant an Inland Wetlands License pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Mansfield to C. and J. Russey-Milne (File W1576) for a garage and rear addition on property owned by the applicants and located at 494 Wormwood Hill Road as shown on plans dated 8/30/2016, revised through 9/29/2016 and as described in application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provisions being met:

1. Appropriate erosion and sedimentation controls as shown of the plans shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized; and
2. The site will be seeded and mulched after construction and monitored until the site is completely stabilized.

This approval is valid for five years (until October 6, 2021) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the

activity period shall come before this Agency for further review and comment. MOTION PASSED with all in favor except Rawn who recused himself.

D. W1577-M. BENZIE, 1029 STORRS ROAD, SEPTIC SYSTEM AND LEECH FIELD

Goodwin recused herself. Vice Chair Ryan was seated at Chair. Rawn MOVED, Chandy seconded, to grant an Inland Wetlands License pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Mansfield to M. Benzie (File W1577) for installation of an onsite sewage treatment system on property owned by the M. MacDonald and located at 1029 Storrs Road as shown on plans dated 7/19/2016, revised through 8/31/2016 and as described in application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provisions being met:

1. Prior to commencing installation the applicant shall demonstrate that the area of activity currently located on the abutting property has been deeded to the owners of 1029 Storrs Road;
2. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
3. All soil shall be stockpiled at least 50 feet from the edge of wetlands and surrounded with silt fence; and
4. Upon completion of activity, all soil shall be removed from the site or distributed at least 50 feet from the edge of wetlands.

This approval is valid for five years (until October 6, 2021) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment. MOTION PASSED with all in favor except Goodwin who recused herself.

NEW BUSINESS:

A. W1569- T. AINSWORTH, WOODLAND ROAD, MODIFICATION REQUEST

Rawn MOVED, Hall seconded, to grant a modification of the Inland Wetlands License (File W1569) granted on July 20, 2016 pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Mansfield to T. Ainsworth for construction of a single family home on property owned by Alan Ainsworth and located on Woodland Rd (Parcel ID 18.67.3) as shown on plans dated 4/28/2016, revised through 9/12/2016 and as described in application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provisions being met:

1. Appropriate erosion and sedimentation controls, as noted on the plans, shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
2. To filter runoff and prevent erosion, ground cover shall be planted as indicated on the plan in areas with a 3 to 1 and 2 to 1 slope and establishment of such plantings shall be a condition of the certificate of zoning permit compliance.
3. The site plan shall be revised to include a notation stating that the area down gradient of the silt fence shall be kept in a natural state, except for the management of invasive species. A notice of this condition shall be filed on the land records.

This approval is valid for five years (until October 6, 2021) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment. MOTION PASSED UNANIMOUSLY.

B. W1579- J.C. BEALL & K. HIGGINS, WOODLAND ROAD, WETLANDS CROSSING

Ryan MOVED, Ausburger seconded, to receive the application submitted by JC Beall and Katrina Higgins (IWA File 1579) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for installation of a stream crossing on property located on the west side of Woodland Road (Assessor's Parcel ID 11.49.19) as shown on a map dated 9/25/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

C. W1580- E. HALL, 513 WORMWOOD HILL ROAD, 42' X 52' FARM BUILDING

Ryan MOVED, Rawn seconded, to receive the application submitted by Ed Hall/Tom Wells (IWA File 1580) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for construction of a 42 by 52 foot farm maintenance building on property located at 513 Wormwood Hill Road as shown on a map dated 9/26/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

D. W1581-EVERGREEN ENERGY, LLC., 205 PLEASANT VALLEY ROAD, GROUND MOUNTED SOLAR PANELS

Ryan MOVED, Chandy seconded, to receive the application submitted by Evergreen Energy, LLC (IWA File 1581) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for installation of a solar array and geothermal wells on property located at 205 Pleasant Valley as shown on a map dated 9/28/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

REPORTS FROM OFFICERS AND COMMITTEES:

A 2:30pm Field Trip was set for 10/12/16.

COMMUNICATIONS AND BILLS:

Noted.

PUBLIC HEARINGS:

W1564-2 – STORRS LODGES, 218 UNITS, HUNTING LODGE ROAD (PARCEL ID 15.21.3)

Chairman Goodwin opened the continued Public Hearing at 6:50 p.m. Members present were Goodwin, Ausburger, Chandy, Hall, Lewis, Rawn, Ryan, and alternates Aho and Fratoni. Aho (until 7:16 pm) and Fratoni were appointed to act. Westa was seated upon arrival at 7:16 p.m. Jennifer Kaufman, Inland Wetlands Agent noted her 9/29/16 memo that listed all of the communications received and distributed to members of the Agency thus far. In addition to those listed in the memo, distributed this evening were: a 10-5-16 email from Charles Vidich; an email with an attached letter dated 9-6-16 from Brian Usher which was read into the record at the September 6th meeting; and resumes of the IWA hired independent consultants: Kimberly Bradley and John McGrane of GEI Consultants.

Attorney David Sherwood, representing the applicant, explained the applicant's position regarding the meaning and application of the statutory requirements concerning feasible and prudent alternatives, and distributed additional handouts to the Agency that included a:

- A 10-6-16 "C.G.S. §22a-41 Factors for consideration of Commissioner. Finding of no feasible and prudent alternative. Wetlands or Watercourses. Habitats. Jurisdiction of municipal inland wetland agencies"
- A 10-6-16 "C.G.S. §22a-38 Definitions
- A 10-6-16 "Applicant's Additional Submittals Relating to Feasible and Prudent Alternatives Analysis"
- A 10-6-16 "University of Connecticut Student Housing Statistics-Storrs Campus"
- A 10-6-16 "Newspaper Articles and Reports on the Need for Student Housing"
- A 10-4-16 Letter from Robert Stewart, Stewart Appraisal Services
- A 9-6-16 Letter from Jeffrey Resetco, Vice President, EdR
- A set of marked up undated plans depicting alternatives

David Ziaks, F. A. Hesketh and Associates, reviewed the applicant's site alternatives analysis with the Agency.

Kimberly Bradley, GEI Consultants, on behalf of the Inland Wetlands Agency, was present to answer questions from the agency. She submitted her Curriculum Vitae and that of her colleague John H. McGrane. She answered the questions listed in the Conservation Commission minutes and agreed, at the request of the Agency, to provide written answers prior to the next meeting. She expressed her opinion that more information is necessary before she can confirm that the proposed stormwater plan is adequate.

After Agency questions, Chairman Goodwin noted no further comments from the Agency or the Applicant and opened the floor for public comment.

John Silander, 30 Silver Falls Lane, member of the Conservation Commission (stating that he has recused himself from any discussion of this topic at Commission meetings) spoke as a concerned citizen. He submitted his Curriculum Vitae and correspondence which he summarized for the record setting out his concerns for this proposed project.

Barbara Hurd, 329 North Eagleville Road, expressed concern with the runoff, contaminants from increase automobile traffic, increase pedestrian traffic and trash all within the wetlands area.

Brian Usher, 44 Meadowood Road, expressed concern for the property owners adjacent to the proposed site and the potential for increased water issues, that no consideration was given to downsizing the project, and the need for that much additional housing. He questioned the applicant's statement about this proposal having a lesser effect on the wetlands than a 19 lot subdivision.

Elizabeth Cowles, previously a homeowner on Meadowood Road, expressed concern that this development is all uphill from the homes on Meadowood Road and noted that these homes are already effected by the high water table. She questioned if there will be any impact from the change in water flow to the existing chemical waste pits. She requested that the Agency consider this proposal in light of the area as a whole and not just the impact on this site.

David Freudman, 22 Eastwood Road, requested that this proposal be looked at as a whole, expressing concern for the potential neighborhood impact to wells.

Marilyn Cook, 219 Separatist Road, expressed concern for the amphibious wildlife (especially salamanders and tree frogs) in the area and potential consequences to wells.

Mary Harper, member of the Conservation Commission, speaking as a concerned citizen, questioned Kim Bradley as to what she meant by a “visual observation”.

James Knox, Birch Road, stated that he feels this project is out of scale for this property, stating that at a minimum the buildings closest to the neighborhoods should be removed from the proposal.

Mr. Dahmani, 155 Birch Road, Ph.D. in Petroleum Engineering, spoke at length about the potential significant negative impact the proposed development could have on the groundwater and urged that a study be performed with a chemical analysis.

Linda Hogan, 38 Meadowbrook Road, requested that the Agency look at this project site as a whole and take into consideration the impact it will have on off-site properties. She asked what mitigation measures are in place and what the short and long term effects on wells will be.

Kathy Usher, 44 Meadowbrook Road, expressed concern for the water quality and wanted assurances that this development doesn't further negatively impact the surrounding neighborhoods.

Among other questions, the Agency inquired if Silander had an opinion on the wetlands crossing onto Hunting Lodge Road, the potential impact on wells from the chemical pits as a result of development, the scale of the project, the basis for tying the Agency's analysis to the need for additional student housing not provided by UCONN, that Bradley respond to the Conservation Commission's questions/concerns in writing so that it may be reviewed by all, the impact of oil, gasoline and other runoff on the wetlands and the current status of wells impacted by the chemical pits.

At 9:07 p.m., Hall MOVED, Rawn seconded, to adjourn the public hearing to Wednesday, November 2, 2016. MOTION PASSED UNANIMOUSLY.

ADJOURNMENT:

The Chair declared the meeting adjourned at 9:08 pm.

Respectfully submitted,

Binu Chandy, Acting Secretary



MEETING NOTICE AND AGENDA

MANSFIELD INLAND WETLANDS AGENCY CONSERVATION COMMISSION

SPECIAL JOINT MEETING ■ FIELD TRIP

FIELD TRIP NOTES

WEDNESDAY, OCTOBER 12, 2016

IWA Members present: B. Ryan, P. Aho, J. Goodwin
Conservation Commission: G. Meitzer
Staff present: Jennifer Kaufman, Environmental Planner/Inland Wetlands Agent
Janell Mullen, Assistant Planner/Zoning Enforcement Office

The field trip began at approximately 2:30 p.m.

W1579- J.C. BEALL & K. HIGGINS, WOODLAND ROAD, WETLANDS CROSSING

Members were met on site by J.C. Beall. Members observed current conditions, and site characteristics. No decisions were made.

W1580- E. HALL, 513 WORMWOOD HILL ROAD, 42' X 52' FARM BUILDING

Members were met on site by E. Hall. Members observed current conditions, and site characteristics. No decisions were made.

W1581-EVERGREEN ENERGY, LLC., 205 PLEASANT VALLEY ROAD, GROUND MOUNTED SOLAR PANELS

Members were met on site by R. Vocke. Members observed current conditions, and site characteristics. No decisions were made.

W1574- 122-124 THORNBUSH ROAD LLC, 122-124 THORNBUSH ROAD, SITE WORK

Members were met on site by A. Sadow. Members observed current conditions, and site characteristics. No decisions were made.

The field trip ended at approximately 4:00 p.m.

COMMUNICATIONS

Town of Mansfield
CONSERVATION COMMISSION
Meeting of 19 October 2016
Conference B, Audrey P. Beck Building
(draft) MINUTES

Members present: Aline Booth (Alt.), Mary Harper (Alt.), Quentin Kessel, Scott Lehmann, Grant Meitzler, John Silander. *Members absent:* Robert Dahn, Neil Facchinetti, Michael Soares.
Others present: Allison Hilding, Jennifer Kaufman (Wetlands Agent).

1. The meeting was **called to order** at 7:30p by Chair Quentin Kessel. In the absence of two members, Alternates Aline Booth & Mary Harper were entitled to participate fully in the business of the meeting. IWA referral W1574 and the schedule of meetings proposed for 2017 were added to the agenda.
2. The **draft minutes** of the 21 September 2016 meeting were approved, with change of “will” to “could” in the final sentence on p.2 (item 3b, 6th bullet).
3. **IWA referrals.** {Meitzler participated in the 12 October Field Trip to these sites.}

a. **W1579 (Beall & Higgins, Woodland Rd).** The applicants propose a permanent stream crossing to gain access to their property (parcel 11.49.19 on Woodland Rd) for control of invasive shrubs. A 36-inch culvert would be installed over 18 cubic yards of rip rap, with another 55 yards of gravel used to achieve a stable roadbed on either side of the intermittent brook. In discussion, it was noted that (1) the application does not show the location of wetlands (as required) and (2) a temporary bridge (like those used in logging operations) would be sufficient for the stated purpose of gaining access to control invasives. The Commission agreed (**motion:** Silander, Booth) to comment to the IWA that:

This project may have a significant impact on wetlands, but the Commission cannot determine if this is so, since the application does not provide enough information about their location and character. If the applicants wish to proceed with a permanent brook crossing (as opposed to a temporary one), the Commission requests that a complete wetlands application be submitted to it for review.

All were in favor save Lehmann, a friend of the applicants, who did not participate in the discussion and abstained.

b. **W1580 (Hall for Wells, 513 Wormwood Hill Rd).** A 42x52 ft farm equipment maintenance building (steel construction on concrete slab) is proposed, to accommodate agricultural machinery now scattered around the Wells farm. The site slopes gently toward wetlands west of Wormwood Hill Rd and is within the upland review area. After some discussion, the Commission agreed (**motion:** Kessel, Silander) to comment that:

No significant wetlands impact is to be expected from this project, provided adequate erosion and sedimentation controls are used during construction and the catch basin is designed to minimize nutrient loading of wetlands.

All were in favor save Booth, a neighbor of the Wells, who abstained.

c. **W1581 (Evergreen Energy for Wollen, 205 Pleasant Valley Rd).** This application is

for a ground mounted solar array and geothermal well on a flat site within the upland review area. Twelve 4-ft deep boreholes would be drilled for the solar array's concrete piers, and two 375-ft geothermal wells would be drilled. Trenches would be dug to connect the array and geothermal wells with the house. Excavated soil (c. 38 cubic yards) would be stockpiled for backfilling; excess would be spread under the solar array. The Commission agreed unanimously (**motion:** Silander , Kessel) that:

The impact of this project on wetlands should be minimal as long as precaution is taken to place erosion and sediment controls around the excavation area and soil stockpile.

d. **W1574 (122-124 Thornbush Rd, LLC).** To satisfy floodplain regulations, the applicant proposes to move soil from an area outside the upland review area to create a hill within this area on which a mobile home would be placed. The Commission concluded that, while there may be better ways to address the threat of flooding (such as elevating the trailer on pilings), the proposed project does not raise wetlands concerns. It unanimously agreed (**motion:** Silander, Kessel) to comment that:

The impact on wetlands of this project appears to be minimal, as long as erosion is controlled during the grading operation and the site is adequately stabilized thereafter.

4. 2017 meeting schedule. Regular meetings in 2017 will be at 7:30p on the third Wednesday of each month.

5. State Water Plan. The Rivers Alliance of Connecticut is promoting development of a State Water Plan to provide “a framework for managing Connecticut’s water resources into the future.” Three public meetings have been announced: Norwich (Oct 25), New Britain (Oct 26), & Southbury (Oct 27). Soares will attend the Norwich meeting.

6. Conservation award. Joshua’s Trust has bestowed on the Commission a “Conservation Award” for fifty years of service. Perhaps it could be displayed in Conference B.

7. Storrs Lodges. For reasons not shared with the Town, the developers of Storrs Lodges have withdrawn their application for a wetlands permit at this time.

8. Adjourned at 8:39p. Next meeting: Wednesday, 16 November, 7:30p.

Scott Lehmann, Secretary, 21 October 2016.



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: October 26, 2016
To: Inland Wetlands Agency
From: Jennifer S. Kaufman, AICP, Environmental Planner/Inland Wetlands Agent
Subject: Monthly Business Report

AGENT APPROVALS

- None

OTHER

As was communicated to you via email, on October 18, 2016, the application for a 218 unit, 692 bed apartment complex on the west side of Hunting Lodge Road (File W1564-2) was withdrawn by the applicant, Storrs Lodges, LLC. Therefore, the public hearing that was to be continued for tonight has been cancelled. I have attached the withdrawal letter.

MORIARTY, PAETZOLD & SHERWOOD
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October 18, 2016

Jo Ann Goodwin, Chair
Mansfield Inland Wetlands Agency
Audrey P Beck Municipal Building
4 South Eagleville Road
Mansfield, CT 06268

Re: Storrs Lodges, LLC, Hunting Lodge Road, Application No. W-1564-2

Dear Ms. Goodwin:

This office represents Storrs Lodges, LLC, in connection with the above-referenced inland wetlands and watercourses permit application.

I am writing on behalf of the applicant to withdraw the permit application. The development team will be re-evaluating the application in order to re-submit a modification at a later time.

Very truly yours,

MORIARTY, PAETZOLD & SHERWOOD



David F. Sherwood

/mds

cc: Anthony Giorgio, Ph.D

PUBLIC HEARINGS



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: October 26, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: Street Address (File W1575)
Willard J. Stearns and Sons, Inc.
Description of Work: 9-lot subdivision-Mountain View Acres
Map Date: 12/15/2015

PROJECT OVERVIEW

Because we were anticipating a lengthy public hearing regarding the Storrs Lodges Project (File #1564-2) at your November 2, 2016 meeting, staff requested that the applicants adjourn the public hearing for the above referenced project to a special meeting of the Inland Wetlands Agency on November 16, 2016, the same night as a regularly scheduled Planning and Zoning Commission Meeting. The applicants rearranged their schedule to accommodate this and when the Storrs Lodges application was withdrawn they were unable to reschedule their team back to November 2nd. Therefore, staff requests that the Agency open the public hearing for this application and immediately adjourn it to November 16, 2016 and schedule a special meeting of the IWA for November 16, 2016.

If the IWA accepts staff's request, after the public hearing is opened, the following motion would be in order:

_____ MOVES, _____ seconds to adjourn the public hearing on the 9-lot subdivision application (Mountain View Acres) submitted by Willard J. Stearns and Sons, Inc. (File W1575), subdivision to November 16, 2016 and schedule a special meeting of the Inland Wetlands Agency for November 16, 2016.



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: August 30, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: Street Address (File W1575)
Willard J. Stearns and Sons, Inc.
Description of Work: 9-lot subdivision-Mountain View Acres
Map Date: 12/15/2015

PROJECT OVERVIEW

The applicants propose to subdivide an approximately 36-acre parcel located on the corner of Coventry and Browns Road into 9 lots for single family homes. There will be approximately 80,000 square feet of disturbance in the upland review area and approximately 4,800 square feet of disturbance associated with a wetland crossing for a driveway to access a lot on the western portion of the parcel. The lots will be served by subsurface sewage disposal systems and private wells. The site is mainly wooded but the land along Coventry Road was logged within the last 10 years. The site drains primarily from Coventry Road to the south where surface flow is collected in a wetland that drains from the west to the east under Browns Road through an 18 inch culvert located in the southwestern portion of the parcel.

Because the applicants are proposing direct impacts to the wetlands, I recommend that the Agency hold a public hearing pursuant to section 9.0 of the regulations.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.

APPLICATION FEES AND NOTIFICATIONS

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.

RECEIPT MOTION

_____ MOVE to receive the application submitted by Willard J. Stearns and Sons, Inc. (IWA File 1575) under the Wetlands and Watercourses Regulations of the Town of Mansfield for a 9-lot subdivision on property located at 522 Browns Road as shown on a map dated 12/15/2015 and as described in application submissions, to refer said application to staff and the Conservation Commission for review and comments, and to schedule a public hearing on November 2, 2016.

Part C - Project Description (attach extra pages, if necessary)

- 1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

There will be one proposed wetland crossing associated with the development of the nine lots. The proposed driveway for lot #1 will cross the wetland in the same location as an existing crossing. Site work will be performed by an excavator during a dry time of the year.

Abutting the wetlands, within the 150' regulated area, typical development associated with single family lots is proposed such as clearing and construction of houses, driveways and septic systems.

- 2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

The proposed wetland crossing will disturb 4,800 s.f. of wetlands though much of it was disturbed previously due to logging activities.

The 150' upland review area will have 80,000 s.f. of disturbance.

- 3) Describe the type of materials you are using for the project: _____

Clean fill for the proposed driveways and select sand for leaching systems.

- a) include **type** of material used as fill or to be excavated Processed and bank run gravel.
- b) include **volume** of material to be filled or excavated Remove 70 c.y. of topsoil at driveway crossing and provide 140 c.y. of fill.

- 4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

Siltfence will be used downgrade of site disturbance and around stockpile areas. In general, the site is relatively flat which helps minimize the risk of erosion.

Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

The site generally has a uniform flat slope. The parcel is wooded except for the field on lot #9, though it has been logged.

Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

Other alternatives would require a longer wetland crossing and not utilize an existing crossing.

Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

2) Applicant's map date and date of last revision 12-15-2015, revised 01-27-2016

3) Zone Classification RAR-90

4) Is your property in a flood zone? Yes XX No Don't Know

Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

Part H - Notice to Abutting Property Owners

1) Attach list of abutters, name, and address

2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

Part I - Additional Notices, if necessary

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

Part J - Other Impacts To Adjoining Towns, if applicable

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? ___ Yes XX No ___ Don't Know

- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? ___ Yes XX No ___ Don't Know

- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? ___ Yes XX No ___ Don't Know

Part K - Additional Information from the Applicant

Set forth (or attach) any other information which would assist the Agency in evaluating your application. (*Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.*)

Part L - Filing Fee

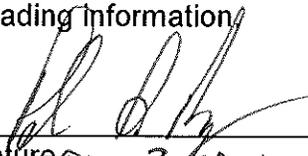
Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.

Certification

I hereby certify that:

- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.



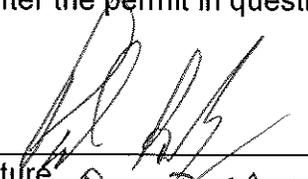
Signature *PAUL J. BROWN, PRESIDENT*

8/10/16

Date

Authorization to Enter Property

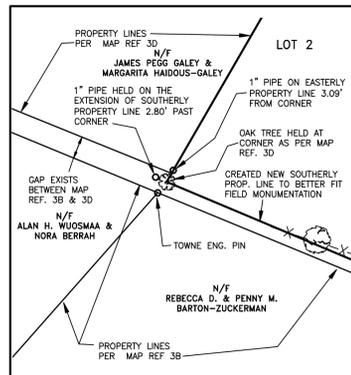
The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.



Signature *PAUL J. BROWN, PRESIDENT*

8/10/16

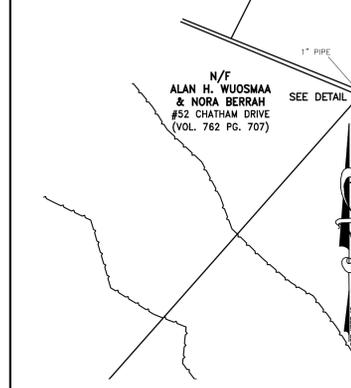
Date



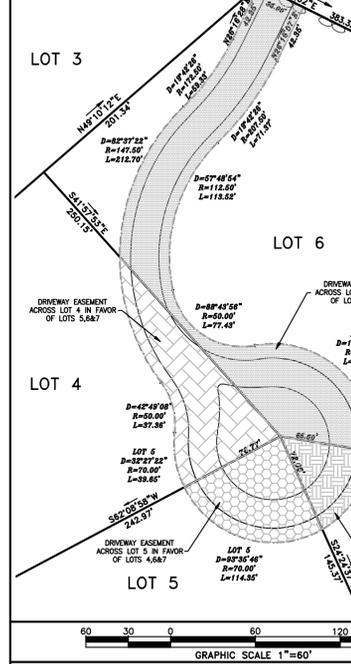
CORNER DETAIL 1"=20'

BUILDABLE AREA:

LOT #1	44,000+S.F.
LOT #2	40,000+S.F.
LOT #3	40,800+S.F.
LOT #4	43,000+S.F.
LOT #5	40,100+S.F.
LOT #6	56,000+S.F.
LOT #7	43,000+S.F.
LOT #8	42,800+S.F.
LOT #9	40,000+S.F.



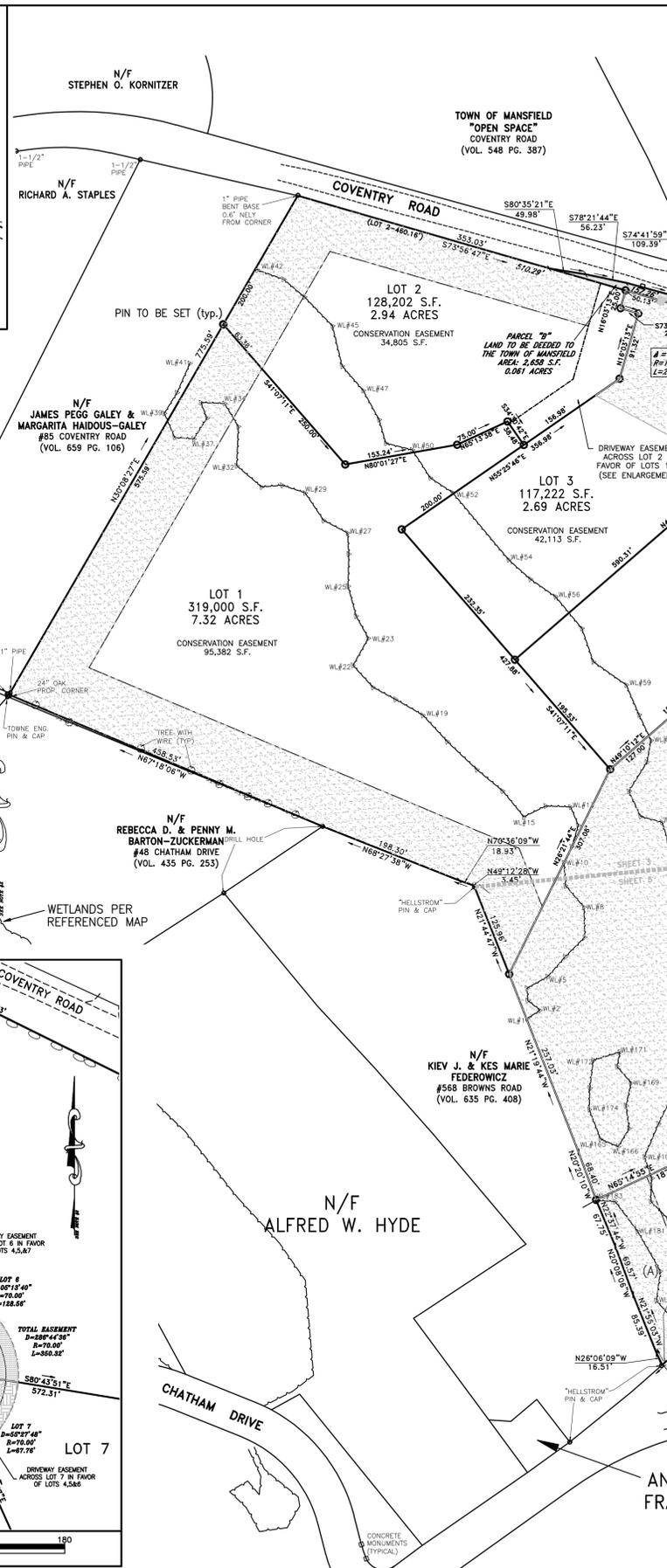
CORNER DETAIL 1"=20'



GRAPHIC SCALE 1"=60'

I HEREBY DECLARE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

Kenneth K. Peterson
KENNETH K. PETERSON
1. S. 10839
REGISTRATION NO.

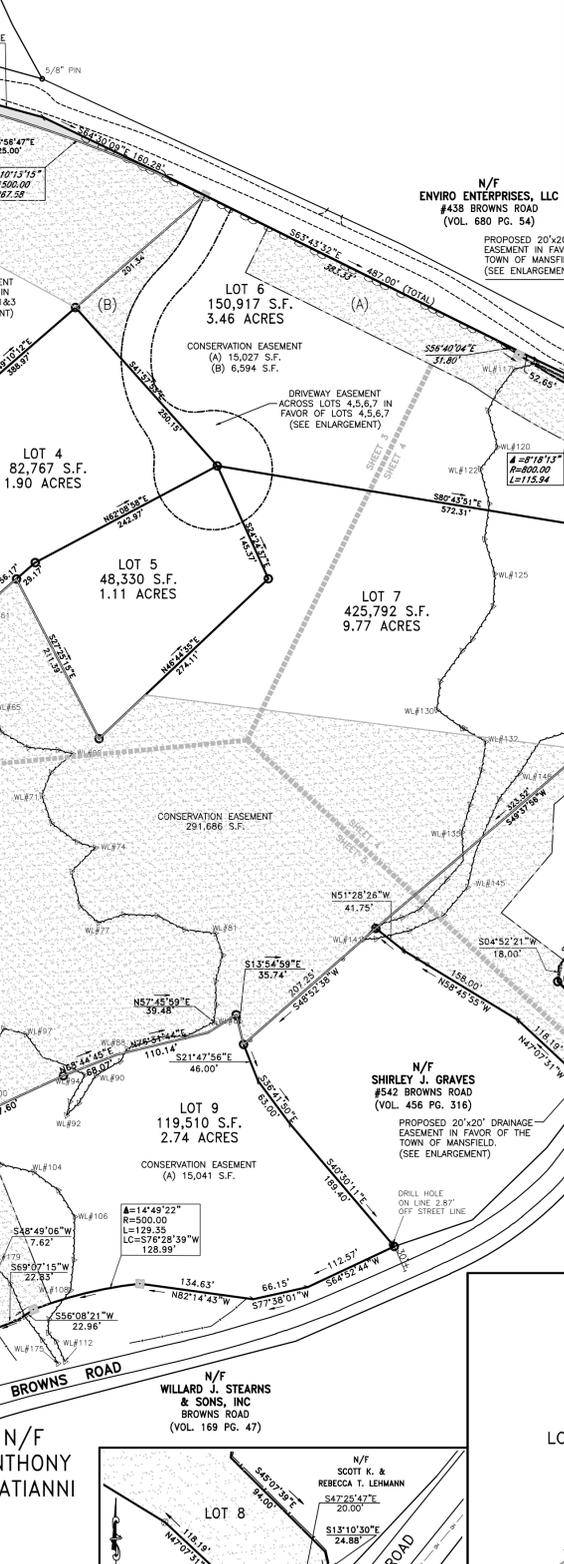


GRAPHIC SCALE 1"=60'

THE WETLAND SOILS ON THIS PROPERTY WERE IDENTIFIED IN THE FIELD USING THE CRITERIA REQUIRED BY CONNECTICUT P.A. 72-155 AS AMENDED BY P.A. 73-571 AND ARE ACCURATELY REPRESENTED ON THIS PLAN

SOIL SCIENTIST *John J. ...*

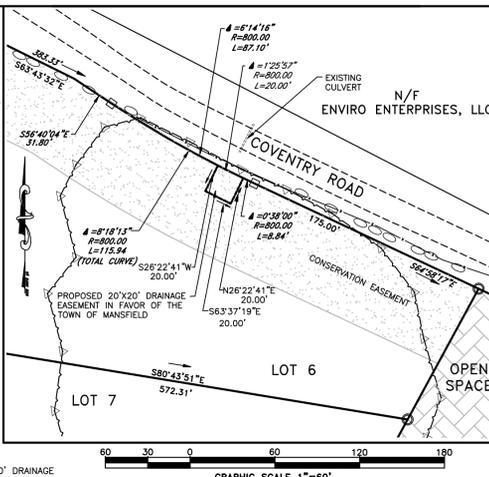
OPEN SPACE COMPUTATIONS:
PARCEL AREA: 36.647 ACRES
AREA OF WETLANDS: 9.397 ACRES
AREA OF LEDGE OUTCROPS & SLOPES OVER 20%: 0.90 ACRES
UPLAND AREA: 26.35 ACRES
UPLAND PERCENTAGE: 71.9%
OPEN SPACE REQUIRED FOR CLUSTER DEVELOPMENTS: UP TO 40% (14.659 ACRES)
UPLAND OPEN SPACE AREA REQUIRED: 10.54 ACRES
PROP. OPEN SPACE CONSISTS OF LAND DEDICATED TO TOWN OF MANSFIELD & CONSERVATION ESMTS.: 2.456 ACRES (6.70%)
DEDICATED OPEN SPACE: 13.049 ACRES (35.61%)
CONSERVATION EASEMENT (CE): 15.505 ACRES (42.31%)
TOTAL PROVIDED: 1.881 ACRES
UPLAND PROVIDED IN OPEN SPACE: 8.868 ACRES
UPLAND PROVIDED IN CONSERVATION EASEMENTS THEREFORE: 10.54 AC. PROVIDED > 10.54 AC. REQUIRED
RAR-90



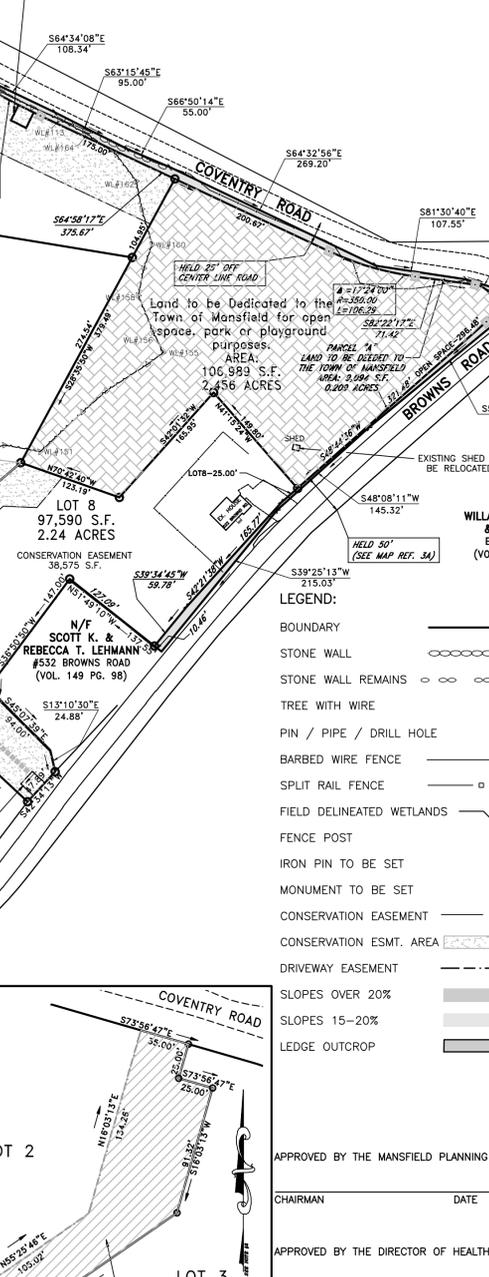
GRAPHIC SCALE 1"=60'

THE WETLAND SOILS ON THIS PROPERTY WERE IDENTIFIED IN THE FIELD USING THE CRITERIA REQUIRED BY CONNECTICUT P.A. 72-155 AS AMENDED BY P.A. 73-571 AND ARE ACCURATELY REPRESENTED ON THIS PLAN

SOIL SCIENTIST *John J. ...*



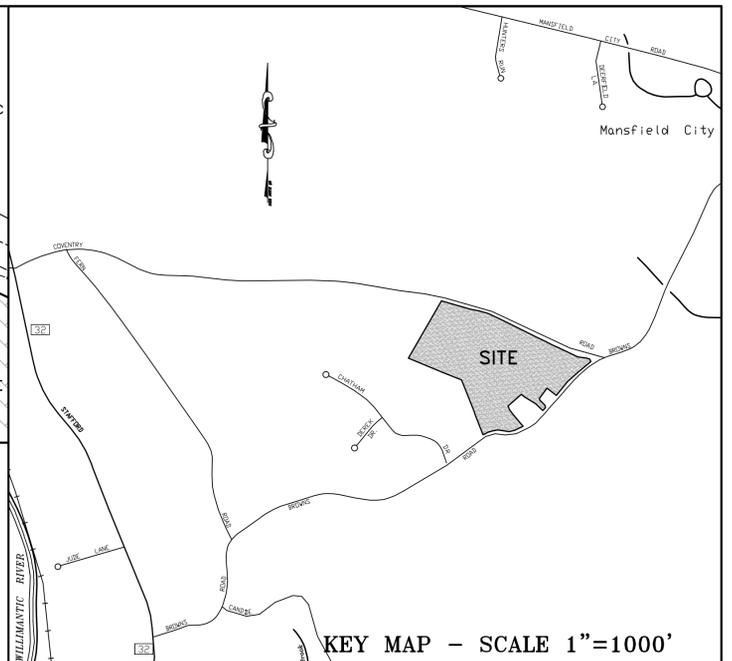
KEY MAP - SCALE 1"=1000'



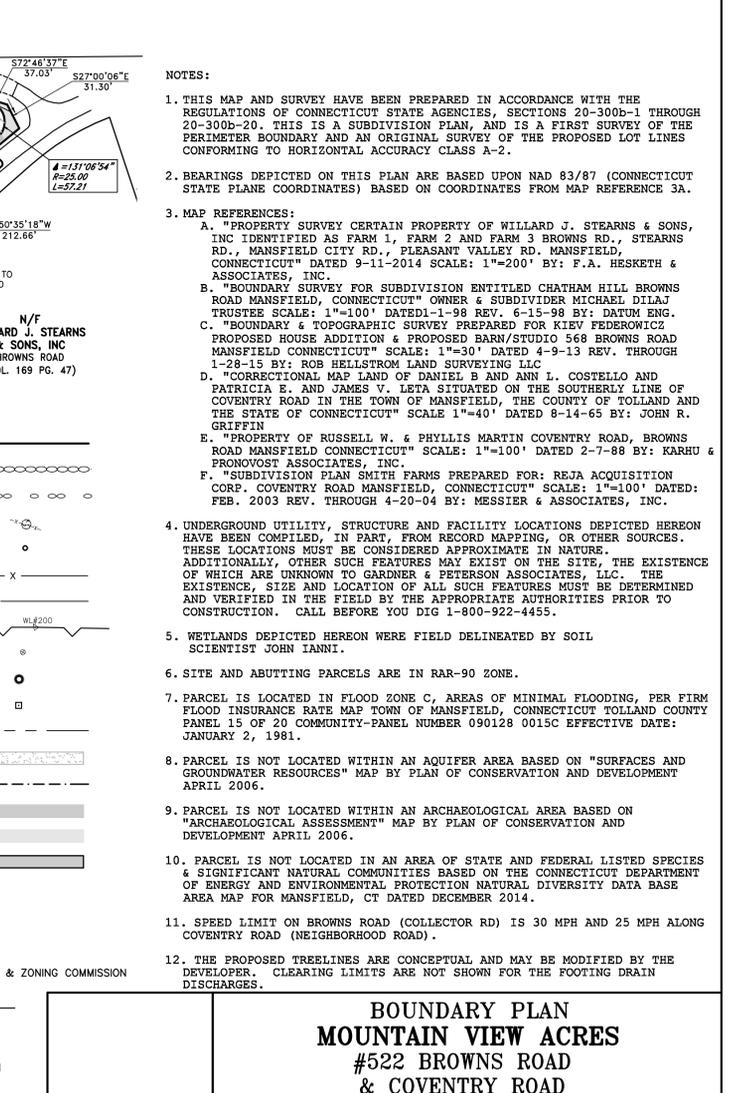
GRAPHIC SCALE 1"=60'

THE WETLAND SOILS ON THIS PROPERTY WERE IDENTIFIED IN THE FIELD USING THE CRITERIA REQUIRED BY CONNECTICUT P.A. 72-155 AS AMENDED BY P.A. 73-571 AND ARE ACCURATELY REPRESENTED ON THIS PLAN

SOIL SCIENTIST *John J. ...*



KEY MAP - SCALE 1"=1000'



GRAPHIC SCALE 1"=60'

THE WETLAND SOILS ON THIS PROPERTY WERE IDENTIFIED IN THE FIELD USING THE CRITERIA REQUIRED BY CONNECTICUT P.A. 72-155 AS AMENDED BY P.A. 73-571 AND ARE ACCURATELY REPRESENTED ON THIS PLAN

SOIL SCIENTIST *John J. ...*

- NOTES:**
1. THIS MAP AND SURVEY HAVE BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THROUGH 20-300b-20. THIS IS A SUBDIVISION PLAN, AND IS A FIRST SURVEY OF THE PERIMETER BOUNDARY AND AN ORIGINAL SURVEY OF THE PROPOSED LOT LINES CONFORMING TO HORIZONTAL ACCURACY CLASS A-2.
 2. BEARINGS DEPICTED ON THIS PLAN ARE BASED UPON NAD 83/87 (CONNECTICUT STATE PLANE COORDINATES) BASED ON COORDINATES FROM MAP REFERENCE 3A.
 3. MAP REFERENCES:
 - A. "PROPERTY SURVEY CERTAIN PROPERTY OF WILLARD J. STEARNS & SONS, INC IDENTIFIED AS FARM 1, FARM 2 AND FARM 3 BROWNS RD., STEARNS RD., MANSFIELD CITY RD., PLEASANT VALLEY RD. MANSFIELD, CONNECTICUT DATED 9-11-2014 SCALE: 1"=200' BY: F.A. HESKETH & ASSOCIATES, INC
 - B. "BOUNDARY SURVEY FOR SUBDIVISION ENTITLED CHATHAM HILL BROWNS ROAD MANSFIELD, CONNECTICUT OWNER & SUBDIVIDER MICHAEL DILAJ TRUSTEE SCALE: 1"=100' DATED 1-1-98 REV. 6-15-98 BY: DATUM ENG.
 - C. "BOUNDARY & TOPOGRAPHIC SURVEY PREPARED FOR KIEV FEDEROWICZ PROPOSED HOUSE ADDITION & PROPOSED BARN/STUDIO 568 BROWNS ROAD MANSFIELD CONNECTICUT SCALE: 1"=30' DATED 4-9-13 REV. THROUGH 1-28-15 BY: ROB HELLSTROM LAND SURVEYING LLC
 - D. "CORRECTIONAL MAP LAND OF DANIEL B AND ANN L. COSTELLO AND PATRICIA E. AND JAMES V. LETA SITUATED ON THE SOUTHERLY LINE OF COVENTRY ROAD IN THE TOWN OF MANSFIELD, THE COUNTY OF TOLLAND AND THE STATE OF CONNECTICUT" SCALE 1"=40' DATED 8-14-65 BY: JOHN R. GRIFFIN
 - E. "PROPERTY OF RUSSELL W. & PHYLLIS MARTIN COVENTRY ROAD, BROWNS ROAD MANSFIELD CONNECTICUT SCALE: 1"=100' DATED 2-7-88 BY: KARHU & PRONOVOST ASSOCIATES, INC.
 - F. "SUBDIVISION PLAN SMITH FARMS PREPARED FOR: REJA ACQUISITION CORP. COVENTRY ROAD MANSFIELD, CONNECTICUT" SCALE: 1"=100' DATED: FEB. 2003 REV. THROUGH 4-20-04 BY: MESSIER & ASSOCIATES, INC.
 4. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING, OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO GARDNER & PETERSON ASSOCIATES, LLC. THE EXISTENCE, SIZE AND LOCATION OF ALL SUCH FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-922-4455.
 5. WETLANDS DEPICTED HEREON WERE FIELD DELINEATED BY SOIL SCIENTIST JOHN IANNI.
 6. SITE AND ADJUTING PARCELS ARE IN RAR-90 ZONE.
 7. PARCEL IS LOCATED IN FLOOD ZONE C, AREAS OF MINIMAL FLOODING, PER FIRM FLOOD INSURANCE RATE MAP TOWN OF MANSFIELD, CONNECTICUT TOLLAND COUNTY PANEL 15 OF 20 COMMUNITY-PANEL NUMBER 090129 0015C EFFECTIVE DATE: JANUARY 2, 1981.
 8. PARCEL IS NOT LOCATED WITHIN AN AQUIFER AREA BASED ON "SURFACES AND GROUNDWATER RESOURCES" MAP BY PLAN OF CONSERVATION AND DEVELOPMENT APRIL 2006.
 9. PARCEL IS NOT LOCATED WITHIN AN ARCHAEOLOGICAL AREA BASED ON "ARCHAEOLOGICAL ASSESSMENT" MAP BY PLAN OF CONSERVATION AND DEVELOPMENT APRIL 2006.
 10. PARCEL IS NOT LOCATED IN AN AREA OF STATE AND FEDERAL LISTED SPECIES & SIGNIFICANT NATURAL COMMUNITIES BASED ON THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION NATURAL DIVERSITY DATA BASE AREA MAP FOR MANSFIELD, CT DATED DECEMBER 2014.
 11. SPEED LIMIT ON BROWNS ROAD (COLLECTOR RD) IS 30 MPH AND 25 MPH ALONG COVENTRY ROAD (NEIGHBORHOOD ROAD).
 12. THE PROPOSED TREELINES ARE CONCEPTUAL AND MAY BE MODIFIED BY THE DEVELOPER. CLEARING LIMITS ARE NOT SHOWN FOR THE FOOTING DRAIN DISCHARGES.

LEGEND:

BOUNDARY	---
STONE WALL	—●—●—●—●—
STONE WALL REMAINS	—○—○—○—○—
TREE WITH WIRE	⊗
PIN / PIPE / DRILL HOLE	○
BARBED WIRE FENCE	—x—x—x—x—
SPLIT RAIL FENCE	—□—□—□—□—
FIELD DELINEATED WETLANDS	WL#200
FENCE POST	⊙
IRON PIN TO BE SET	⊙
MONUMENT TO BE SET	⊠
CONSERVATION EASEMENT	---
CONSERVATION ESMT. AREA	▨
DRIVEWAY EASEMENT	---
SLOPES OVER 20%	▨
SLOPES 15-20%	▨
LEDGE OUTCROP	▨

APPROVED BY THE MANSFIELD PLANNING & ZONING COMMISSION
CHAIRMAN _____ DATE _____
APPROVED BY THE DIRECTOR OF HEALTH
DIRECTOR _____ DATE _____
APPROVED BY THE DIRECTOR OF PUBLIC WORKS
DIRECTOR _____ DATE _____

BOUNDARY PLAN MOUNTAIN VIEW ACRES #522 BROWNS ROAD & COVENTRY ROAD MANSFIELD, CONNECTICUT GARDNER & PETERSON ASSOCIATES, LLC			
178 HARTFORD TURNPIKE TOLLAND, CONNECTICUT			
PROFESSIONAL ENGINEERS		LAND SURVEYORS	
BY	SCALE	DATE	SHEET NO.
B.D.C.	1"=100' OR AS SHOWN	12-15-2015	2 OF 7
		REVISIONS	MAP NO.
		01-27-2016	105905

THE WETLAND SOILS ON THIS PROPERTY WERE IDENTIFIED IN THE FIELD USING THE CRITERIA REQUIRED BY CONNECTICUT P.A. 72-155 AS AMENDED BY P.A. 73-571 AND ARE ACCURATELY REPRESENTED ON THIS PLAN

SOIL SCIENTIST *John Jan*

N/F JAMES PEGG GALEY & MARGARITA HAIKOUS-GALEY #85 COVENTRY ROAD (VOL. 659 PG. 106)

EXISTING HOUSE

N/F REBECCA D. & PENNY M. BARTON-ZUCKERMAN #48 CHATHAM DRIVE (VOL. 435 PG. 253)

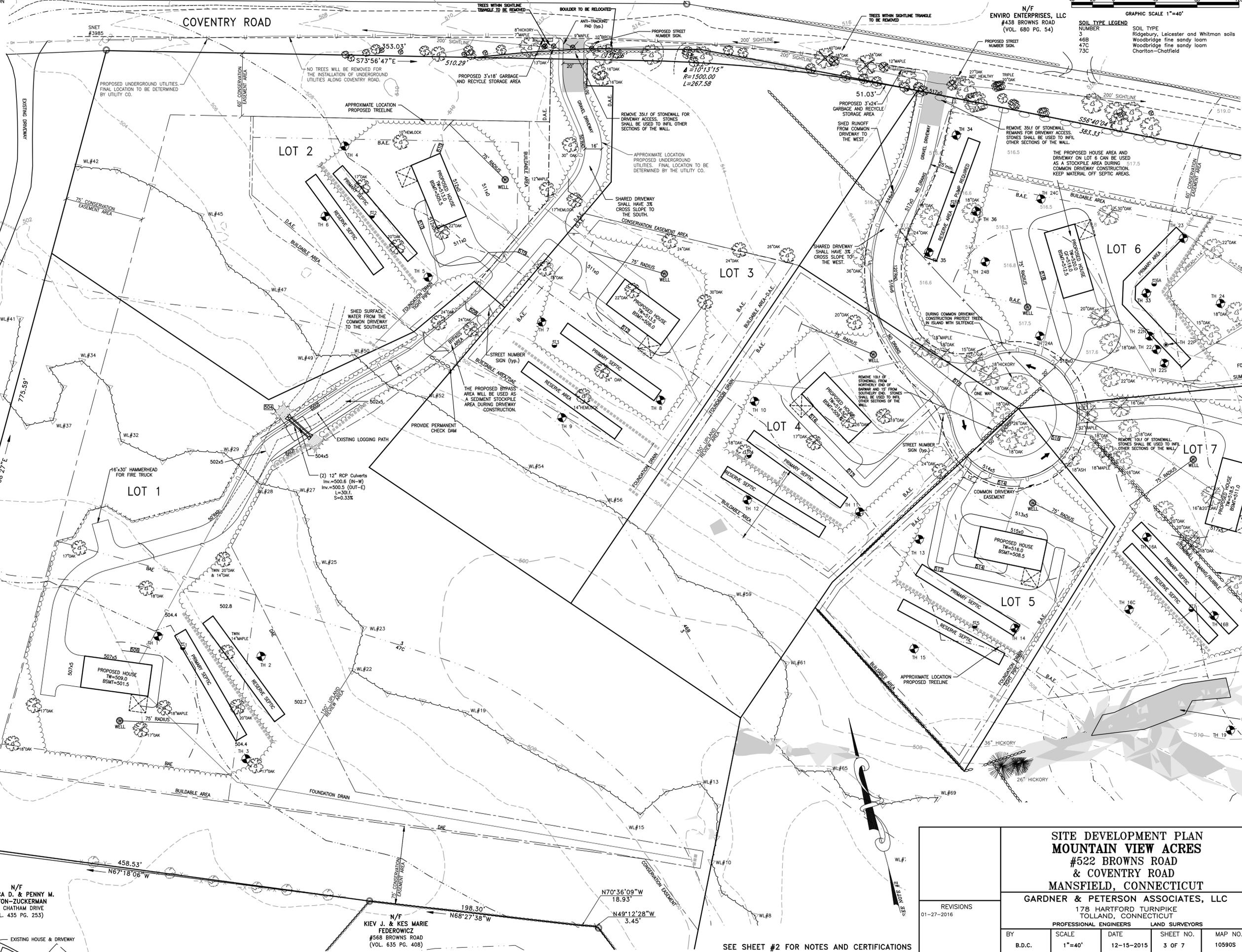
EXISTING HOUSE & DRIVEWAY

COVENTRY ROAD

N/F ENVIRO ENTERPRISES, LLC #438 BROWNS ROAD (VOL. 680 PG. 54)

SOIL TYPE LEGEND
NUMBER
46B
47C
73C
SOIL TYPE
Ridgebury, Leicester and Whitman soils
Woodbridge fine sandy loam
Woodbridge fine sandy loam
Charlton-Chatfield

GRAPHIC SCALE 1"=40'



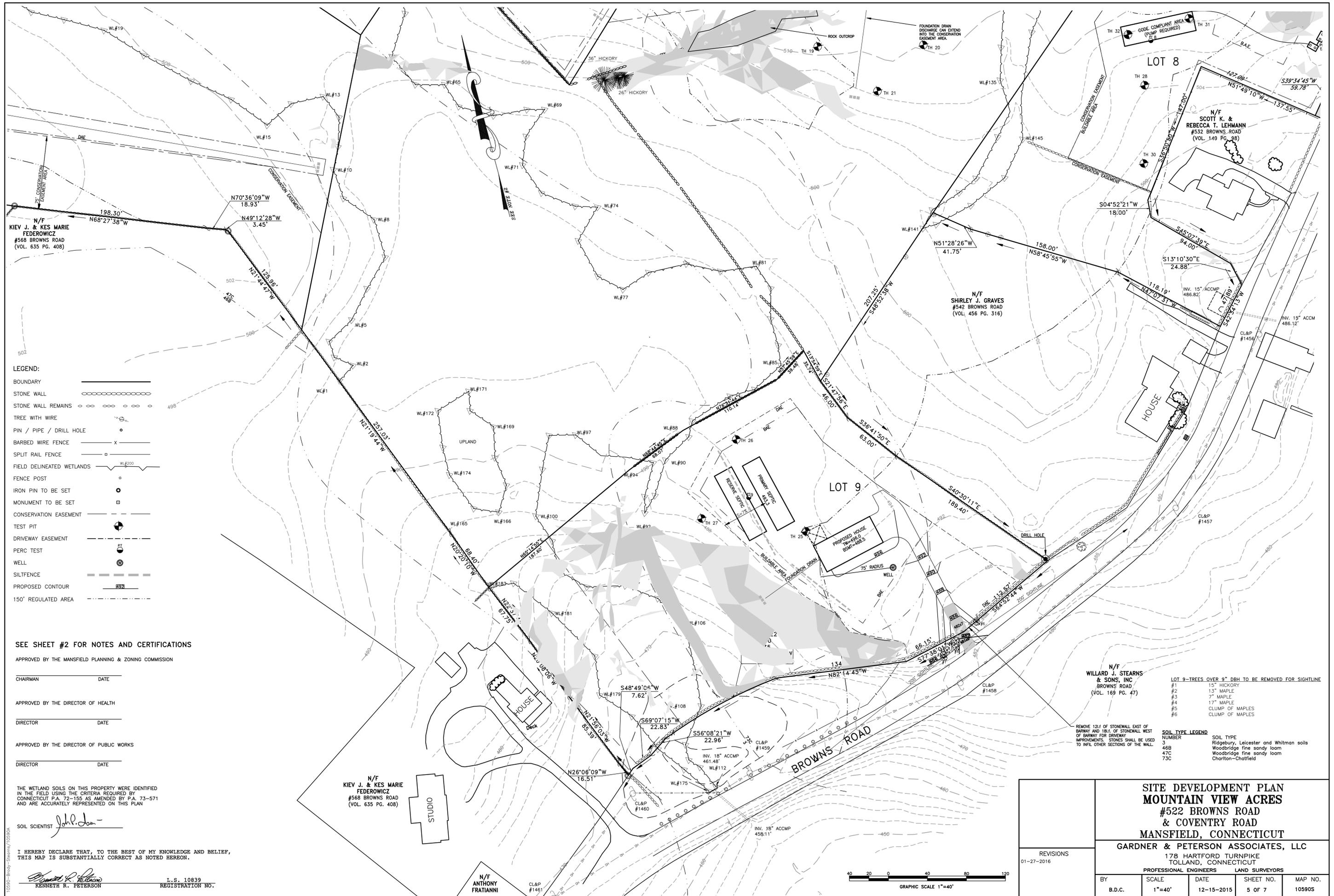
0500-Brown-Stewart/050504

N/F KIEV J. & KES MARIE FEDEROWICZ #568 BROWNS ROAD (VOL. 635 PG. 408)

SEE SHEET #2 FOR NOTES AND CERTIFICATIONS

<p>SITE DEVELOPMENT PLAN MOUNTAIN VIEW ACRES #522 BROWNS ROAD & COVENTRY ROAD MANSFIELD, CONNECTICUT GARDNER & PETERSON ASSOCIATES, LLC 178 HARTFORD TURNPIKE TOLLAND, CONNECTICUT</p>				
REVISIONS	SCALE	DATE	SHEET NO.	MAP NO.
01-27-2016	1"=40'	12-15-2015	3 OF 7	105905





- LEGEND:**
- BOUNDARY ————
 - STONE WALL ————
 - STONE WALL REMAINS ————
 - TREE WITH WIRE ————
 - PIN / PIPE / DRILL HOLE ●
 - BARBED WIRE FENCE ————
 - SPLIT RAIL FENCE ————
 - FIELD DELINEATED WETLANDS ————
 - FENCE POST ○
 - IRON PIN TO BE SET ○
 - MONUMENT TO BE SET □
 - CONSERVATION EASEMENT ————
 - TEST PIT ⊕
 - DRIVEWAY EASEMENT ————
 - PERC TEST ⊕
 - WELL ⊕
 - SILTFENCE ————
 - PROPOSED CONTOUR ————
 - 150' REGULATED AREA ————

SEE SHEET #2 FOR NOTES AND CERTIFICATIONS

APPROVED BY THE MANSFIELD PLANNING & ZONING COMMISSION

CHAIRMAN _____ DATE _____

APPROVED BY THE DIRECTOR OF HEALTH

DIRECTOR _____ DATE _____

APPROVED BY THE DIRECTOR OF PUBLIC WORKS

DIRECTOR _____ DATE _____

THE WETLAND SOILS ON THIS PROPERTY WERE IDENTIFIED IN THE FIELD USING THE CRITERIA REQUIRED BY CONNECTICUT P.A. 72-155 AS AMENDED BY P.A. 73-571 AND ARE ACCURATELY REPRESENTED ON THIS PLAN

SOIL SCIENTIST *John Jan*

I HEREBY DECLARE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

Kenneth R. Peterson
KENNETH R. PETERSON L.S. 10839
REGISTRATION NO.

- LOT 9-TREES OVER 8" DBH TO BE REMOVED FOR SIGHTLINE
- #1 15" HICKORY
 - #2 13" MAPLE
 - #3 7" MAPLE
 - #4 17" MAPLE
 - #5 CLUMP OF MAPLES
 - #6 CLUMP OF MAPLES

- SOIL TYPE LEGEND**
- | NUMBER | SOIL TYPE |
|--------|--|
| 3 | Ridgebury, Leicester and Whitman soils |
| 46B | Woodbridge fine sandy loam |
| 47C | Woodbridge fine sandy loam |
| 75C | Chariton-Chatfield |

REMOVE 12L OF STONEMAN EAST OF BARWAY AND 18L OF STONEMAN WEST OF BARWAY FOR DRIVEWAY IMPROVEMENTS. STONES SHALL BE USED TO INFILL OTHER SECTIONS OF THE WALL.

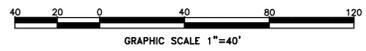
**SITE DEVELOPMENT PLAN
MOUNTAIN VIEW ACRES
#522 BROWNS ROAD
& COVENTRY ROAD
MANSFIELD, CONNECTICUT**

GARDNER & PETERSON ASSOCIATES, LLC

178 HARTFORD TURNPIKE
TOLLAND, CONNECTICUT

PROFESSIONAL ENGINEERS LAND SURVEYORS

REVISIONS 01-27-2016		SCALE 1"=40'	DATE 12-15-2015	SHEET NO. 5 OF 7	MAP NO. 105905
BY B.D.C.	SCALE 1"=40'	DATE 12-15-2015	SHEET NO. 5 OF 7	MAP NO. 105905	



MINIMUM LEACHING SYSTEM SPREAD (MLSS)

HYDRAULIC FACTOR (HF) X FLOW FACTOR (FF) X PERCOLATION FACTOR (PF)

MLSS = HF X FF X PF SAMPLE

HYDRAULIC FACTOR (HF)

TO DEPTH	HYDRAULIC GRADIENT (% OF SLOPE)									
	<1	1.1-2	2.1-3	3.1-4	4.1-6	6.1-8	8.1-10	10.1-15	>15	
<17.9	SEE	NOTE	#1							
18-22	72	62	54	48	42	34	30	28	26	
22-26	66	56	48	42	34	30	28	26	24	
26-30	56	49	42	34	30	28	26	24	20	
30-36	48	42	34	30	28	26	24	20	18	
36-42	42	36	30	28	26	24	20	18	16	
42-48	36	32	28	26	24	20	18	16	14	
48-60	30	28	24	22	20	18	16	14	10	
>60	MLSS NEED NOT BE CONSIDERED									

#1-CANNOT BE APPROVED UNLESS HYDRAULIC ANALYSIS DEMONSTRATES SUITABILITY

FLOW FACTOR (FF) = DESIGN FLOW / 300 SO: 3 BEDROOMS = 450 / 300 = 1.5

4 BEDROOMS = 600 / 300 = 2.0

PERCOLATION FACTOR (PF) LESS THAN 5 MIN/IN = 1.0

5.1 - 10	= 1.2
10.1 - 20	= 1.5
20.1 - 30	= 2.0
30.1 - 45	= 3.0
45.1 - 60	= 5.0

MLSS CALCULATIONS

LOT 1
 Avg. Depth to restrictive layer: 22.3"
 Hydraulic Gradient: 2.1-3%
 HF= 4.8
 4 Bedrooms, FF= 2.0
 Perc Rate 5.1-10 min/in.
 PF= 1.2
 MLSS= 48x 2.0 x 1.2 = 116

LOT 2
 Avg. Depth to restrictive layer: 25.6"
 Hydraulic Gradient: 2.1-3%
 HF= 4.8
 4 Bedrooms, FF= 2.0
 Perc Rate 1-5 min/in.
 PF= 1.0
 MLSS= 48 x 2.0 x 1.0 = 96

LOT 3
 Avg. Depth to restrictive layer: 25.3"
 Hydraulic Gradient: 3.1-4%
 HF= 4.2
 4 Bedrooms, FF= 2.0
 Perc Rate 5.1-10 min/in.
 PF= 1.2
 MLSS= 42 x 2.0 x 1.2 = 101

LOT 4
 Avg. Depth to restrictive layer: 25"
 Hydraulic Gradient: 4.1-6%
 HF= 3.4
 4 Bedrooms, FF= 2.0
 Perc Rate 5.1-10 min/in.
 PF= 1.2
 MLSS= 34 x 2.0 x 1.2 = 82

LOT 5
 Avg. Depth to restrictive layer: 22.3"
 Hydraulic Gradient: 4.1-6%
 HF= 3.4
 4 Bedrooms, FF= 2.0
 Perc Rate 5.1-10 min/in.
 PF= 1.2
 MLSS= 34 x 2.0 x 1.2 = 82

LOT 6
 Avg. Depth to restrictive layer: 26.16"
 (TH's 22,22N,22S,23,24,33)
 Hydraulic Gradient: 2.1-3%
 HF= 4.2
 4 Bedrooms, FF= 2.0
 Perc Rate 5.1-10 min/in.
 PF= 1.2
 MLSS= 42 x 2.0 x 1.2 = 101

LOT 7
 Avg. Depth to restrictive layer: 26"
 Hydraulic Gradient: 1.1-2%
 HF= 5.6
 4 Bedrooms, FF= 2.0
 Perc Rate 5.1-10 min/in.
 PF= 1.2
 MLSS= 56 x 2.0 x 1.2 = 135

LOT 8-Existing House
 Avg. Depth to restrictive layer: 26"
 Hydraulic Gradient: 6.1-8%
 HF= 6.0
 3 Bedrooms, FF= 1.5
 Perc Rate 1-5 min/in.
 PF= 1.0
 MLSS= 30 x 1.5 x 1.0 = 45

LOT 9
 Avg. Depth to restrictive layer: 25.3"
 Hydraulic Gradient: 6.1-8%
 HF= 3.0
 4 Bedrooms, FF= 2.0
 Perc Rate 5.1-10 min/in.
 PF= 1.2
 MLSS= 30 x 2.0 x 1.2 = 72

Soil Testing Results

Observed By: Eastern Highlands Health District
 Others Present: Gardner & Peterson Associates, LLC
 and Highland Soils
 Date Tested: September 3, 2015

TH 1
 0-8" Topsoil
 8-30" Orange Brown Fine Sandy Loam
 30-48" Compact Glacial Till
 Motting @ 27"
 Roots to 30"
 No groundwater
 No ledge

TH 2
 0-5" Topsoil
 5-18" Orange Brown Fine Sandy Loam
 18-78" Compact Glacial Till
 Motting @ 18"
 Roots to 18"
 No groundwater
 No ledge

TH 3
 0-5" Topsoil
 4-22" Orange Brown Fine Sandy Loam
 22-80" Compact Glacial Till
 Motting @ 22"
 Roots to 22"
 No groundwater
 No ledge

TH 4
 0-5" Topsoil
 5-26" Orange Brown Fine Sandy Loam
 26-80" Compact Glacial Till
 Motting @ 26"
 Roots to 26"
 No groundwater
 No ledge

TH 5
 0-4" Topsoil
 4-24" Orange Brown Fine Sandy Loam
 24-81" Compact Glacial Till
 Motting @ 24"
 Roots to 24"
 No groundwater
 No ledge

TH 6
 0-3" Topsoil
 3-27" Orange Brown Fine Sandy Loam
 27-78" Compact Glacial Till
 Motting @ 27"
 Roots to 27"
 No groundwater
 No ledge

TH 7
 0-7" Topsoil
 7-30" Orange Brown Fine Sandy Loam
 30-81" Compact Glacial Till
 Motting @ 30"
 Roots to 30"
 No groundwater
 No ledge

TH 8
 0-6" Topsoil
 6-26" Orange Brown Fine Sandy Loam
 26-80" Compact Glacial Till
 Motting @ 26"
 Roots to 26"
 No groundwater
 No ledge

TH 9
 0-5" Topsoil
 5-20" Orange Brown Fine Sandy Loam
 20-77" Compact Glacial Till
 Motting @ 20"
 Roots to 20"
 No groundwater
 No ledge

TH 10
 0-5" Topsoil
 5-26" Orange Brown Fine Sandy Loam
 26-85" Compact Glacial Till
 Motting @ 26"
 Roots to 26"
 No groundwater
 No ledge

TH 11
 0-4" Topsoil
 4-20" Orange Brown Fine Sandy Loam
 20-72" Compact Glacial Till
 Motting @ 20"
 Roots to 20"
 No groundwater
 No ledge

TH 12
 0-5" Topsoil
 5-29" Orange Brown Fine Sandy Loam
 29-77" Compact Glacial Till
 Motting @ 29"
 Roots to 29"
 No groundwater
 No ledge

TH 13
 0-5" Topsoil
 5-19" Orange Brown Fine Sandy Loam
 19-70" Compact Glacial Till
 Motting @ 19"
 Roots to 19"
 No groundwater
 No ledge

Soil Testing Results

Observed By: Eastern Highlands Health District
 Others Present: Gardner & Peterson Associates, LLC
 and Highland Soils
 Date Tested: September 3, 2015

TH 14
 0-4" Topsoil
 4-25" Orange Brown Fine Sandy Loam
 25-80" Compact Glacial Till
 Motting @ 24"
 Roots to 25"
 No groundwater
 No ledge

TH 15
 0-5" Topsoil
 5-24" Orange Brown Fine Sandy Loam
 24-78" Compact Glacial Till
 Motting @ 24"
 Roots to 24"
 No groundwater
 No ledge

TH 16
 0-5" Topsoil
 5-40" Orange Brown Fine Sandy Loam
 40-65" Compact Glacial Till
 Motting @ 40"
 Roots to 40"
 No groundwater
 No ledge

TH 16A
 0-5" Topsoil
 5-26" Orange Brown Fine Sandy Loam
 26-80" Compact Glacial Till
 Motting @ 26"
 Roots to 26"
 No groundwater
 No ledge

TH 16B
 0-4" Topsoil
 4-24" Orange Brown Fine Sandy Loam
 24-81" Compact Glacial Till
 Motting @ 24"
 Roots to 24"
 No groundwater
 No ledge

TH 16C
 0-5" Topsoil
 5-31" Orange Brown Fine Sandy Loam
 31-84" Compact Glacial Till
 Motting @ 31"
 Roots to 31"
 No groundwater
 No ledge

TH 17-not dug

TH 18
 0-5" Topsoil
 5-26" Orange Brown Fine Sandy Loam
 26-90" Compact Glacial Till
 Motting @ 26"
 Roots to 26"
 No groundwater
 No ledge

TH 19
 0-5" Topsoil
 5-26" Orange Brown Fine Sandy Loam
 26-50" Compact Glacial Till
 Motting @ 26"
 Roots to 26"
 No groundwater
 No ledge

TH 20
 0-5" Topsoil
 5-30" Orange Brown Fine Sandy Loam
 30-90" Compact Glacial Till
 Motting @ 30"
 Roots to 30"
 No groundwater
 No ledge

TH 21
 0-5" Topsoil
 5-31" Orange Brown Fine Sandy Loam
 31-84" Compact Glacial Till
 Motting @ 31"
 Roots to 31"
 No groundwater
 No ledge

TH 22
 0-6" Topsoil
 6-30" Orange Brown Fine Sandy Loam
 30-43" Compact Glacial Till
 Motting @ 30"
 Roots to 30"
 No groundwater
 No ledge

TH 23
 0-5" Topsoil
 5-24" Orange Brown Fine Sandy Loam
 24-84" Compact Glacial Till
 Motting @ 24"
 Roots to 24"
 No groundwater
 No ledge

Soil Testing Results

Observed By: Eastern Highlands Health District
 Others Present: Gardner & Peterson Associates, LLC
 and Highland Soils
 Date Tested: September 3, 2015

TH 22N
 0-7" Topsoil
 7-30" Orange Brown Fine Sandy Loam
 30-93" Compact Glacial Till
 Motting @ 36"
 Roots to 29"
 Restrictive @ 30"
 No groundwater
 No ledge

TH 22A
 0-5" Topsoil
 5-24" Orange Brown Fine Sandy Loam
 24-78" Compact Glacial Till
 Motting @ 24"
 Roots to 25"
 No groundwater
 No ledge

TH 24B
 0-5" Topsoil
 5-24" Orange Brown Fine Sandy Loam
 24-89" Compact Glacial Till
 Motting @ 24"
 Roots to 24"
 No groundwater
 No ledge

TH 24C
 0-6" Topsoil
 6-23" Orange Brown Fine Sandy Loam
 23-82" Compact Glacial Till
 Motting @ 23"
 Roots to 23"
 No groundwater
 No ledge

TH 25
 0-7" Topsoil
 7-25" Orange Brown Fine Sandy Loam
 25-90" Compact Glacial Till
 Motting @ 25"
 Roots to 25"
 No groundwater
 No ledge

TH 26
 0-7" Topsoil
 7-26" Orange Brown Fine Sandy Loam
 26-91" Compact Glacial Till
 Motting @ 26"
 Roots to 26"
 No groundwater
 No ledge

TH 27
 0-5" Topsoil
 5-30" Orange Brown Fine Sandy Loam
 30-81" Compact Glacial Till
 Motting @ 25"
 Roots to 25"
 No groundwater
 No ledge

TH 28
 Ledge @ 24"

TH 30
 0-5" Topsoil
 5-30" Orange Brown Fine Sandy Loam
 30-84" Compact Glacial Till
 Motting @ 30"
 Roots to 30"
 No groundwater
 No ledge

TH 31
 0-7" Topsoil
 7-26" Orange Brown Fine Sandy Loam
 26-50" Compact Glacial Till
 Motting @ 24"
 Roots to 24"
 No groundwater
 No ledge

TH 32
 0-6" Topsoil
 6-30" Orange Brown Fine Sandy Loam
 30-64" Compact Glacial Till
 Motting @ 30"
 Roots to 30"
 No groundwater
 No ledge

TH 33
 0-5" Topsoil
 5-29" Orange Brown Fine Sandy Loam
 29-77" Compact Glacial Till
 Motting @ 29"
 Roots to 29"
 No groundwater
 No ledge

TH 34
 0-5" Topsoil
 5-24" Orange Brown Fine Sandy Loam
 24-84" Compact Glacial Till
 Motting @ 24"
 Roots to 24"
 No groundwater
 No ledge

Soil Testing Results

Observed By: Eastern Highlands Health District
 Others Present: Gardner & Peterson Associates, LLC
 and Highland Soils
 Date Tested: September 3, 2015

TH 34A
 0-5" Topsoil
 5-24" Orange Brown Fine Sandy Loam
 24-80" Compact Glacial Till
 Motting @ 24"
 Roots to 25"
 No groundwater
 No ledge

TH 34B
 0-5" Topsoil
 5-24" Orange Brown Fine Sandy Loam
 24-89" Compact Glacial Till
 Motting @ 24"
 Roots to 25"
 No groundwater
 No ledge

TH 34C
 0-5" Topsoil
 5-24" Orange Brown Fine Sandy Loam
 24-89" Compact Glacial Till
 Motting @ 24"
 Roots to 25"
 No groundwater
 No ledge

TH 35
 0-7" Topsoil
 7-24" Orange Brown Fine Sandy Loam
 24-92" Compact Glacial Till
 Motting @ 24"
 Roots to 24"
 No groundwater
 No ledge

TH 36
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36A
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36B
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36C
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36D
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36E
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36F
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36G
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36H
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36I
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36J
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36K
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

TH 36L
 0-8" Topsoil
 8-25" Orange Brown Fine Sandy Loam
 25-81" Compact Glacial Till
 Motting @ 25"
 Roots to 26"
 No groundwater
 No ledge

Percolation Tests

Observed By: Eastern Highlands Health District
 Others Present: Gardner & Peterson Associates, LLC
 and Highland Soils
 Date Tested: October 1, 2015

Perc #1
 Presoaked 9/21/15 at 2:47
 Presoaked 9/22/15 at 12:40
 Depth=20"
 Mark Down 0"
 TIME DEPTH
 1:21 8"
 1:31 11 1/2"
 1:41 14 1/2"
 1:51 15 3/4"
 2:01 16 3/4"
 2:11 17 3/4"
 2:16 18 1/2"
 2:21 Dry
 Rate: 10 min/in

Perc #2
 Presoaked 9/21/15 at 2:33
 Presoaked 9/22/15 at 10:49
 Depth=20"
 Mark Down 0"
 TIME DEPTH
 1:18 8"
 1:27 13"
 1:37 16 1/2"
 1:47 19 1/2"
 Dry
 Rate: 1-5 min/in

Perc #3
 Presoaked 9/21/15 at 3:07
 Presoaked 9/22/15 at 10:46
 Depth=20"
 Mark Down 0"
 TIME DEPTH
 1:15 8"
 1:25 11 1/2"
 1:35 13 1/2"
 1:45 15 1/2"
 1:55 16 3/4"
 2:05 18"
 Dry
 Rate: 5.1-10 min/in

Perc #4
 Presoaked 9/21/15 at 3:30
 Presoaked 9/22/15 at 10:43
 Depth=18"
 Mark Down 2"
 TIME DEPTH
 11:55 3 1/2"
 12:05 6"
 12:15 7 1/2"
 12:25 9"
 12:35 10"
 12:45 11"
 12:55 12"
 1:05 13"
 Rate: 10 min/in

Perc #5
 Presoaked 9/21/15 at 3:45
 Presoaked 9/22/15 at 10:40
 Depth=18"
 Mark Down 1 1/2"
 TIME DEPTH
 11:40 4 1/2"
 11:50 8 1/2"
 12:00 10 1/2"
 12:10 13"
 12:20 14"
 Rate: 5.1-10 min/in

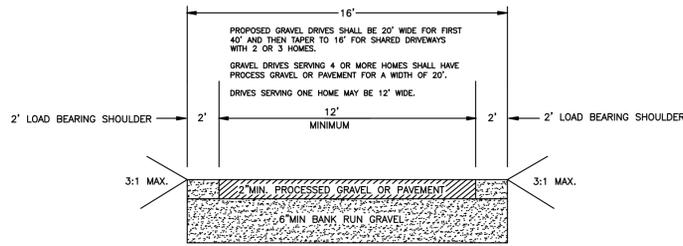
Perc #6A
 Presoaked 10/01/15 at 8:48
 Depth=18"
 Mark Down 0"
 TIME DEPTH
 10:50 6"
 11:00 9 1/2"
 11:10 11 1/2"
 11:20 13 1/2"
 11:30 14 1/2"
 11:40 15 3/4"
 11:50 DRY
 Rate: 5.1-10 min/in

Perc #6B
 Presoaked 10/01/15 at 8:30
 Depth=17"
 Mark Down 0"
 TIME DEPTH
 10:53 5"
 11:03 10"
 11:13 13"
 11:18 13 3/4"
 11:23 14 3/4"
 11:28 15 3/4"
 11:33 16 1/2"
 11:38 DRY
 Rate: 5.1-10 min/in

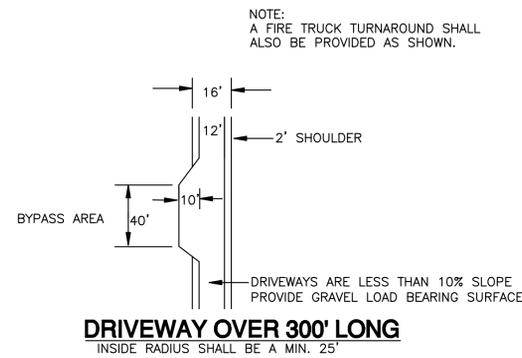
Perc #6C
 Presoaked 10/01/15 at 8:20
 Depth=17"
 Mark Down 0"
 TIME DEPTH
 10:56 7 1/2"
 11:06 10"
 11:16 11 1/2"
 11:26 12 1/2"
 11:36 13 1/2"
 11:46 14 1/2"
 11:56 15 1/2"
 12:06 16 1/2"
 12:16 17 1/2"
 12:26 18"
 Dry
 Rate: 5.1-10 min/in

Perc #6D
 Presoaked 10/01/15 at 8:10
 Depth=17"
 Mark Down 0"
 TIME DEPTH
 10:59 10"
 11:09 11 1/2"
 11:19 12 1/2"
 11:29 13 1/2"
 11:39 14 1/2"
 11:49 15 1/2"
 11:59 16 1/2"
 12:09 17 1/2"
 12:19 18"
 Dry
 Rate: 5.1-10 min/in

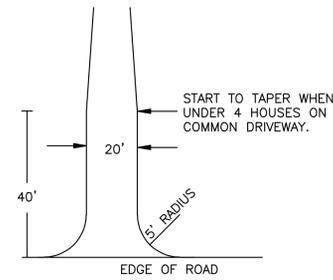
Perc #6E
 Presoaked 10/01/15 at 8:00
 Depth=17"
 Mark Down 0"
 TIME DEPTH
 11:02 11 1/2"
 11:12 12 1/2"
 11:22 13 1/2"
 11:32 14 1/2"
 11:42 15 1/2"
 11



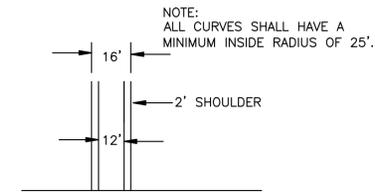
TYPICAL SHARED DRIVEWAY SECTION



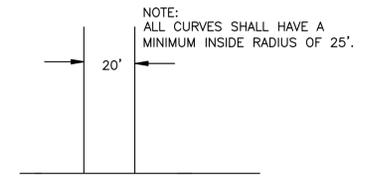
DRIVEWAY OVER 300' LONG



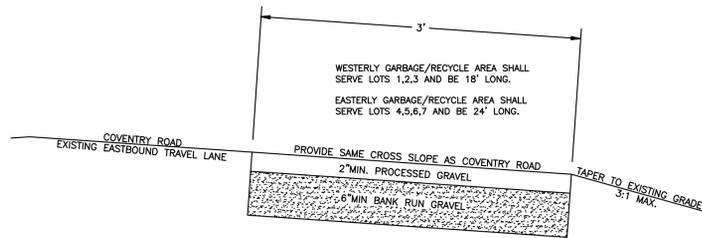
SHARED DRIVEWAY INTERSECTS COVENTRY ROAD



SHARED DRIVEWAY DETAIL WHEN SERVING 2 or 3 HOUSES

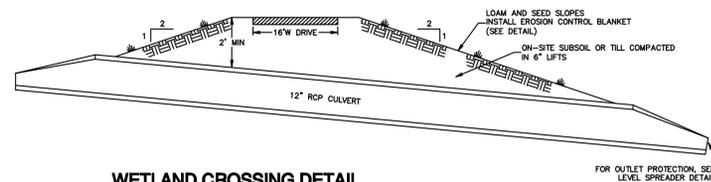


SHARED DRIVEWAY DETAIL WHEN SERVING 4 or MORE HOUSES

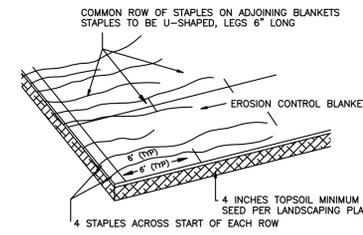


TYPICAL GARBAGE/RECYCLE AREA SECTION

N.T.S.

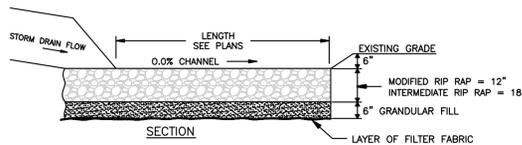


WETLAND CROSSING DETAIL



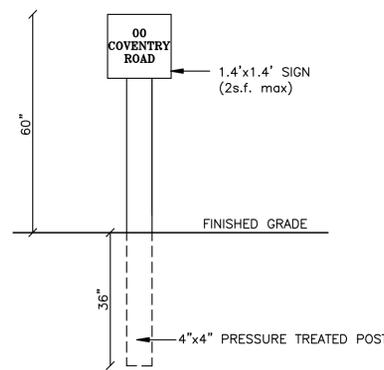
- NOTES:
 1. APPLY ON SLOPES 2:1 OR GREATER, BUT LESS THAN 3:1.
 2. EROSION CONTROL BLANKET TO BE NORTH AMERICAN GREEN S 150 DOUBLE NET STRAW BLANKET OR EQUAL.
 3. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

EROSION CONTROL BLANKET



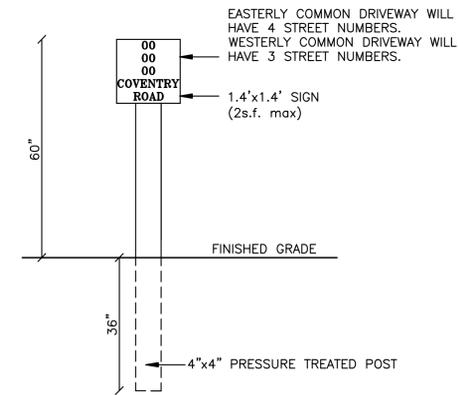
- NOTES:
 1. WHERE POSSIBLE LEVEL SPREADER TO BE CONSTRUCTED ON UNDISTURBED SOIL.
 2. SHAPE THE ENTRANCE TO THE SPREADER IN SUCH A MANNER AS TO INSURE THAT RUNOFF ENTERS DIRECTLY ONTO THE 0.0% CHANNEL.
 3. LIP TO BE CONSTRUCTED LEVEL AT 0.0% GRADE TO INSURE UNIFORM SPREADING OF STORM WATER RUNOFF.

LEVEL SPREADER DETAIL



STREET NUMBER SIGN AT INTERSECTION OF COMMON & SINGLE FAMILY DRIVEWAY

N.T.S.



STREET NUMBER SIGN AT COVENTRY ROAD

N.T.S.

APPROVED BY THE MANSFIELD PLANNING & ZONING COMMISSION

CHAIRMAN _____ DATE _____

APPROVED BY THE DIRECTOR OF HEALTH

DIRECTOR _____ DATE _____

APPROVED BY THE DIRECTOR OF PUBLIC WORKS

DIRECTOR _____ DATE _____

CONSTRUCTION DETAILS				
MOUNTAIN VIEW ACRES				
#522 BROWNS ROAD				
& COVENTRY ROAD				
MANSFIELD, CONNECTICUT				
GARDNER & PETERSON ASSOCIATES, LLC				
178 HARTFORD TURNPIKE TOLLAND, CONNECTICUT				
PROFESSIONAL ENGINEERS		LAND SURVEYORS		
BY	SCALE	DATE	SHEET NO.	MAP NO.
B.D.C.	N.T.S.	12-15-2015	7 OF 7	105905

REVISIONS
 01-27-2016

MOUNTAIN VIEW ACRES

**522 Browns Road &
Coventry Road
Mansfield, Connecticut**

STORMWATER MANAGEMENT REPORT

July 1, 2016

PREPARED FOR: Willard J. Stearns & Sons, Inc.
50 Stearns Road
Mansfield, Connecticut

PREPARED BY: Gardner & Peterson Associates, LLC
178 Hartford Turnpike
Tolland, CT 06084

Mountain View Acres

Summary:

This project proposes to subdivide approximately 36 acres of land located in the RAR-90 Zone on the south side of Coventry Road and west side of Browns Road into nine building lots. The lots will be served by subsurface sewage disposal systems and private wells while protecting over 7.5 acres of land with conservation easements and dedicating nearly 2.5 acres to the Town of Mansfield.

Existing Conditions:

The site contains one house that fronts on Browns Road which will be located on Lot #8 of the subdivision. The site is mainly wooded, though the land along Coventry Road was logged within the past ten years. The site primarily drains from Coventry Road to the south where surface flow is collected in a wetland which drains from west to east and under Browns Road through an 18" culvert which is at the bottom of the watershed analyzed in this report. The soils in the upland areas are primarily a Woodbridge Fine Sandy Loam per the Natural Resources Conservation Service, Web Soil Survey.

Based on the Flood Insurance Rate Map (FIRM) the site is located in Flood Zone C, area of minimal flooding. Test pits were excavated on site with the Eastern Highlands Health Department to determine septic suitability. Suitable areas were found on all lots and restrictive soil layers average approximately 24" below grade.

In addition, the site is not located in an aquifer area based on "Surfaces and Groundwater Resources" map by plan of conservation and development, April 2006 and the parcel is not located within an archaeological area based on "Archaeological Assessment" map by plan of conservation and development April 2006.

Stormwater Management:

Based on reviews by various town committees and town staff the applicant has been advised to provide an Open Space Subdivision to avoid a traditional layout and minimize the number of curb cuts. Common driveways are provided and stormwater runoff will sheet flow from disturbed areas in the direction it is headed today. This report includes the design of a cross culvert to convey the limited flow under the proposed driveway on Lot #1 and an overall site analysis to evaluate pre-development and post-development flows.

Hydraflow Hydrographs Extension was used to determine the peak flows mentioned above. The twin 12" culverts under the proposed driveway on Lot 1 has been designed to convey the flow from a 10 year storm. When comparing the existing and proposed flow rates from the overall site, there is no change in the watershed area or

travel time. Due to the proposed improvements, the runoff coefficient will increase which results in a small increase in the flow rate off site from 47.3cfs to 52.5 cfs for a 25 year storm frequency. The runoff will shed through an undisturbed, vegetated buffer over relatively flat slopes before reaching the wetland corridor. The wetland corridor consists of a flat area that will provide flood storage and potential reduction the rate of runoff and a defined channel for water conveyance at the easterly end of the wetland.

Erosion & Sediment Control:

The erosion & sediment control plan for this site consists of the use of soil stockpile areas, silt fence and/or hay bales down gradient of all disturbed areas and seeding schedules. An undisturbed vegetated area down gradient of the proposed developed areas will also remain. An anti-tracking pad will be installed at both entrances to the site though it may be unnecessary due the existing and proposed gravel surfaces.

Mark A. Peterson, P.E. 20905

Watershed Model Schematic

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

1 - Ex. Watershed



3 - Prop. Watershed



5 - Subwatershed to proposed culvert



Hydrograph Return Period Recap

Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	Rational	-----	-----	27.10	-----	-----	40.12	47.28	-----	-----	Ex. Watershed
3	Rational	-----	-----	30.11	-----	-----	44.58	52.53	-----	-----	Prop. Watershed
5	Rational	-----	-----	4.063	-----	-----	5.970	7.035	-----	-----	Subwatershed to proposed culvert

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description	
1	Rational	27.10	1	34	55,280	-----	-----	-----	Ex. Watershed	
3	Rational	30.11	1	34	61,422	-----	-----	-----	Prop. Watershed	
5	Rational	4.063	1	28	6,825	-----	-----	-----	Subwatershed to proposed culvert	
Flow off Site.gpw					Return Period: 2 Year			Friday, Aug 26, 2016		

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Friday, Aug 26, 2016

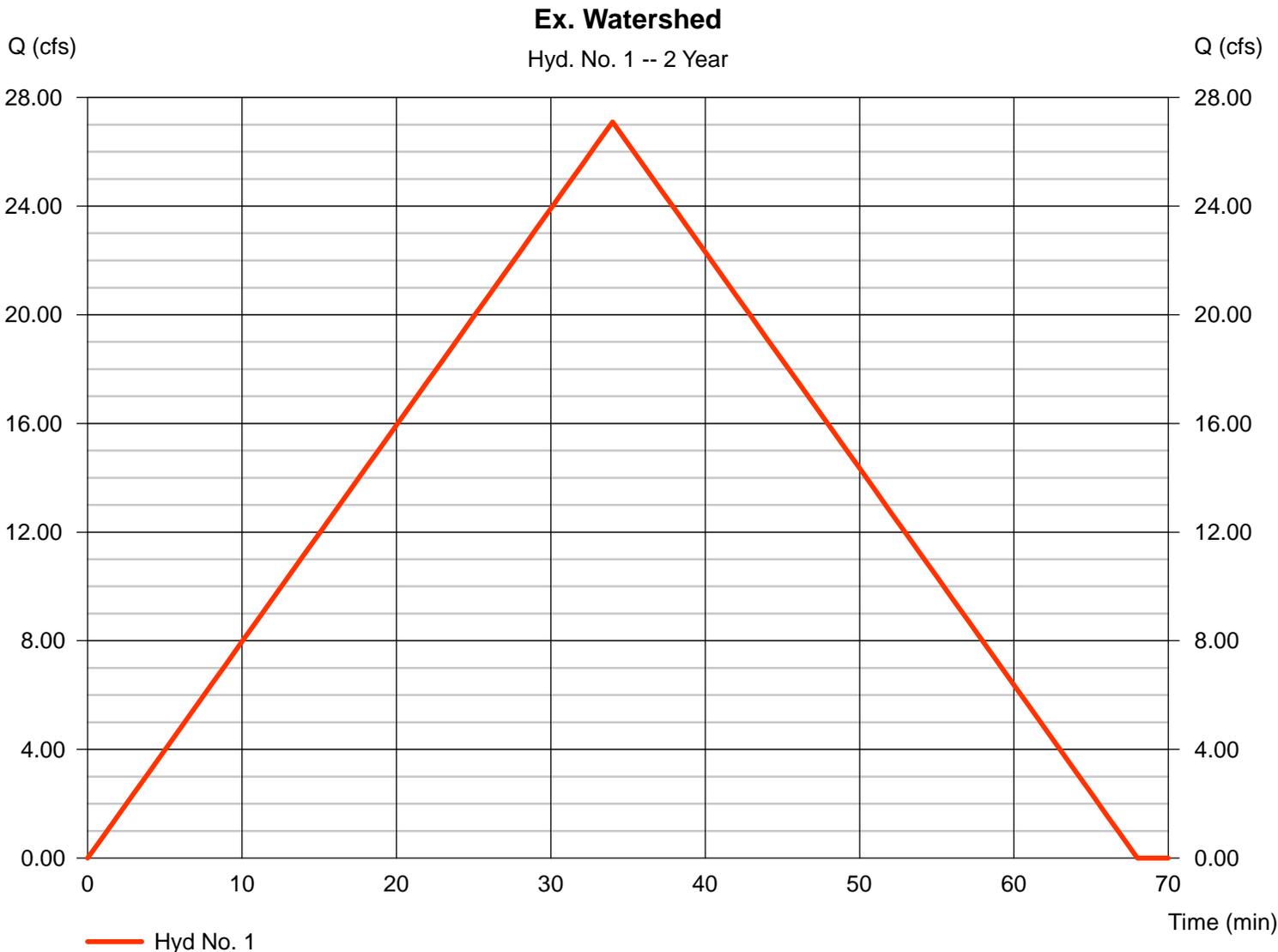
Hyd. No. 1

Ex. Watershed

Hydrograph type = Rational
 Storm frequency = 2 yrs
 Time interval = 1 min
 Drainage area = 57.200 ac
 Intensity = 1.755 in/hr
 IDF Curve = CT-DOT.IDF

Peak discharge = 27.10 cfs
 Time to peak = 34 min
 Hyd. volume = 55,280 cuft
 Runoff coeff. = 0.27*
 Tc by User = 34.00 min
 Asc/Rec limb fact = 1/1

* Composite (Area/C) = [(0.420 x 0.90) + (0.920 x 0.85) + (2.200 x 0.40) + (53.660 x 0.25)] / 57.200



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Friday, Aug 26, 2016

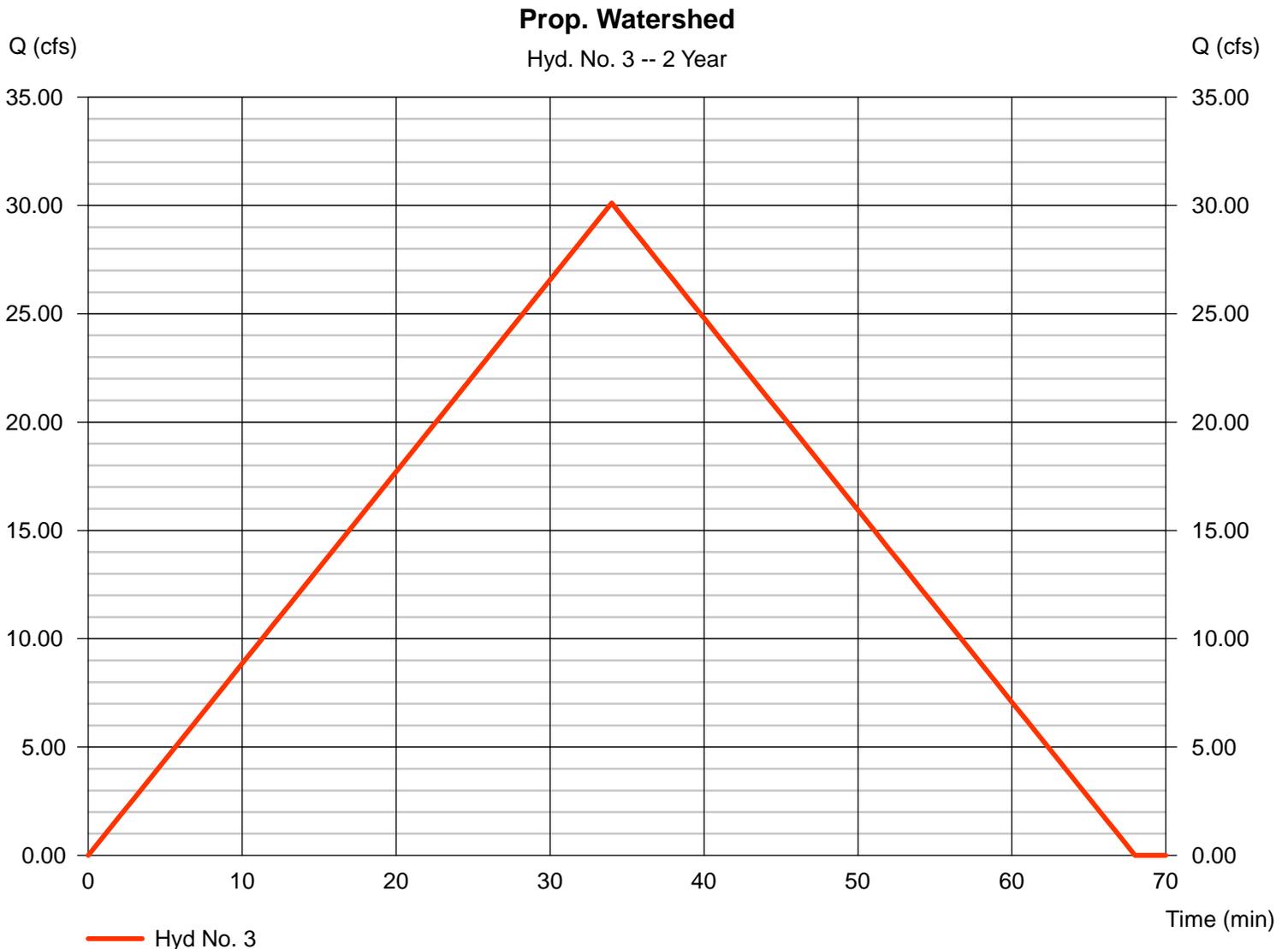
Hyd. No. 3

Prop. Watershed

Hydrograph type = Rational
 Storm frequency = 2 yrs
 Time interval = 1 min
 Drainage area = 57.200 ac
 Intensity = 1.755 in/hr
 IDF Curve = CT-DOT.IDF

Peak discharge = 30.11 cfs
 Time to peak = 34 min
 Hyd. volume = 61,422 cuft
 Runoff coeff. = 0.3*
 Tc by User = 34.00 min
 Asc/Rec limb fact = 1/1

* Composite (Area/C) = $[(0.850 \times 0.90) + (1.880 \times 0.85) + (6.330 \times 0.40) + (48.140 \times 0.25)] / 57.200$



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description	
1	Rational	40.12	1	34	81,844	-----	-----	-----	Ex. Watershed	
3	Rational	44.58	1	34	90,938	-----	-----	-----	Prop. Watershed	
5	Rational	5.970	1	28	10,030	-----	-----	-----	Subwatershed to proposed culvert	
Flow off Site.gpw					Return Period: 10 Year			Friday, Aug 26, 2016		

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Friday, Aug 26, 2016

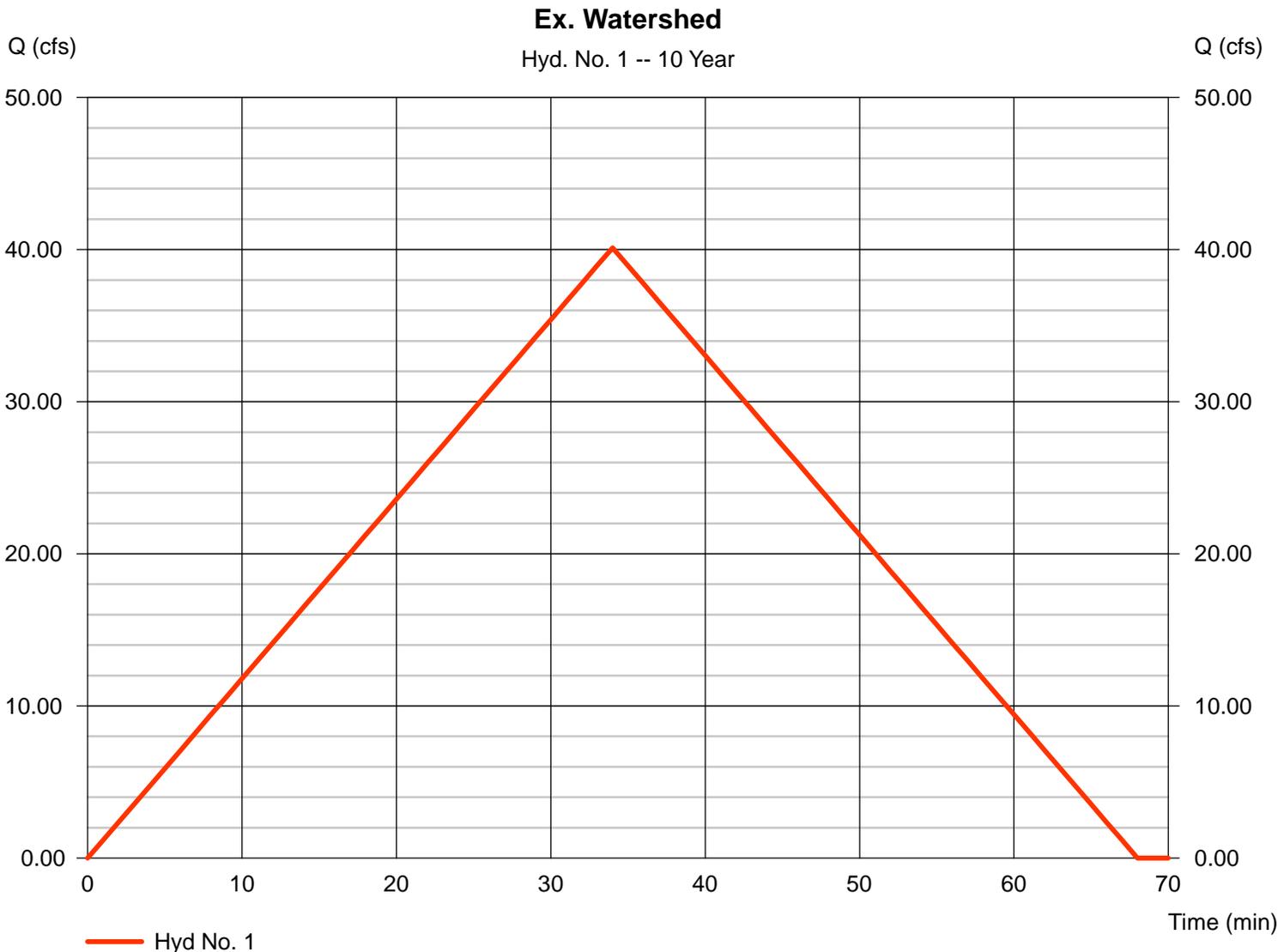
Hyd. No. 1

Ex. Watershed

Hydrograph type = Rational
 Storm frequency = 10 yrs
 Time interval = 1 min
 Drainage area = 57.200 ac
 Intensity = 2.598 in/hr
 IDF Curve = CT-DOT.IDF

Peak discharge = 40.12 cfs
 Time to peak = 34 min
 Hyd. volume = 81,844 cuft
 Runoff coeff. = 0.27*
 Tc by User = 34.00 min
 Asc/Rec limb fact = 1/1

* Composite (Area/C) = [(0.420 x 0.90) + (0.920 x 0.85) + (2.200 x 0.40) + (53.660 x 0.25)] / 57.200



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Friday, Aug 26, 2016

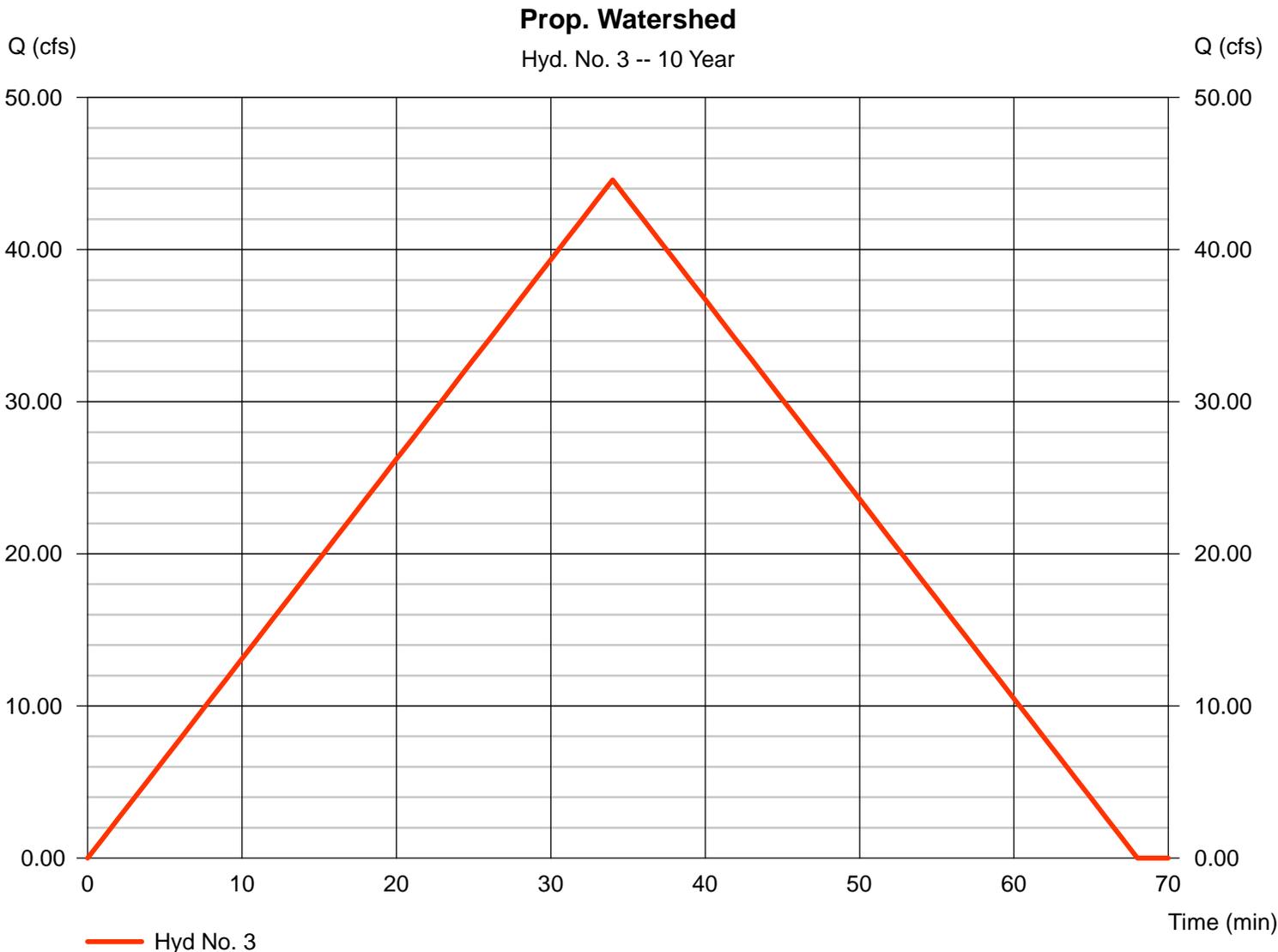
Hyd. No. 3

Prop. Watershed

Hydrograph type = Rational
Storm frequency = 10 yrs
Time interval = 1 min
Drainage area = 57.200 ac
Intensity = 2.598 in/hr
IDF Curve = CT-DOT.IDF

Peak discharge = 44.58 cfs
Time to peak = 34 min
Hyd. volume = 90,938 cuft
Runoff coeff. = 0.3*
Tc by User = 34.00 min
Asc/Rec limb fact = 1/1

* Composite (Area/C) = [(0.850 x 0.90) + (1.880 x 0.85) + (6.330 x 0.40) + (48.140 x 0.25)] / 57.200



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	Rational	47.28	1	34	96,445	-----	-----	-----	Ex. Watershed
3	Rational	52.53	1	34	107,161	-----	-----	-----	Prop. Watershed
5	Rational	7.035	1	28	11,818	-----	-----	-----	Subwatershed to proposed culvert
Flow off Site.gpw					Return Period: 25 Year			Friday, Aug 26, 2016	

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Friday, Aug 26, 2016

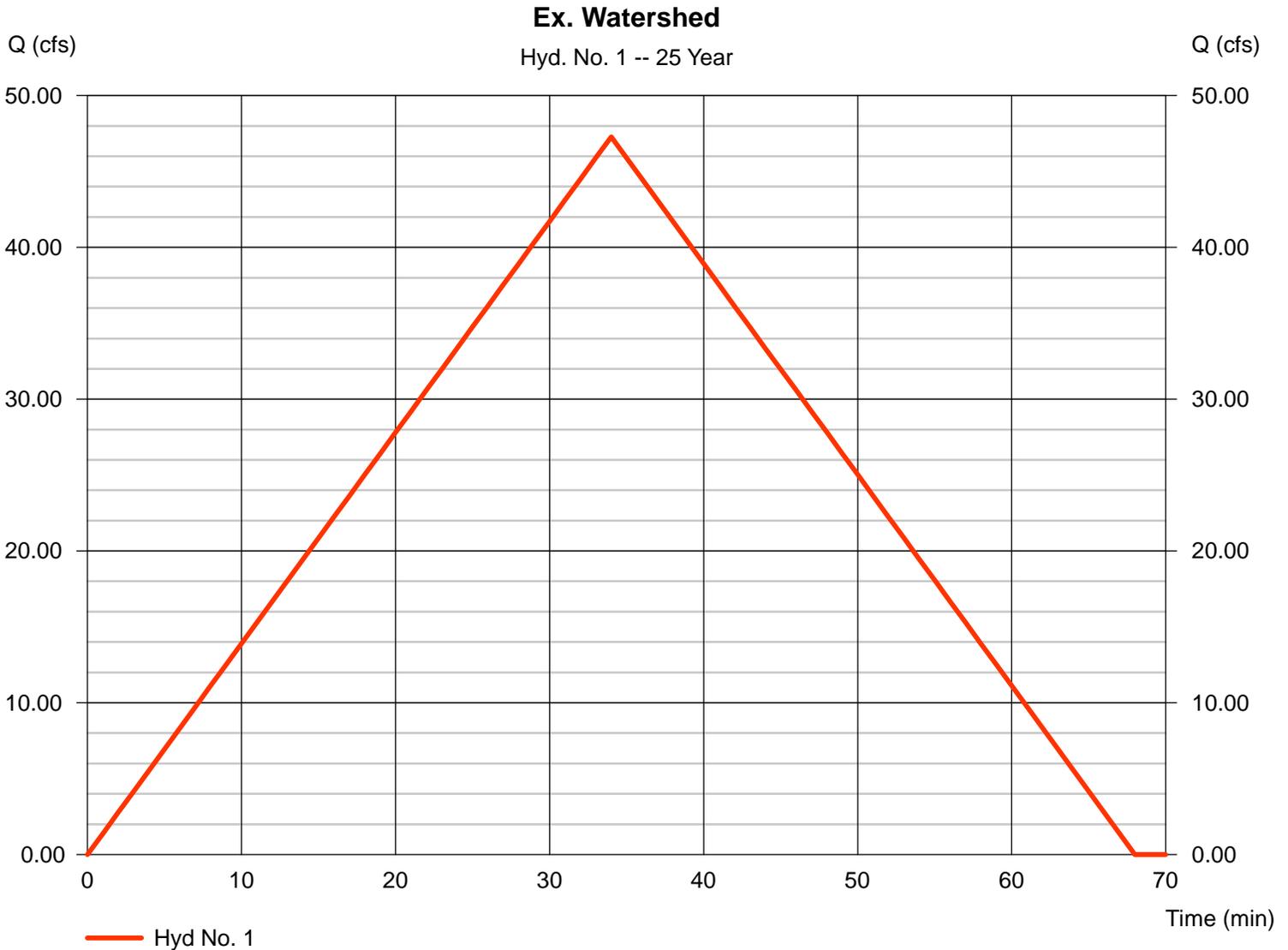
Hyd. No. 1

Ex. Watershed

Hydrograph type = Rational
Storm frequency = 25 yrs
Time interval = 1 min
Drainage area = 57.200 ac
Intensity = 3.061 in/hr
IDF Curve = CT-DOT.IDF

Peak discharge = 47.28 cfs
Time to peak = 34 min
Hyd. volume = 96,445 cuft
Runoff coeff. = 0.27*
Tc by User = 34.00 min
Asc/Rec limb fact = 1/1

* Composite (Area/C) = [(0.420 x 0.90) + (0.920 x 0.85) + (2.200 x 0.40) + (53.660 x 0.25)] / 57.200



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Friday, Aug 26, 2016

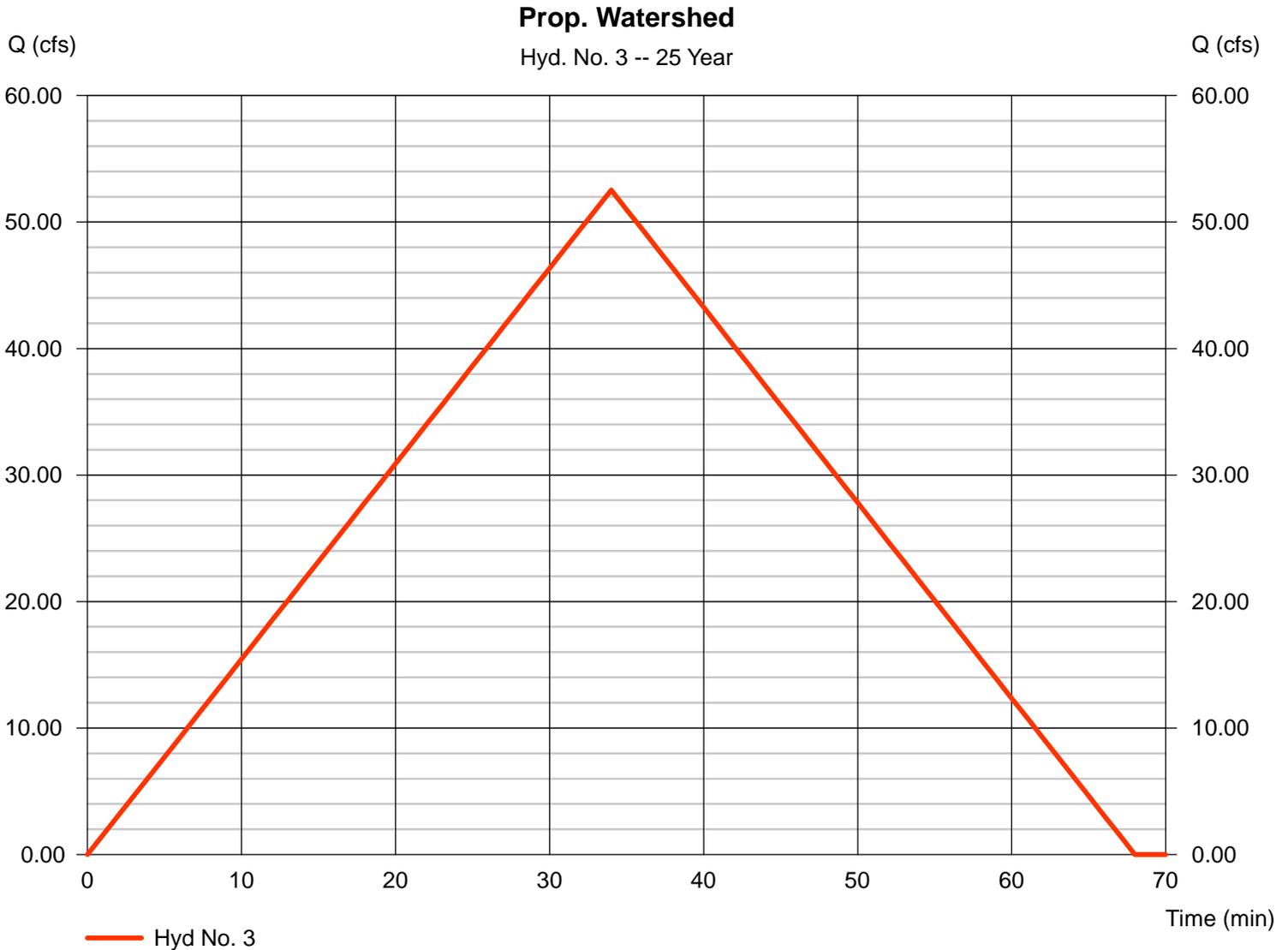
Hyd. No. 3

Prop. Watershed

Hydrograph type = Rational
 Storm frequency = 25 yrs
 Time interval = 1 min
 Drainage area = 57.200 ac
 Intensity = 3.061 in/hr
 IDF Curve = CT-DOT.IDF

Peak discharge = 52.53 cfs
 Time to peak = 34 min
 Hyd. volume = 107,161 cuft
 Runoff coeff. = 0.3*
 Tc by User = 34.00 min
 Asc/Rec limb fact = 1/1

* Composite (Area/C) = [(0.850 x 0.90) + (1.880 x 0.85) + (6.330 x 0.40) + (48.140 x 0.25)] / 57.200



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Friday, Aug 26, 2016

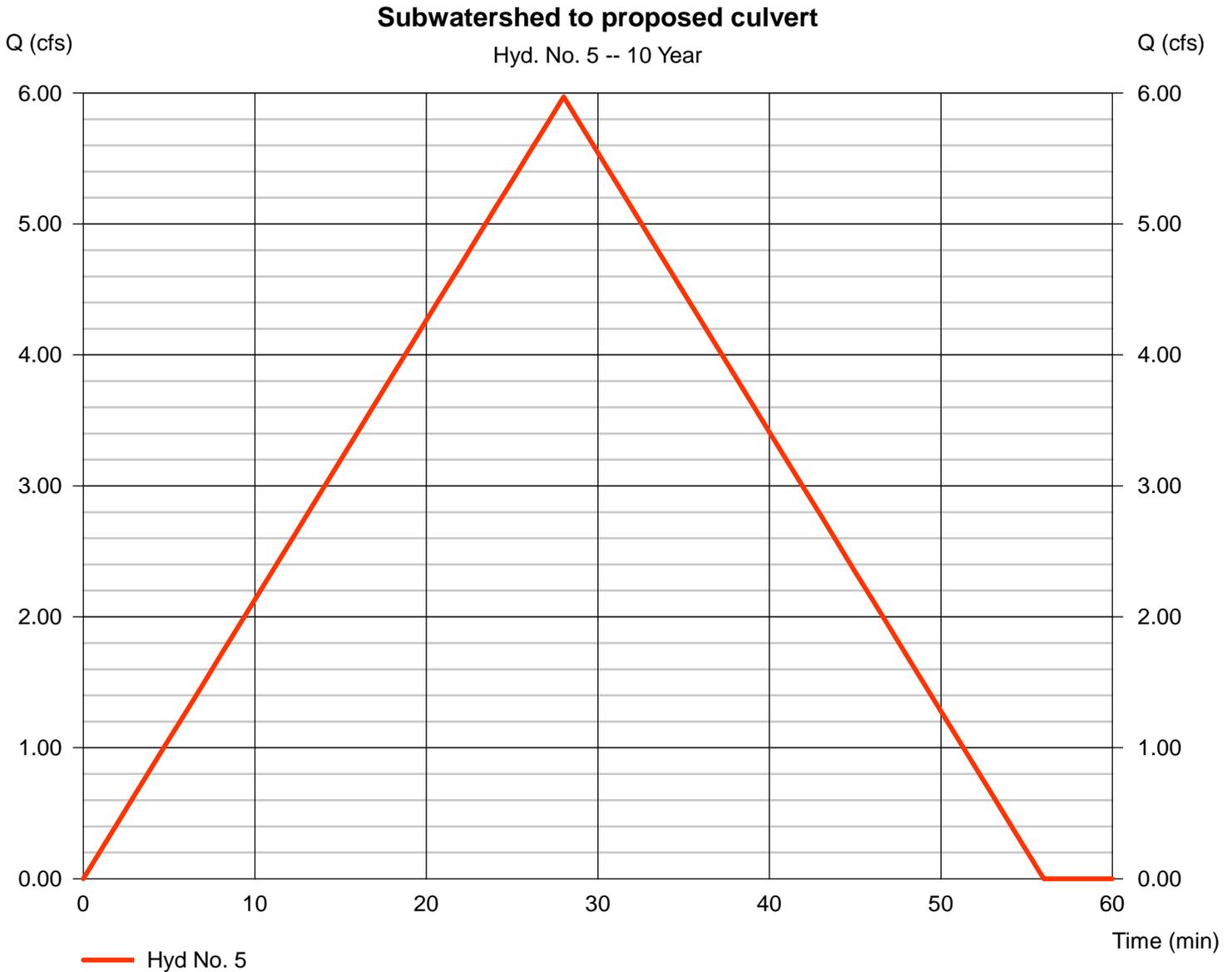
Hyd. No. 5

Subwatershed to proposed culvert

Hydrograph type = Rational
 Storm frequency = 10 yrs
 Time interval = 1 min
 Drainage area = 5.120 ac
 Intensity = 2.915 in/hr
 IDF Curve = CT-DOT.IDF

Peak discharge = 5.970 cfs
 Time to peak = 28 min
 Hyd. volume = 10,030 cuft
 Runoff coeff. = 0.4*
 Tc by TR55 = 28.00 min
 Asc/Rec limb fact = 1/1

* Composite (Area/C) = [(0.300 x 0.75) + (0.060 x 0.90) + (1.000 x 0.24) + (3.760 x 0.40)] / 5.120



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No. 5

Subwatershed to proposed culvert

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.400	0.011	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.20	0.00	0.00	
Land slope (%)	= 3.00	0.00	0.00	
Travel Time (min)	= 18.26	+ 0.00	+ 0.00	= 18.26
Shallow Concentrated Flow				
Flow length (ft)	= 460.00	360.00	0.00	
Watercourse slope (%)	= 1.70	0.40	0.00	
Surface description	= Unpaved	Unpaved	Paved	
Average velocity (ft/s)	= 2.10	1.02	0.00	
Travel Time (min)	= 3.64	+ 5.88	+ 0.00	= 9.52
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	= 0.00	+ 0.00	+ 0.00	= 0.00
Total Travel Time, Tc				28.00 min

Culvert Report

Cir Culvert

Invert Elev Dn (ft) = 500.50
Pipe Length (ft) = 30.00
Slope (%) = 0.33
Invert Elev Up (ft) = 500.60
Rise (in) = 12.0
Shape = Cir
Span (in) = 12.0
No. Barrels = 2
n-Value = 0.013
Inlet Edge = Projecting
Coeff. K,M,c,Y,k = 0.0045, 2, 0.0317, 0.69, 0.5

Embankment

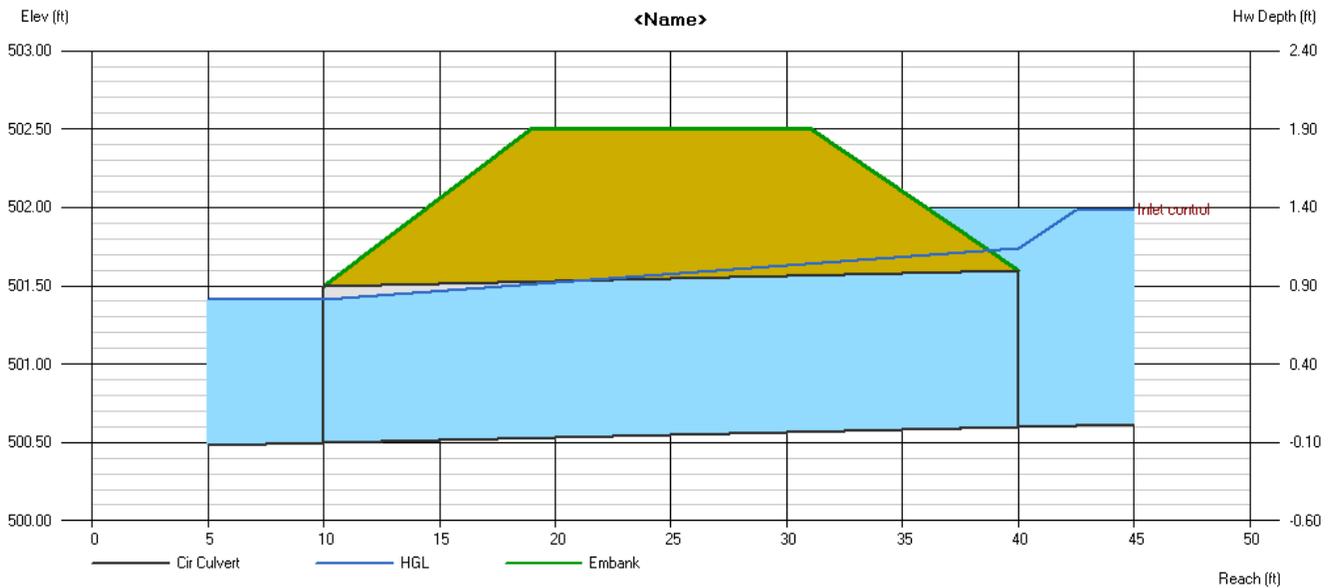
Top Elevation (ft) = 502.50
Top Width (ft) = 12.00
Crest Width (ft) = 110.00

Calculations

Qmin (cfs) = 7.36
Qmax (cfs) = 7.36
Tailwater Elev (ft) = (dc+D)/2

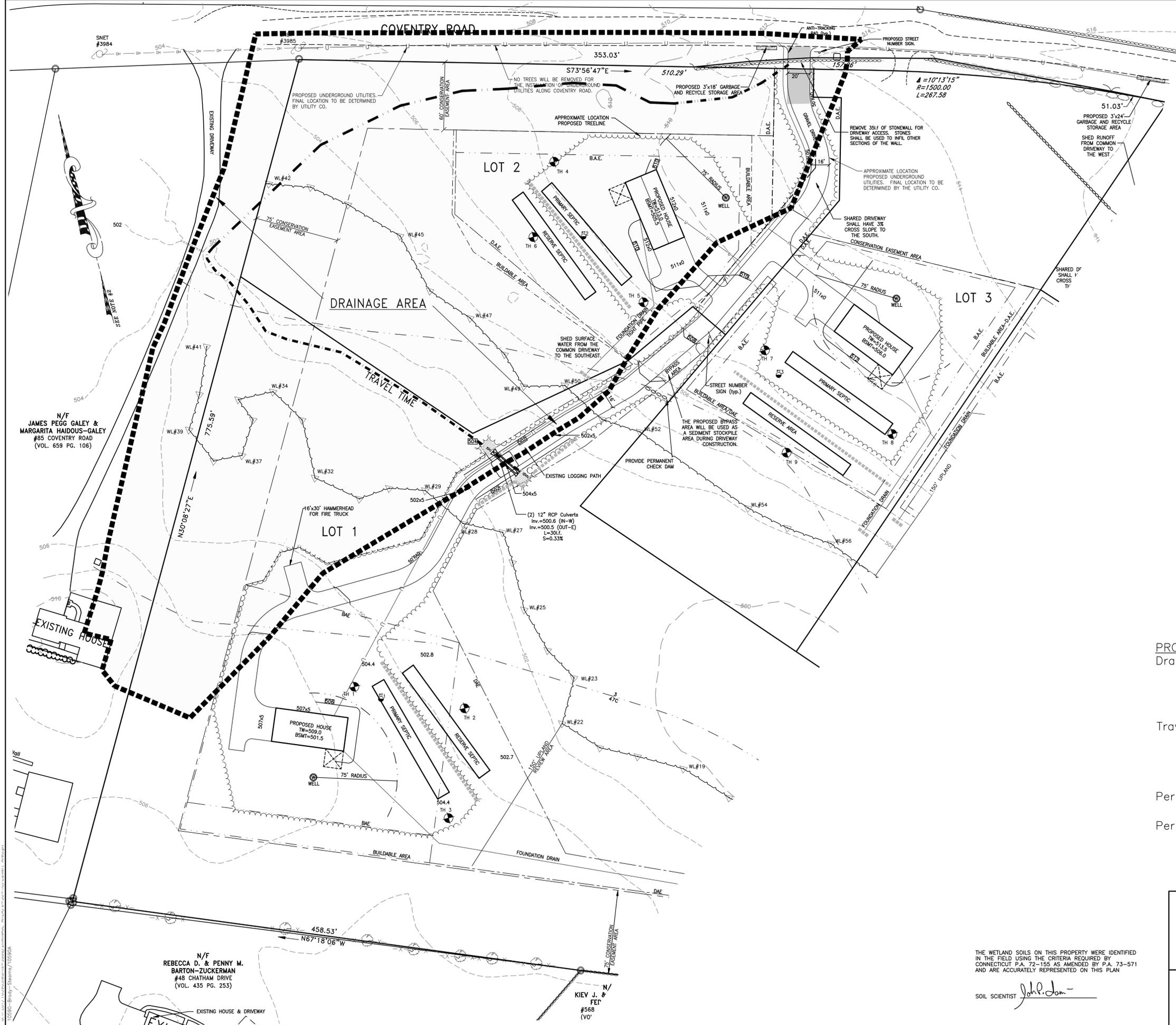
Highlighted

Qtotal (cfs) = 7.36
Qpipe (cfs) = 7.36
Qovertop (cfs) = 0.00
Veloc Dn (ft/s) = 4.90
Veloc Up (ft/s) = 4.69
HGL Dn (ft) = 501.41
HGL Up (ft) = 501.74
Hw Elev (ft) = 501.98
Hw/D (ft) = 1.38
Flow Regime = Inlet Control



SOIL TYPE LEGEND

NUMBER	SOIL TYPE
3	Ridgebury, Leicester and Whitman soils
46B	Woodbridge fine sandy loam
47C	Woodbridge fine sandy loam
73C	Charlton-Chatfield



N/F
 JAMES PEGG GALEY &
 MARGARITA HAIDOUS-GALEY
 #85 COVENTRY ROAD
 (VOL. 659 PG. 106)

N/F
 REBECCA D. & PENNY M.
 BARTON-ZUCKERMAN
 #48 CHATHAM DRIVE
 (VOL. 435 PG. 253)

N/
 KIEV J. &
 FET
 #568
 (VO)

PROPOSED CULVERT CROSSING – LOT 1

Drainage Area:	5.12 acres
gravel	0.30 acres
impervious	0.06 acres
woods	3.76 acres
grass	1.00 acres
Travel Time:	
overland	100' @ 3%
shallow concentrated	460' @ 1.7%
shallow concentrated	360' @ 0.4%

Per Hydraflow Hydragraph Extension – $Q_{10} = 5.97\text{cfs}$
 (see output)
 Per Hydraflow Express Extension: Provide (2) 12" culverts
 (see output)

THE WETLAND SOILS ON THIS PROPERTY WERE IDENTIFIED
 IN THE FIELD USING THE CRITERIA REQUIRED BY
 CONNECTICUT P.A. 72-155 AS AMENDED BY P.A. 73-571
 AND ARE ACCURATELY REPRESENTED ON THIS PLAN

SOIL SCIENTIST *John Dan*

CULVERT DRAINAGE AREA MAP

PREPARED FOR MOUNTAIN VIEW ESTATES #522 BROWNS ROAD & COVENTRY ROAD MANSFIELD, CONNECTICUT GARDNER & PETERSON ASSOCIATES, LLC 178 HARTFORD TURNPIKE TOLLAND, CONNECTICUT PROFESSIONAL ENGINEERS LAND SURVEYORS				
REVISIONS				
BY	SCALE	DATE	SHEET NO.	MAP NO.
M.A.P.	1"=40'	6-30-2016	1 OF 1	10590D

OLD BUSINESS



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: Thursday, October 27, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 122-124 Thornbush Road (File W1574)
122-124 Thornbush Road, LLC
Description of Work: Site Work
Map Date: 9/26/2016

PROJECT OVERVIEW

At your August 1st meeting you received an application from Thornbush Road, LLC to raise the elevation of an existing mobile home within a flood hazard zone and approximately 90 feet from the edge of wetlands by importing 90 cubic yards of fill. The initial proposal did not comply with Mansfield's Flood Hazard Regulations. To comply with these regulations, the applicant is required to prepare an engineered plan.

After reviewing the revised plan with the Town of Mansfield Zoning Agent/Assistant Planner and the Town Assistant Engineer, Derek Dilaj, the plans will need to be modified further to comply with the Flood Hazard Regulations. I recommend tabling this application so that the applicant can make the required modifications. The applicant has consented to an extension through your December 5, 2016.



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 29, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 122-124 Thornbush Road (File W1574)
122-124 Thornbush Road, LLC
Description of Work: Site Work
Map Date: 9/26/2016

PROJECT OVERVIEW

At your August 1st meeting you received an application from Thornbush Road, LLC to raise the elevation of an existing mobile home within a flood hazard zone and approximately 90 feet from the edge of wetlands by importing 90 cubic yards of fill. The initial proposal did not comply with Mansfield's Flood Hazard Regulations. To comply with these regulations, the applicant is required to prepare an engineered plan. The revised plan includes moving approximately 90 cubic yard of sandy subsoil from the eastern portion of the site to raise the elevation of the area where the mobile home will be placed. A six inch thick, 12 by 42 foot concrete pad will then be installed to allow for a stable base for a mobile home. The area will be landscaped and all disturbed areas will be stabilized. This site will be included in your October 12, field trip and the Conservation Commission will review this application at their October meeting. The applicant has consented to an extension through November 2, 2016 for the review of this application.

EROSION AND SEDIMENTATION CONTROL NOTES

PROJECT DESCRIPTION:

THE PROJECT CONSISTS OF REPLACING A MOBILE HOME IN THE SAME GENERAL LOCATION AS ONE WHICH WAS RECENTLY REMOVED. THE REPLACEMENT HOME SHALL BE ELEVATED SUCH THAT THE FINISHED FLOOR WILL BE AT LEAST ONE FOOT ABOVE THE BASE FLOOD ELEVATION (100 YEAR FLOOD). FILL MATERIALS NECESSARY TO RAISE THE HOME PAD WILL BE OBTAINED FROM ANOTHER AREA ON THE PROPERTY. NO IMPORTED FILL MATERIAL IS ALLOWED.

CONSTRUCTION SCHEDULE:

- [A] INSTALL HAY BALES OR SILT FENCE AS SHOWN ON THE PLAN.
- [B] INSTALL CONSTRUCTION ENTRANCE
- [C] STRIP AND STOCKPILE TOPSOIL IN AREA OF BORROW AREA.
- [D] CONSTRUCT HOME PAD AND STABILIZE.
- [E] FINISH GRADE BORROW AREA, FERTILIZE, SEED, MULCH DISTURBED AREAS, REMOVE CONSTRUCTION ENTRANCE.
- [F] INSTALL REPLACEMENT MOBILE HOME.

ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO OR THE START OF CONSTRUCTION AND SHALL REMAIN IN EFFECT UNTIL ALL DISTURBED AREAS ARE STABILIZED.

OPERATION AND MAINTENANCE:

IN GENERAL, EROSION AND SEDIMENTATION CONTROL AND RESTORATION MEASURES SHALL CONFORM TO THE "2002 CONNECTICUT E & S GUIDELINES" AS PUBLISHED BY THE DEEP AND TO LOCAL TOWN REQUIREMENTS.

THE CONTRACTOR SHALL MAKE DAILY INSPECTIONS OF THE SITE TO ENSURE EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL MEASURES AND IMMEDIATELY MAKE NECESSARY REPAIRS.

ALL CONSTRUCTION TRAFFIC SHALL ENTER AND LEAVE BY THE CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN.

WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA OR WHEN GRADING ACTIVITY HAS TEMPORARILY CEASED FOR A PERIOD OF TIME EXPECTED TO EXCEED ONE MONTH, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT CONTROL MEASURES ARE IMPLEMENTED.

ADDITIONAL SEDIMENTATION AND/OR EROSION CONTROL MEASURES IF REQUESTED BY THE TOWN SHALL BE INSTALLED IMMEDIATELY UPON REQUEST.

ALL DISTURBED AREAS SHALL BE PROTECTED WITH A MINIMUM VEGETATION COVER AS SHOWN IN ACCOMPANYING CHART.

THE CONTRACTOR SHALL PLAN ALL LAND DISTURBING ACTIVITIES IN A MANNER AS TO MINIMIZE THE EXTENT OF THE DISTURBED AREAS.

THE CONTRACTOR HEREBY ACKNOWLEDGES HIS RESPONSIBILITY TO INSTALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ON THIS SITE AND THAT HIS FAILURE TO INSTALL AND MAINTAIN THESE DEVICES COULD RESULT IN FINES OR SUSPENSION OF WORK.

VEGETATIVE COVER FOR DISTURBED AREAS

SEEDING SCHEDULE

	SEED MIX	SEEDING SEASON
TEMPORARY	100% ANNUAL RYEGRASS	MARCH 1 TO JUNE 15 AUGUST 15 TO OCT. 1
PERMANENT	45% KENTUCKY BLUEGRASS 45% CREeping RED FESCUE 10% PERENNIAL RYE GRASS (OR EQUAL)	APRIL 15 TO JUNE 15 AUGUST 15 TO SEPT. 15

APPLICATION RATES PER 1000 S.F.

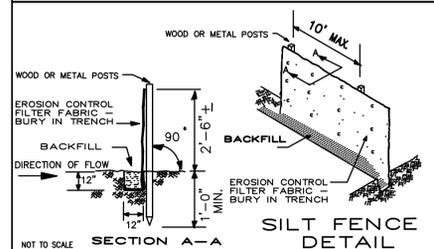
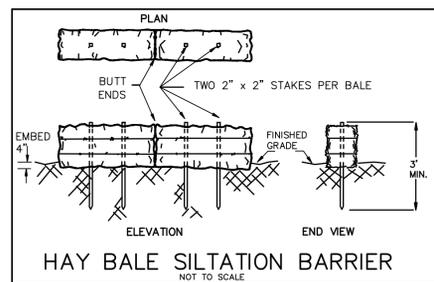
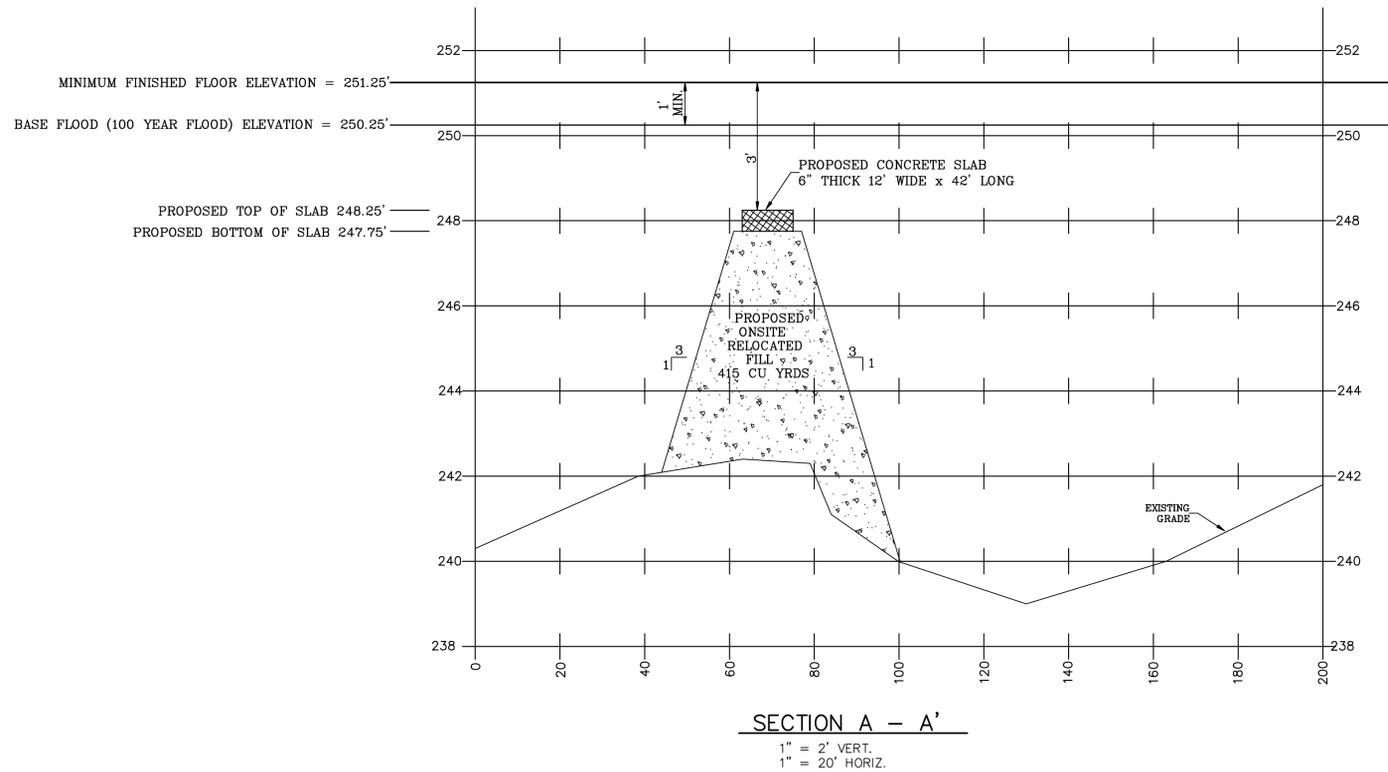
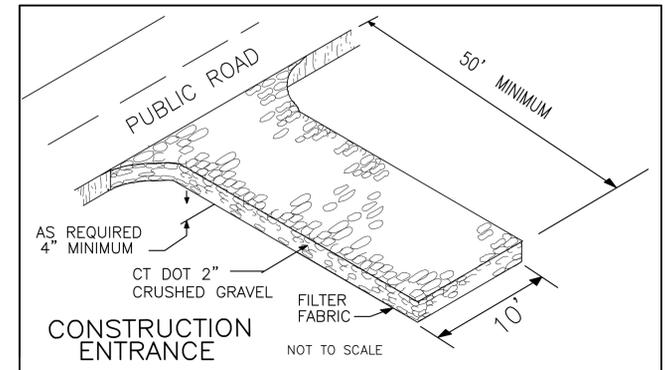
	SEED MIX	FERTILIZER (10x10x10)	LIME	HAY MULCH
TEMPORARY	1 LB.	7.5 LBS.	45 LBS.	70-90 LBS.
PERMANENT	1 LB.	7.5 LBS.	90 LBS.	70-90 LBS.

TEMPORARY MULCH

TO BE USED IN AREAS WHICH CANNOT BE SEEDED WITHIN THE SPECIFIED SEEDING SEASONS.

APPLICATION RATE 70-90 LBS./1000 S.F.

ASPHALT OR SYNTHETIC LIQUID MULCH BINDER SHALL BE APPLIED OVER ALL HAY MULCH AT THE RATES SPECIFIED BY THE MANUFACTURER.



ALL CONTRACTORS MUST CONTACT "CALL BEFORE YOU DIG"
AT 1-800-922-4455 PRIOR TO ANY EXCAVATION.

TOWNE ENGINEERING, INC. CIVIL ENGINEERS AND LAND SURVEYORS ROUTE 32 AND RICHMOND LANE, SOUTH WINDHAM CT TEL (860) 423-6371/889-2100 FAX 423-5470				
TOPOGRAPHIC SURVEY PREPARED FOR 122-124 THORNBUSH ROAD LLC 122-124 THORNBUSH ROAD MANSFIELD, CONNECTICUT				
DATE	REVISIONS	BOOK NO.	DRAWN	SHEET NO.
09/26/2016		475	JHB	2 OF 2
SCALE		DISC NO.	DESIGNED	JOB NO.
N.T.S.		16-110	JHB	
		CAD DWG	CHECKED	
		16-110	MDM	16-110

Part C - Project Description (attach extra pages, if necessary)

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

Prep Area for Concrete Pad to Replace Old Home
Install 90 yds of Gravel
Install 6" Concrete Slab

2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

Area of Disturbance of Trailer Pad 700 sqft +/-
Landscaping Around Area

3) Describe the type of materials you are using for the project:

Concrete, Gravel Base, Topsoil, Logm + Seed

a) include **type** of material used as fill or to be excavated Gravel

b) include **volume** of material to be filled or excavated 90 yds

4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

Silt Fence Around Area of Disturbance

Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

Land is Flat and Drains Well

Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

I Dont See that much of e Impact to Wetlands

Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

2) Applicant's map date and date of last revision _____

3) Zone Classification _____

4) Is your property in a flood zone? Yes No Don't Know

Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

Part H - Notice to Abutting Property Owners

1) Attach list of abutters, name, and address

2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

Part I - Additional Notices, if necessary

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

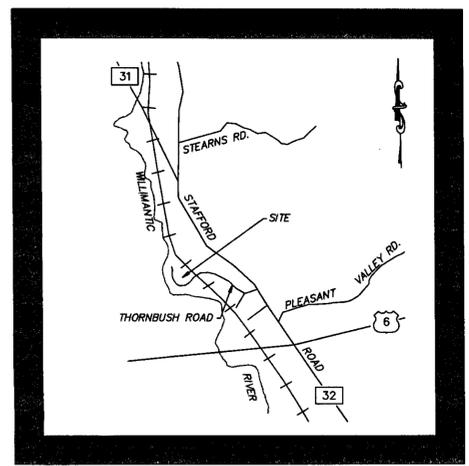
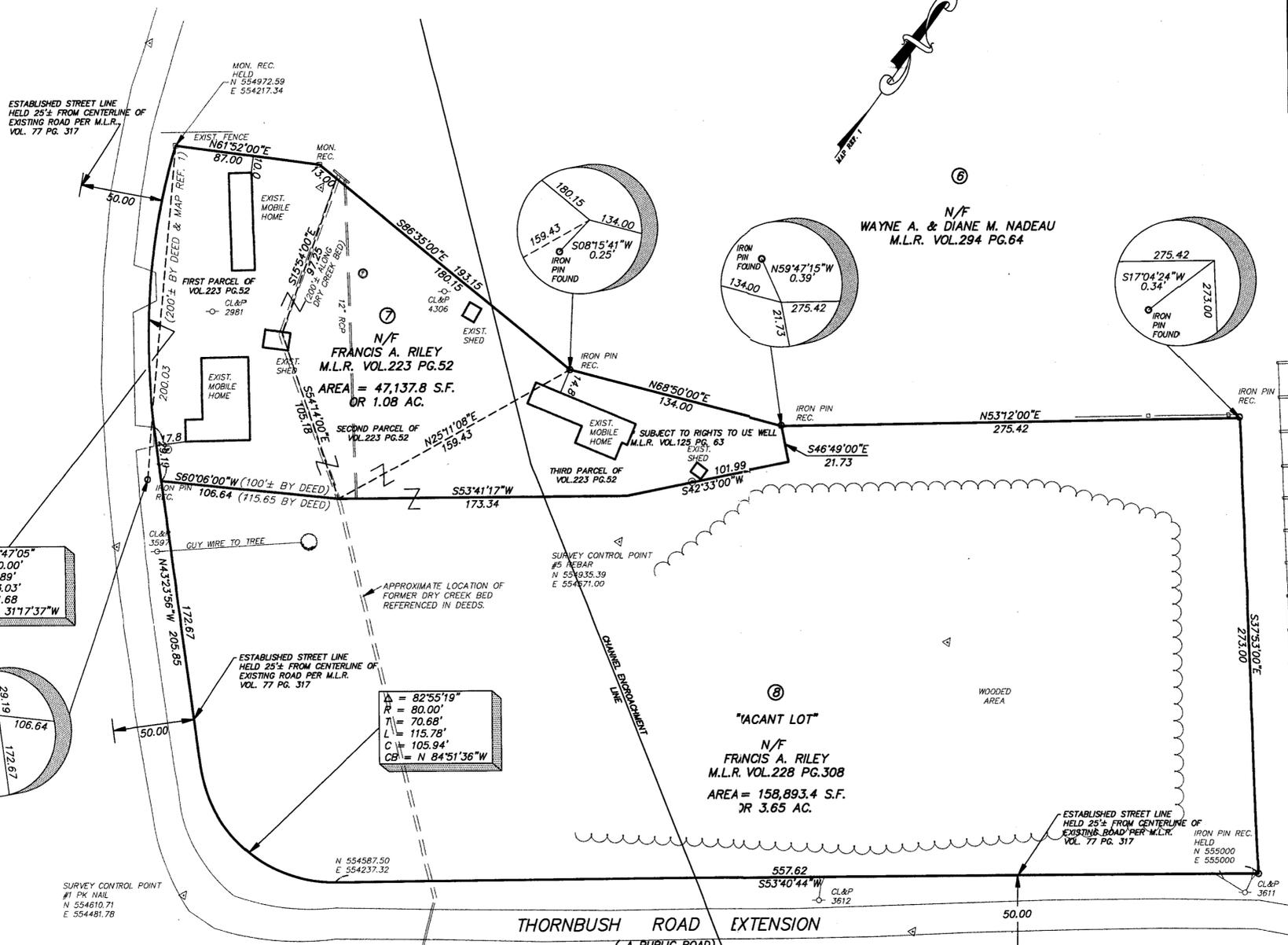
The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

NOTES:

1. THIS SURVEY 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 ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.
2. IT IS A PERIMETER SURVEY AND IS INTENDED TO DEPICT FEATURES WITHIN TEN FEET OF THE PROPERTY LINE AND ANY EXISTING STRUCTURES ON LOT NUMBER SEVEN.
3. THE BOUNDARY DETERMINATION CATEGORY IS THAT OF A RESURVEY.
4. THIS SURVEY CONFORMS TO CLASS A-2 HORIZONTAL ACCURACY STANDARDS.
5. THE PROPERTY DEPICTED HEREON IS CURRENTLY OWNED BY FRANCIS A. RILEY MANSFIELD LAND RECORDS VOLUME 223 AT PAGE 308 AND VOLUME 223 AT PAGE 52. IT IS DEPICTED AS LOTS SEVEN AND EIGHT IN BLOCK NUMBER EIGHTY TWO, MANSFIELD ASSESSOR'S MAP NUMBER THIRTY SIX.
6. THE BEARINGS DEPICTED HEREON ARE BASED UPON MAP REFERENCE NUMBER ONE DATUM UNKNOWN. THE COORDINATES ARE ASSUMED.
7. THE CHANNEL ENCROACHMENT LINES FOR THE WILLAMANTIC RIVER DEPICTED HEREON WERE DIGITIZED FROM MAP REFERENCE NUMBER THREE.
8. THE SUBJECT PROPERTY LIES WITHIN FLOOD ZONE A14 (AREAS OF 100-YEAR FLOOD). THIS DETERMINATION IS BASED UPON A GRAPHIC PLOT OF A MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM FIRM FLOOD INSURANCE RATE MAP TOWN OF MANSFIELD, CONNECTICUT TOLLAND COUNTY PANEL 15 OF 20 COMMUNITY PANEL NUMBER 090128 0015 C EFFECTIVE DATE JANUARY 2, 1981 PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY AND THE FEDERAL INSURANCE ADMINISTRATION".
9. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON (IF ANY) HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING, PAROL TESTIMONY, VISIBLE FEATURES AND 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.
10. THE SUBJECT PARCELS ARE LOCATED IN THE FLOOD HAZARD ZONE IN THE TOWN OF MANSFIELD.

MAP REFERENCES:

1. MAP SHOWING LAND OF FREDERICK A. & DOROTHY W. HORSEY WHICH IS TO BE CONVEYED TO ANN FERRIS. SITUATED ON THORNBUSH ROAD EXTENSION, TOWN OF MANSFIELD, CONN. SURVEY: NOV. 1957 SCALE 1" = 100' BY THOMAS B. DANIELSON L.S.
2. PROPERTY OF RICHARD J. KOBYLENSKI AND MENDY K. HERITAGE, THORNBUSH ROAD EXTENSION, MANSFIELD, CONN. SCALE 1" = 40' JULY 1983 BY: STEPHEN A. FLIP L.S. ASHFORD CT.
3. STATE OF CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION DAN. W. LUFKIN, COMMISSIONER WILLAMANTIC RIVER CHANNEL ENCROACHMENT LINES COVENANT, MANSFIELD CONNECTICUT PROJECT NO. W-135 DWG NO. 6 OF 21 DATED MARCH 1971 BY: DEGEN & KROPPER CONSULTING ENGINEERS BOSTON - HARTFORD.
4. PERMIT PLAN PREPARED FOR FRANCIS RILEY THORNBUSH ROAD MANSFIELD CONNECTICUT DATED 7/25/94 SCALE 1" = 10' JOB NO. 94-76 BY: TOWNE ENGINEERING INC. SOUTH WINDHAM CT.



revisions:	no.	date	description

PERIMETER SURVEY
PREPARED FOR
VALLEY VIEW, LLC.
THORNBUSH ROAD
MANSFIELD, CONNECTICUT

drawn by: CAD
checked by: TSH
date: 07/27/99
sheet no: 1 OF 1

job no: 99164
scale: 1" = 40'
Date Plotted: Wed Aug 25 08:34:55 1999

PS

F.A.H.
F. A. Heeketh & Associates, Inc.
6 Creamery Brook, East Granby, CT 06026
Civil & Traffic Engineers • Surveyors • Planners • Landscape Architects

Phone (860) 653-8000
Fax (860) 844-9600
e-mail: heeketh@netnet.net

I HEREBY CERTIFY TO NEW HAVEN SAVINGS BANK AND TO LAWYERS TITLE INSURANCE COMPANY THAT THIS SURVEY WAS ACTUALLY MADE UPON THE GROUND ON 3 AUGUST, 1999 AND EXCEPT AS NOTED OR DEPICTED HEREON, (a) THIS SURVEY AND THE BOUNDS AND MEASUREMENTS DEPICTED HEREON ARE CORRECT WITHIN THE STANDARDS OF CLASS A-2 OF THE STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT, (b) THE TITLE LINES AND LINES OF ACTUAL POSSESSION ARE THE SAME, (c) THE SUBJECT PROPERTY CONTAINS NO PERMANENT BUILDINGS, INDIVIDUAL MOBILE HOME UNITS ARE DEPICTED HEREON, AND ARE ERECTED ENTIRELY WITHIN THE PROPERTY LINES OR ANY RIGHT OF WAY OR EASEMENTS OR APPURTENANT TO THE PROPERTY, (d) THERE ARE NO UNRECORDED UTILITY OR OTHER EASEMENTS OR RIGHTS OF WAY AFFECTING THIS PROPERTY OTHER THAN THOSE DEPICTED HEREON, (e) THERE ARE NO ENCROACHMENTS OR PROJECTIONS ON OR OVER THE PROPERTY OR ON RIGHTS OF WAY OR EASEMENTS APPURTENANT TO THE SAME BY BUILDINGS OR IMPROVEMENTS ERECTED ON ADJACENT LANDS, AND (f) THAT EXISTING MOBILE HOMES ARE A NON CONFORMING USE BASED UPON CURRENT ZONING REGULATIONS.

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

THIS MAP IS NOT VALID WITHOUT THE LIVE SIGNATURE AND IMPRESSION TYPE SEAL OF THE LAND SURVEYOR WHOSE NAME APPEARS HEREON.

TODD S. HESKETH L.S. #17945



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: October 26, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: Woodland Road (parcel id 11.47.19) (File W1579)
JC Beall and K. Higgins
Description of Work: Wetland Crossing
Map Date: 9/25/2016, revised through 10/26/2016

PROJECT OVERVIEW AND ANALYSIS

To manage vegetation and restore habitat, the applicants propose to install a stream crossing to access their 56-acre property on the west side of Woodland Road (Assessor's Parcel ID 11.47.19). The crossing will be constructed approximately 400 feet south of the property boundary of 83 Woodland Road. The property owners eventually plan to put a single family home on the property.

The intermittent brook on the east side of the property flows south to a large wetland system and eventually drains to the Fenton River. The wetlands have not been field delineated, however the brook channel is clearly evident and riparian edge of the brook corresponds to the Town Wetlands Map.

To create this access, the applicants propose to install a 20 foot long, 36 inch diameter culvert on top of approximately 18 cubic yards of rip rap across an intermittent brook. Approximately 25 cubic yards of 3 inch minus gravel covered with approximately 30 yards of a ¾ inch aggregate mix will be used on either side of the stream crossing to provide a stable surface. In total, 55 cubic yards of material will be imported to create the crossing. There will be approximately 300 square feet of direct impact to the stream as a result of the installation of the culvert and rip rap and approximately 900 square feet of disturbance in the upland review area. The applicants propose to use silt fence to prevent erosion sedimentation during construction. The silt fence will remain until the area has been revegetated and stabilized.

The applicants chose the proposed location because there are already the remnants of an old wetland crossing, most likely from a previous logging operation. The crossing will connect to the historic Munman Road shown on the attached map. This road is discontinued and no longer maintained by the Town. Alternative access points would include a new and larger disturbance to the watercourse and the upland review area.

The Conservation Commission expressed concern that the applicant had not sufficiently described the application and because of this, they could not determine whether or not the proposed activity would have a significant impact or not. I have since worked with the applicant to provide more information, which is included in this packet. The Town's Assistant Engineer has reviewed this application. In his professional opinion, the culvert diameter is sufficient to handle the stream flow. Staff recommends that the culvert be installed 4 inches below the stream bed and so that native material can cover the bottom of the culvert, which will create a more suitable surface for amphibians to move through the culvert.

NOTIFICATIONS

The applicant has submitted certified mail receipts for notices mailed to abutters.

RECOMMENDATION/SUGGESTED MOTION

_____ MOVE to grant an Inland Wetlands License pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Mansfield to JC Beall and Katrina Higgins (File W1579) for installation of a stream crossing on property owned by the applicants and located on the west side of Woodland Road (Assessor's parcel id 11.47.19) as shown on plans dated 9/25/2016, revised through 10/26/2016 and as described in application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provisions being met:

1. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
2. Should the applicant complete work during active flow in the stream the applicant shall install a stone berm check dam downstream to capture sediments resulting from installation of the culvert, and
3. The culvert will be installed 4 inches below the stream bed.

This approval is valid for five years (until 11/2/2021) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any

work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 28, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: Woodland Road (Assessor's Parcel ID 11.49.19) (File W1579)
JC Beall and Katrina Higgins
Description of Work: Wetland Crossing to Access Property
Map Date: 9/25/2016

PROJECT OVERVIEW

The applicants propose to install a stream crossing to access their property for vegetation management and habitat restoration on the west side of Woodland Road (Assessor's Parcel ID 11.49.19). To create this access, the applicants proposed to install a 20 foot long, 36 inch diameter culvert on top of approximately 18 cubic yards of rip rap across an intermittent brook. Approximately 25 cubic yards of 3 inch minus gravel covered with approximately 30 yards of a ¾ inch aggregate mix will be used on either side of the stream crossing to provide a stable surface. There is already the remnants of an old wetland crossing in the proposed location.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.
- The project is located in a Public Water Supply watershed.

APPLICATION FEES AND NOTIFICATIONS

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.
- The applicant has submitted copies of notices provided to the Connecticut DPH and Windham Water Works. Certified mail receipts must be submitted prior to action on the application.

RECEIPT MOTION

_____ MOVE to receive the application submitted by JC Beall and Katrina Higgins (IWA File 1579) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for installation of a stream crossing on property located on the west side of Woodland Road (Assessor's Parcel ID 11.49.19) as shown on a map dated 9/25/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

APPLICATION FOR PERMIT
MANSFIELD INLAND WETLANDS AGENCY
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR
FAX: 860-429-6863

FOR OFFICE USE ONLY

File # W 1579
Fee Paid \$185
Official Date of Receipt 9-26-16

Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact the Inland Wetlands Agent at the telephone numbers above.

Please print or type or use similar format for computer; attach additional pages as necessary.

Part A - Applicant

Name: Jc Beall and Katrina Higgins

Mailing Address 828 Wormwood Hill Road, Mansfield, CT, Zip: 06268

Phone: 860-230-4391 Email: jcbeall@gmail.com

Title and Brief Description of Project:

Installation of Culvert for Access Point to Property: installation of culvert across wetlands on Parcel # 11.47.19 on Woodland Road

Location of Project: Approx 500 ft from north boundary of 11.47.19 on Woodland Road

Intended Start Date: November 2, 2016

Part B - Property Owner (if applicant is the owner, just write "same")

Name : Tammy Keith and Deborah McKinney (purchase of property by Beall and Higgins expected October 3rd 2016)

Mailing Address: 666 Old Colchester Road, Salem CT Zip: 06420

Phone: 860-213-0887 Email: teddybearandmarvin@snet.net

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature (see attached email)

Applicant's interest in the land: (if other than owner): applicant will take ownership of property on October 3 2016

Part C - Project Description (attach extra pages, if necessary)

- 1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

see attached

- 2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

Access point to get tractor into property for land/vegetation management and habitat restoration. Please see hand-written project description.

Note: very little disturbance of the wetland/watercourse is required, as there is already old fill up to the target culvert point. The culvert will be placed without digging anything in the wetlands "brook bed".

- 3) Describe the type of materials you are using for the project:

Please see attached (hand-written) project description. (Please note that fill is already standing on Woodland-Road side of target culvert area.) Main machine is small Bobcat and small (residential) kubota excavator.

- a) include **type** of material used as fill or to be excavated:

20' culvert 36" diameter; 18 yards of modified Rip Wrap; 80 bales of hay; 25 yds of 3"-minus gravel; 30 yds ¾" aggregate mix.

- b) include **volume** of material to be filled or excavated:

Nothing will be excavated; there will be 25yds of 3" minus gravel and 30 yds of ¾" aggregate mix.

- 4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

80 hay bales will be used for control (leaving them in place until green growth is clear through hay bales). There will be 40 hay bales on each side of the target wetland area -- 20 hay bales on the northeast side of culvert, 20 on the northwest side, 20 on southwest side, and 20 on southeast side of culvert.

Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

The land is hilly and wooded with the boundaries flattening out to wetlands where water drains. Drainage from elevated areas to wetlands is very good.

Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

All other points of access to the property would require a greater disturbance to the wetlands. The current site already contains fill that a previous owner installed with a view to installing a driveway. Our aim, at present, is to install a safe and stable access point to the property to maintain and manage the property (which is being overrun by familiar invasive plants -- barberry, bittersweet, and m-roses).

Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

2) Applicant's map date and date of last revision _____

3) Zone Classification RAR 90

4) Is your property in a flood zone? Yes No Don't Know

Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

Part H - Notice to Abutting Property Owners

1) Attach list of abutters, name, and address (see attached)

12) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

Part I - Additional Notices, if necessary

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the

application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

Part J - Other Impacts To Adjoining Towns, if applicable

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? ___ Yes ___ No X Don't Know

- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? ___ Yes ___ No X Don't Know

- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? ___ Yes ___ No X Don't Know

Part K - Additional Information from the Applicant

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

Our aim is simply to access the property (which we will own on October 3 2016). We intend to restore and manage the property, and foster bee-friendly trees (maples, etc.) and bee-friendly native wildflowers. We intend to eventually put some beehives on the property, which need to be maintained.

Part L - Filing Fee

Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.

Certification

I hereby certify that:

- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.



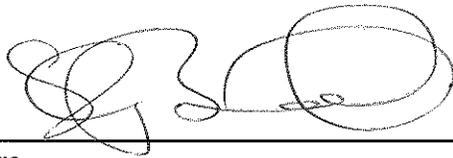
Signature



Date

Authorization to Enter Property

The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.



Signature



Date

Project Description Guidelines for Part C

1. Explain exactly what work you propose to do and how close it will be to a wetland or watercourse.
 - 115852560. Describe area of disturbance and volume and type of material to be filled or excavated. How much wetlands will be disturbed? Non-wetland areas nearby?
 - 115852608. Does the area of activity drain toward the wetland?
 - 115852656. Are there alternatives that you considered but eliminated for specific reasons?
 - 115852704. Describe briefly the construction methods. What kind of heavy equipment will be used? When will the work be done?
 - 115852800. How are you protecting the wetlands and watercourses against disturbance that will result from construction?
 - 115852848. Do you have any knowledge of a previous wetlands application for this property? If yes, please explain.

Sketch Map or Site Plan Guidelines for Part F

The following 10 details are required for every application:

1. Applicant's name
 - 115852128. Date and revision date, if applicable.
 - 115852176. North arrow and scale of map.



Town of Mansfield, Connecticut
Web GIS Maps and Online Property Information
by MainStreetGIS, LLC

[Town Website](#) [Facebook](#)

Layers Property Selection

Clear Save Mail Zoom

Selected: 0 (Use selection tool!)

MainStreetGIS

GIS Map

Street View

Tax Maps

1: 4672

Base Map:

See hand-drawn diagram for details on materials and plans



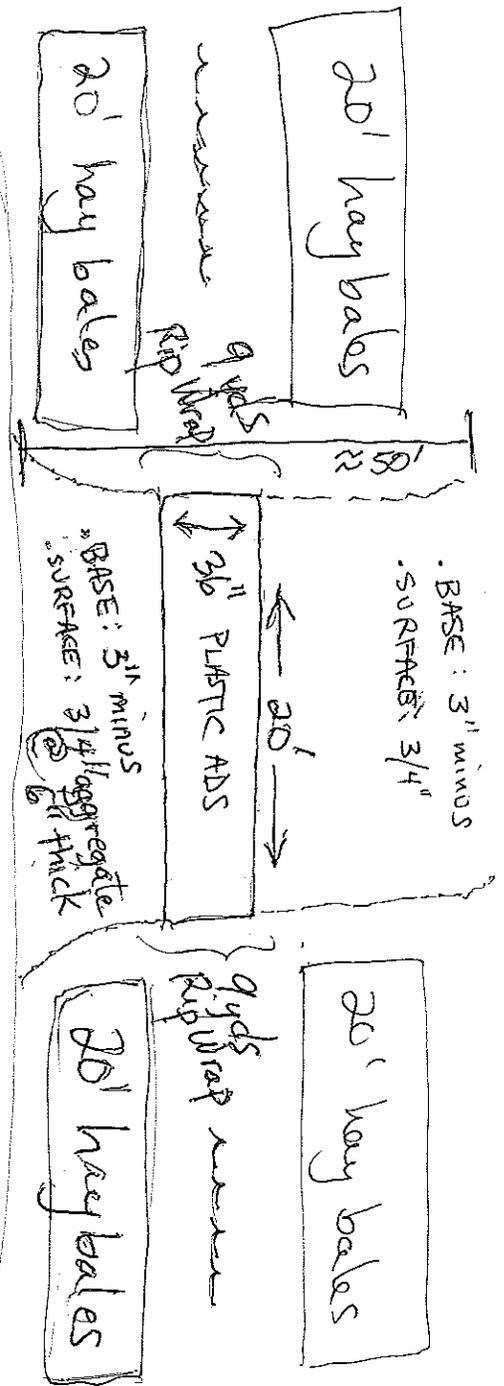
9/25/16

MATERIALS:

- 20' long 36" culvert (PLASTIC ADS)
- 18 yards modified Rip Wrap
- 80 hay bales
- 25 yds 3" minus gravel
- 30 yds 3/4" aggregate mix

SEDIMENT/EROSION CONTROL:

- Rip wrap at both ends
- 40 hay bales at each side of wetland crossing; will be left in place until garden growth.



WETLAND ROAD: ACCESS POINT 1D11.4719



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: October 26, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 513 Wormwood Hill Road (File W1580)
Ed Hall/Tom Wells
Description of Work: Construction of a Farm Equipment Maintenance Building
Map Date: 9/26/2016

PROJECT OVERVIEW AND ANALYSIS

The applicant proposes to construct a 42 by 52 foot farm maintenance building on a concrete slab on the west side of Wormwood Hill Road, approximately 71 feet from the edge of wetlands. The project site slopes slightly toward the wetlands. There is an existing shed in the location of the proposed building that will be demolished. Approximately 6000 square feet of disturbance will occur in the upland review area. There will be minor grading using approximately 50 cubic yards of gavel fill during the installation of a concrete slab and frost walls.

An existing catch basin will be relocated to the southwest of the proposed building. The existing catch basin was installed previously as part of a USDA NRCS stormwater management project to divert up gradient stormwater from a heavily used agricultural area to prevent contaminated runoff from entering the wetland. The new catch basin will be located and graded to maintain this diversion. The applicant indicates on the site plans and in the application materials that silt fence will be installed around all stock piles and in the area of disturbance closest to wetlands. The property will be revegetated and mulched to stabilize the area after disturbance.

NOTIFICATIONS

- The applicant has submitted certified mail receipts for notices mailed to abutters.

RECOMMENDATION/SUGGESTED MOTION

_____ MOVE to grant an Inland Wetlands License pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Mansfield to Ed Hall (File W1580) for construction of a farm equipment maintenance building on property owned by Thomas Wells and located at 513 Wormwood Hill Road as shown on plans dated 9/26/2106 and as described in application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provision being met:

1. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized.

This approval is valid for five years (until 11/2/2021) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 28, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 513 Wormwood Hill Road (File W1580)
Ed Hall/Tom Wells
Description of Work: Construction of a Farm Equipment Maintenance Building

Map Date: 9/26/2016

PROJECT OVERVIEW

The applicants propose to construct a 42 by 52 foot farm maintenance building on the west side of Wormwood Hill Road, approximately 71 feet from the edge of wetlands. Currently there is an existing shed on the site of the proposed building that will be demolished. There is also a catch basin that will be relocated to the southwest of the proposed building. The applicant proposes to use silt fence around all stock piles and in the area of disturbance closest to wetlands. The property will be revegetated and mulched to stabilize the area after disturbance.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.
- The project is located in a Public Water Supply watershed.

APPLICATION FEES AND NOTIFICATIONS

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.
- The applicant has submitted copies of notices provided to the Connecticut DPH and Windham Water Works. Certified mail receipts must be submitted prior to action on the application.

RECEIPT MOTION

_____ MOVE to receive the application submitted by Ed Hall/Tom Wells (IWA File 1580) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for construction of a 42 by 52 foot farm maintenance building on property located at 513 Wormwood Hill Road as shown on a map dated 9/26/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

APPLICATION FOR PERMIT
MANSFIELD INLAND WETLANDS AGENCY
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR
FAX: 860-429-6863

FOR OFFICE USE ONLY

File # W1580
W
Fee Paid \$185 -
Official Date of Receipt 9-27-16

Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact the Inland Wetlands Agent at the telephone numbers above.

Please print or type or use similar format for computer; attach additional pages as necessary.

Part A - Applicant

Name Edward Hall

Mailing Address 35 Mansfield Hollow Road

Mansfield Center, CT Zip 06250

Phone 860-617-5399 Email

Title and Brief Description of Project

CONSTRUCTION OF 42'x52' FARM EQUIPMENT Maintenance Building

Location of Project 513 WORMWOOD HILL ROAD

Intended Start Date November 2016

Part B - Property Owner (if applicant is the owner, just write "same")

Name THOMAS & MICHELLE WELLS

Mailing Address 513 WORMWOOD HILL ROAD

Mansfield Center, CT Zip 06250

Phone 860-234-1605 Email tomwells953@yahoo.com

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature Thomas W Wells date 9/26/16

Applicant's interest in the land: (if other than owner) SITE WORK CONTRACTOR

Part C - Project Description (attach extra pages, if necessary)

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
- b) in the area adjacent to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is off your property

a) NO ACTIVITY PROPOSED WITHIN WETLANDS

b) CONSTRUCTION OF CONCRETE WALLS/FOOTINGS AND CONSTRUCTION OF A 42x52' STEEL BUILDING FOR FARM EQUIPMENT REPAIR.

MINOR GRADING TO MATCH EXISTING GRADES AROUND PROPOSED BUILDING

2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
- b) in the area adjacent to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is off your property

a) 0

b) 6,060 SF.

3) Describe the type of materials you are using for the project: THE PROPOSED CONSTRUCTION CONSISTS OF PLACING CONCRETE FOOTINGS, FROST WALLS AND SLABS, ERECTING A STEEL BUILDING AND MINOR GRADING WITH GRAVEL TO MATCH EXISTING GRADES.

a) include type of material used as fill or to be excavated GRAVEL FILL

b) include VOLUME of material to be filled or excavated MINOR GRADING AND UNDER SLAB - GRAVEL ≈ 50 CY.

4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

SILT FENCE

Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

THE PROJECT AREA IS SLOPED AND IS CURRENTLY IN USE AS A DUNY FARM. THE ENTIRE PROJECT AREA FALLS WITHIN THE CURRENT AREA USED FOR THE OPERATION

Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

No Feasible alternative. The existing shed location is being used as part of the farm operation currently

Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing existing conditions and the proposed project in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. (See guidelines at end of application)

2) Applicant's map date and date of last revision 9/26/16

3) Zone Classification RAR-90

4) Is your property in a flood zone? Yes X No Don't Know

Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

Part H - Notice to Abutting Property Owners

1) Attach list of abutters, name, and address

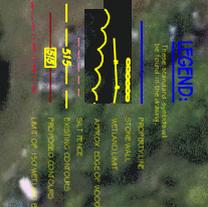
2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. Postal receipts of your notice to abutters must accompany your application. To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

Part I - Additional Notices, if necessary

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.



PRECISION & SEDIMENT CONTROL NOTES:

1. ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.
2. ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.
3. THE SMALLEST PRACTICAL APPROXIMATE SHALL BE USED FOR THE DESIGN OF ALL STRUCTURES.
4. THE SLOPING OF DRAINAGE CHANNELS SHALL BE WITHIN THE LIMIT OF CONFORMANCE WITH THE LATEST EDITIONS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.
5. THE SLOPING OF DRAINAGE CHANNELS SHALL BE WITHIN THE LIMIT OF CONFORMANCE WITH THE LATEST EDITIONS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.
6. THE SLOPING OF DRAINAGE CHANNELS SHALL BE WITHIN THE LIMIT OF CONFORMANCE WITH THE LATEST EDITIONS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.
7. THE SLOPING OF DRAINAGE CHANNELS SHALL BE WITHIN THE LIMIT OF CONFORMANCE WITH THE LATEST EDITIONS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.
8. THE SLOPING OF DRAINAGE CHANNELS SHALL BE WITHIN THE LIMIT OF CONFORMANCE WITH THE LATEST EDITIONS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.
9. THE SLOPING OF DRAINAGE CHANNELS SHALL BE WITHIN THE LIMIT OF CONFORMANCE WITH THE LATEST EDITIONS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.
10. THE SLOPING OF DRAINAGE CHANNELS SHALL BE WITHIN THE LIMIT OF CONFORMANCE WITH THE LATEST EDITIONS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.

WETLANDS



PLAN VIEW



FILE STANDARD NOTES:

1. THE DESIGNER HAS REVIEWED THE RECORD DRAWINGS AND MAPS FOR THE PROJECT AND HAS FOUND THEM TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.
2. THE DESIGNER HAS REVIEWED THE RECORD DRAWINGS AND MAPS FOR THE PROJECT AND HAS FOUND THEM TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.
3. THE DESIGNER HAS REVIEWED THE RECORD DRAWINGS AND MAPS FOR THE PROJECT AND HAS FOUND THEM TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL AND THE CONNECTICUT ASSESSMENT AND MAINTENANCE MANUAL FOR CONSTRUCTION OF STORMWATER CONTROL STRUCTURES.

SITE DEVELOPMENT PLAN

513 WORMWOOD HILL ROAD
MANSFIELD CENTER, CONNECTICUT

PREPARED FOR
Thomas Wells
513 WORMWOOD HILL ROAD
MANSFIELD CENTER, CT 06255

BY: **RYAN J. DONOVAN, P.E., S.E., S.D.**
60 BOYD LANE, MANSFIELD CENTER, CT 06255
PHONE: 860-452-2418

DATE: 11/01/2011

Conclusion is valid without the signature and stamped professional license.

Conclusion is valid without the signature and stamped professional license.



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: October 26, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 205 Pleasant Valley Road (File W1581)
Evergreen Energy, LLC/Terry and Judy Wollen
Description of Work: Installation of ground mounted solar panel and geothermal well
Map Date: 9/28/2016

PROJECT OVERVIEW AND ANALYSIS

The applicant proposes to install 12 boreholes, six of which will be 24 inches in diameter and six of which will be 18 inches in diameter. All 12 boreholes will be 48 inches deep and fitted with a sonotube concrete form. A 1 foot wide, 3 foot deep trench will be excavated to connect the solar array and the utility meter and will be back filled once the connection is established. In addition, two 375 foot deep geothermal wells will be drilled and a four foot deep trench will be excavated to connect the wells to the basement of the house. In total, 38 cubic yards of soil will be excavated. The majority of the material will be back filled into the bore holes and trenches. Any remaining material will be distributed under the solar array and seeded and mulched to stabilize the site. All activities will take place in the upland review area, with the closest area of activity to wetlands being 50 feet. No activities are proposed in wetlands.

The applicants have proposed silt fence downgradient of soil stockpile, north of the solar array. I recommend installing silt fence downgradient of the geothermal boreholes to prevent debris from entering into the wetlands.

NOTIFICATIONS

The applicant has submitted certified mail receipts for notices mailed to abutters.

RECOMMENDATION/SUGGESTED MOTION

_____ MOVE to grant an Inland Wetlands License pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Mansfield to Evergreen Energy (File W1581) for the installation of a ground mounted solar array and two geothermal well boreholes on property owned by Terry and Judy Wollen and located at 205 Pleasant Valley Road as shown on plans dated 9/28/2016 and as described in application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provisions being met:

1. Appropriate erosion and sedimentation controls shown on the site plans and described in application submissions shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized; and
2. In addition, silt fence shall be installed downgradient of the geothermal well boreholes to prevent debris from entering the wetland and removed only when the site is completely stabilized.

This approval is valid for five years (until 11/2/2021) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 29, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 205 Pleasant Valley Road (File W1581)
Evergreen Energy, LLC/Terry and Judy Wollen
Description of Work: Installation of ground mounted solar panel and geothermal well
Map Date: 9/28/2016

PROJECT OVERVIEW

The applicant proposes to install 12 boreholes, six of which will be 24 inches in diameter and six of which will be 18 inches in diameter. All 12 boreholes will be 48 inches deep and fitted with a sonotube concrete form. A trench will be dug a 1 foot wide, 3 foot deep trench will be excavated to connect the solar array and the utility meter and will be back filled once the connection is established. In addition, two 375 foot deep geothermal wells will be drilled and a four foot deep trench will be excavated to connect the wells to the basement of the house. In total, 38 cubic yards of soil will be excavated. The majority of the material will be back filled into the bore holes and trenches. Any remaining material will be distributed under the solar array and seeded and mulched to stabilize the site. All activities will take place in the upland review area. No activities are proposed in wetlands.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.

APPLICATION FEES AND NOTIFICATIONS

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.

RECEIPT MOTION

_____ MOVE to receive the application submitted by Evergreen Energy, LLC (IWA File 1581) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for installation of a solar array and geothermal wells on property located at 205 Pleasant Valley as shown on a map dated 9/28/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

**APPLICATION FOR PERMIT
MANSFIELD INLAND WETLANDS AGENCY
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR
FAX: 860-429-6863**

FOR OFFICE USE ONLY

File # W1581
W _____
Fee Paid \$185-
Official Date of Receipt 9-28-16

Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact the Inland Wetlands Agent at the telephone numbers above.

Please print or type or use similar format for computer; attach additional pages as necessary.

Part A - Applicant

Name Evergreen Energy, LLC.

Mailing Address PO Box 703,

Southington, CT Zip 06489

Phone 860-628-8151 Email rich@evergreenenergy.pro

Title and Brief Description of Project Installation of a 14.88 DC kW ground mounted solar PV system on the east side of the house. In addition two boreholes will be drilled behind the house for a 5-ton geothermal system to heat and cool the house.

Location of Project 205 Pleasant Valley Road, Mansfield Center, CT

Intended Start Date November 7, 2016

Part B - Property Owner (if applicant is the owner, just write "same")

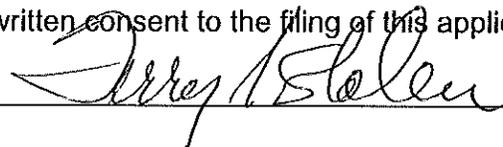
Name Terry & Judy Wollen

Mailing Address 205 Pleasant Valley Road

Mansfield Center, CT Zip 06268 06250

Phone 202-460-7275- Email terry@wollen.com

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature  date 9-28-16

Applicant's interest in the land: (if other than owner) _____ Contractor for Homeowner _____

Part C - Project Description (attach extra pages, if necessary)

- 1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

No work will take place within a wetland, the project work will be adjacent to a wetland on the northeast portion of the property. The project includes twelve boreholes, six will be 24 inches in diameter, and the other six will be 18 inches in diameter. All will go to a depth of 48 inches below grade. Each borehole will be fitted with a sonotube concrete form. Galvanized steel columns will be placed into each borehole followed by concrete mix. A trench, 1 foot wide and 2 to 3 feet deep will be excavated between the solar PV array and the utility meter, located south of the array. In addition to the above, two 375 foot deep borings will be drilled for a geothermal system at the same house. The boreholes will be located behind the house, a piping trench will be excavated between the two boreholes and the basement of the house, in the northeast corner. The trench will be 4 feet deep and backfilled to grade following the installation of piping.

- 2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property
-

The total soil to be disturbed will be approximately 38 cubic yards, including 5 cubic yards associated with the foundations for the solar PV, 5 cubic yards associated with the trench between the solar array and the utility meter; and 22 cubic yards associated with the two geothermal boreholes and 6 cubic yards associated with the trenching between the two boreholes and the house.

- 3) Describe the type of materials you are using for the project: _____

An excavator-mounted hole boring drill will be used to excavate the 12 borings associated with the solar PV foundations. An air rotary drill will be used to drill the two geothermal boreholes. A mini excavator will be used to provide the two trenches for the two systems.

- a) include **type** of material used as fill or to be excavated
Native soil will be excavated and replaced in trenches. Ready mix concrete mix will be used for the 12-sonotube foundations associated with the solar PV array. Bentonite slurry will be used to grout the two geothermal boreholes between 4 feet below grade and the bottom of each borehole. _____
- b) include **volume** of material to be filled or excavated
Total volume will be 38 cubic yards of soil and or rock. _____
-

- 4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

Silt fence will be installed between the excavation areas and the adjacent wetland area, behind the proposed solar array. Stockpiled soil will be covered with 6-mil polyethylene sheeting. Excavated soil that is not returned to a site excavation, will be spread out under the solar array and seeded. _____

Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

The land area is generally flat, trees are located in the wetland area, east of the project work. _____

Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

One option would be to install soil auger/anchors in place of concrete foundations; however, this will cost more than the proposed plan. It is also unknown if soil auger/anchors will provide adequate hold down, as we have no detailed information on the sub-surface soils.

Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

2) Applicant's map date and date of last revision 9-28-2016

3) Zone Classification RAR 90

4) Is your property in a flood zone? Yes No Don't Know

Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

Part H - Notice to Abutting Property Owners

1) Attach list of abutters, name, and address

2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

Part I - Additional Notices, if necessary

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

Part J - Other Impacts To Adjoining Towns, if applicable

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? ___ Yes No ___ Don't Know

- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? ___ Yes No ___ Don't Know

- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? ___ Yes No ___ Don't Know

Part K - Additional Information from the Applicant

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

Part L - Filing Fee

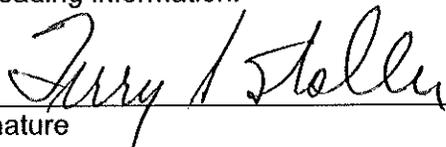
Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.

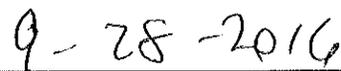
Certification

I hereby certify that:

- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.



Signature



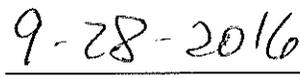
Date

Authorization to Enter Property

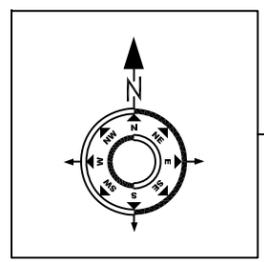
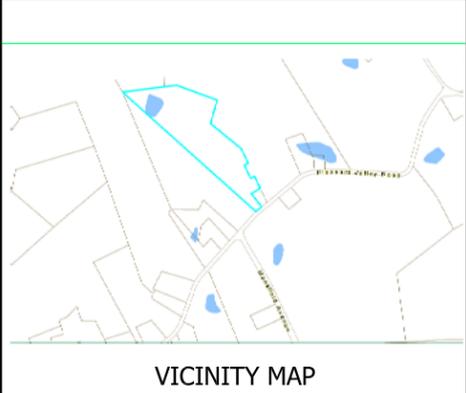
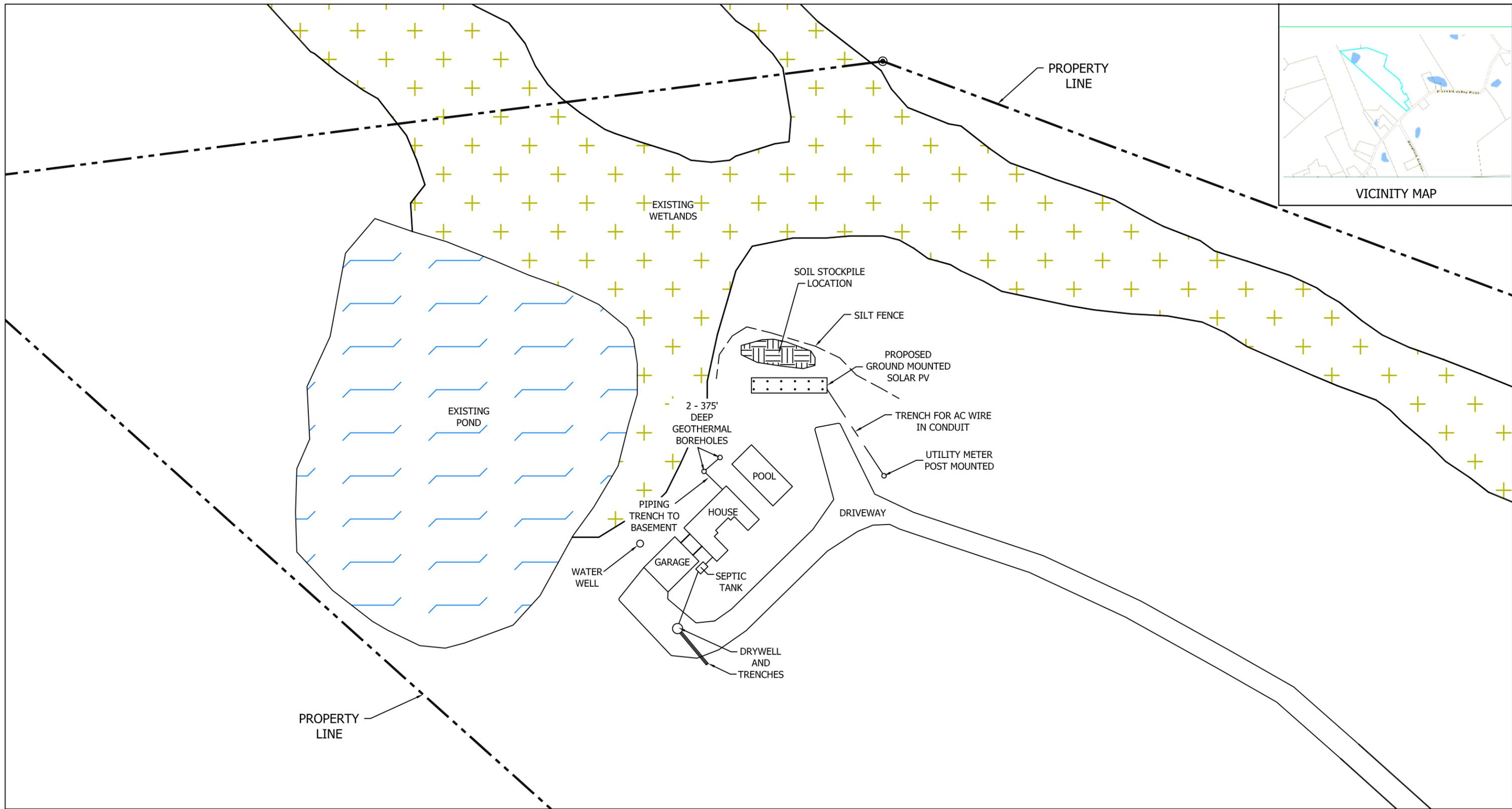
The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.



Signature



Date



Evergreen Energy
Southington, CT

GROUND MOUNTED SOLAR PV

NO.	DATE	REVISION

SHEET TITLE SITE PLAN WOLLEN RESIDENCE 205 PLEASANT VALLEY RD MANSFIELD, CT	PROJECT NO. SCALE: 1" = 80' DATE 9/28/2016
	DRAWING NO. S1 1 OF 1 SHEETS

JOB/DWG DESCRIPTION:

GROUND MOUNTED
 SOLAR SYSTEM
 ARRAY SUB-STRUCTURE

CUSTOMER / SITE INFO:

Evergreen Energy
 48 Landscape

- INITIAL RELEASE
 NO. REVISION DATE
 REVISION HISTORY

GRID SCALE PROJECTIONS



SCALE: NTS

DRAWN BY: MS

DATE: 9-1-2016

DRAWING NUMBER:

PVR-PP

REVISION:

REV 00

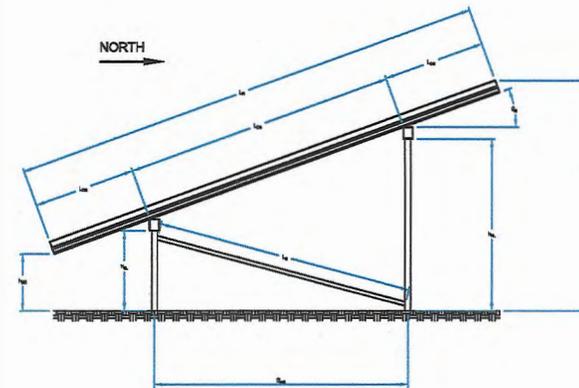
PAGE 1 OF 3



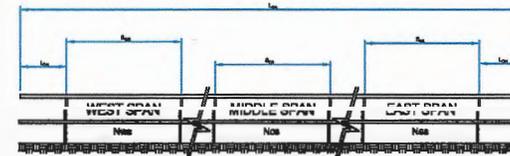
SYSTEM - SUB ARRAY PLAN VIEW



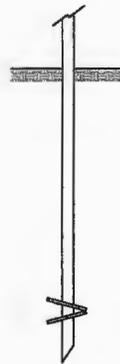
MODULE ARRANGEMENT VIEW LOOKING DOWN



FRAME ELEVATION VIEW FACING WEST



FRAME ELEVATION VIEW FACING NORTH



HELICAL PILE
 DETAIL

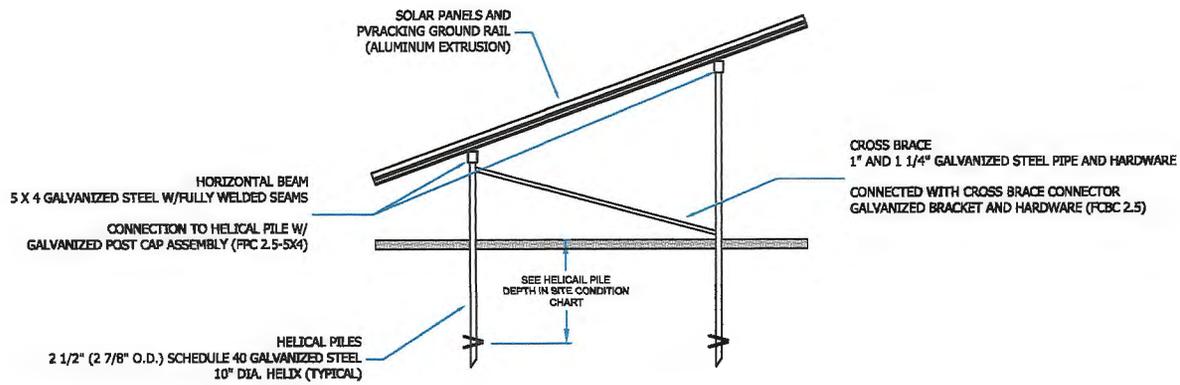
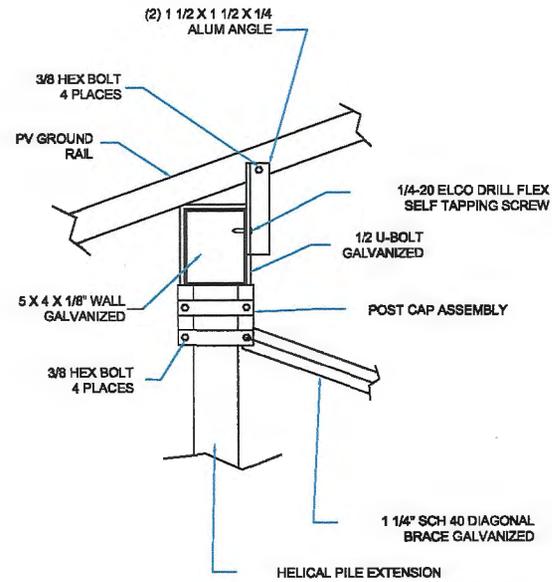
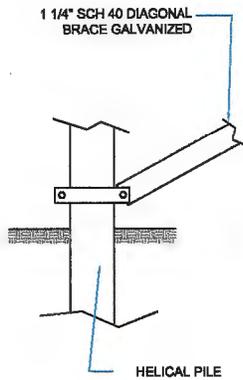
NOTE:
 HELICAL PILE DEPTH SHALL MEET
 PILE COMPRESSION, TENSION AND LATERAL
 LOADING AS SHOWN IN SITE CONDITIONS

Site Conditions	
Basic Wind Speed	V 90 mph
Ground Snow Load	P _s 30 psf
Exposure Category	- B
N-S Site Contour	- <1:100
Helical Pile Depth	P _b 80 in. or soil load bearing strata reached
Max Pile Compr. Load (North)	- 3852 lb
Max Pile Compr. Load (South)	- 659 lb
Pile Uplift Load (North)	- 925 lb
Pile Uplift Load (South)	- 63 lb
Max Pile Lateral Load	- 1354 lb
Rail Extrusion Maximum Loading	- 156.22 lb/ft

Sub Array Design Conditions	
South Legs Height	h _s 40.00 in
North Legs Height	h _n 96.00 in
North-South Leg Spacing	S _{ns} 5 ft 6 in
West Span Spacing	S _{sw} 13 ft 0 in
West Span Repetitions	N _{sw} 1
Middle Span Spacing	S _{sm} 12 ft 11 in
Middle Span Repetitions	N _{sm} 3
East Span Spacing	S _{se} 13 ft 0 in
East Span Repetitions	N _{se} 1
Cross Brace Length	L _c 89.84 in
Horizontal Beam Description	- 5H x 4W x 0.125 Rectangular
Horizontal Beam Overhang	L _{oh} 12 in
Horizontal Beam Overall Length	L _{ob} 96 ft 9 in
Rail Extrusion Material	- G178
Rail Extrusion Length	L _r 160.00 in
Rail Extrusion Center Span	L _{cs} 80.57 in
Rail Extrusion Overhang	L _{oe} 38.71 in
Number of Modules in Sub-Array	N _s 48
Module Array (Col x Row)	- 12 x 4
Module Column Repeat Distance	- 85.78 in
Array Tilt Angle	L _t 30 deg
Module Ground Clearance	h _{gc} 22.00 in
Overall Height	h _{oa} 118.15 in
Length of Sub-Array (not incl. beam)	- 65 ft 11 in
Module Manufacturer/Model	- Winaico WSP310
Module Size/Orient (Horz x Vert)	- 85.55 x 39.33
Individual Module Power Rating	- 310 watts
Sub-Array Power Rating	- 14.88 kW
Number of Sub-Arrays	- 1

Net design pressures were calculated in accordance with ASCE 7-05 section 6.1.3, "Design Wind Loads on Open Buildings with Monopoles, Pitched or Troughed Roofs." All load cases were evaluated in determining the limiting load case. Maximum leg reaction forces represent the highest load condition seen by any leg in the structure. All legs in the structure are designed to meet the maximum load conditions.

48-12x4



FOUNDATION DETAIL

PV RACKING
 505 KEYSTONE ROAD
 SOUTHAMPTON, PA 18966
 PH: 855-PVRACKS
 FAX: 267-988-4219
 www.pvracking.com

JOB / DWG DESCRIPTION:

GROUND MOUNTED
 SOLAR SYSTEM
 ARRAY SUB-STRUCTURE

CUSTOMER / SITE INFO:

Evergreen Energy
 48 Landscape

NO.	REVISION	DATE
-	SEE SHEET 1	

SCALE: NTS

DRAWN BY: MS
 DATE: 9-1-2016

DRAWING NUMBER:

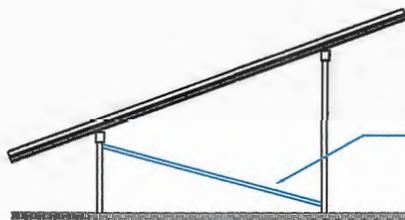
PVR-PP

REVISION:

REV 00

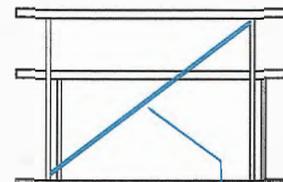
STRUCTURAL BRACING

STANDARD CROSS BRACE



CONNECTED WITH CROSS BRACE CONNECTOR ASSEMBLIES & HARDWARE

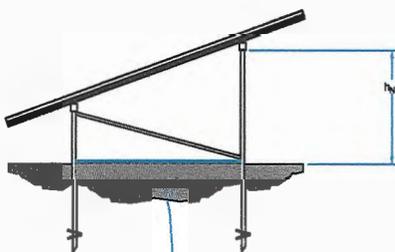
SEISMIC BRACE (IF REQUIRED)



CONNECT DIAGONALLY BETWEEN NORTH POSTS USING CROSS BRACE CONNECTOR ASSEMBLIES & HARWARE

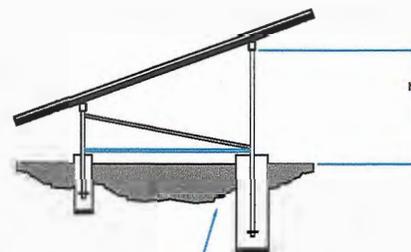
HORIZONTAL/LATERAL BRACING (IF REQUIRED)

HELICAL PIER FOUNDATION DETAIL



CONNECT TO BOTTOM OF NORTH AND SOUTH POSTS USING CROSS BRACE CONNECTORS & HARDWARE

CONCRETE FOUNDATION DETAIL NOTE: CONCRETE FOOTINGS MUST EXTEND INTO OR BELOW THE FROST LINE FOR THE LOCATION OF ARRAY



CONNECT TO BOTTOM OF NORTH AND SOUTH POSTS USING CROSS BRACE CONNECTORS & HARDWARE

PV RACKING
505 KEYSTONE ROAD
SOUTHAMPTON, PA 18966
PH: 855-PVRACKS
FAX: 267-988-4219
www.pvracking.com

JOB/DWG DESCRIPTION:

GROUND MOUNTED
SOLAR SYSTEM
ARRAY SUB-STRUCTURE

CUSTOMER/ SITE INFO:

Evergreen Energy
48 Landcape

- SEE SHEET 1
NO. REVISION DATE
REVISION HISTORY

THE AREA PROJECT
SCALE: NTS

DRAWN BY: MS
DATE: 9-1-2016

DRAWING NUMBER:

PVR-PP

REVISION:

REV 00

PAGE 3 OF 3

NEW BUSINESS



TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: October 27, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: Ravine Road (Assessor's Parcel ID 14.18.8B) (File W1582)
P. and L. Lewis
Description of Work: Construction of a Single Family home
Map Date: 10/4/2016

PROJECT OVERVIEW

The applicants propose to construct a single family home on the north side of Ravine Road, immediately east of 164 Ravine Road. Portions of the house, septic system and driveway are located in the upland review area. The proposed driveway is the closest activity to the edge of wetlands (approximately 40 feet). A total 12,700 square feet of activity will take place in the upland review area. Approximately 150 cubic yards of bank run processed gravel will be imported for the driveway construction and approximately 15 cubic yards of select fill will be imported to construct the septic system. No activities are proposed in the wetlands. The wetland system on the property receive drainage from a farm pond located to the north and eventually drain to Cedar Swamp Brook, which is part of the Willimantic River Watershed.

An Inland Wetland License for construction of a single family home on this property was issued for this property in 2005 (File W1027). The current application is almost identical and the proposed construction is no closer to the edge of wetlands than those proposed as part of the previously submitted application.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.

APPLICATION FEES AND NOTIFICATIONS

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.

RECEIPT MOTION

_____ MOVE to receive the application submitted by P and L Lewis (IWA File 1582) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for construction of a single family home on property located on the north side of Ravine Road (Assessor's Parcel ID 14.18.8B) as shown on a map dated 10/4/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

Part C - Project Description (attach extra pages, if necessary)

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

Application of March 30, 2005, by previous owner Geoffrey S. Cleare approved for 4-bedroom residence.

a) no activity in wetlands

b) a portion of the proposed house, septic system, and driveway are located within the upland review area

2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

a) no activity in wetlands

b) 12,700 sq. ft. area disturbed within upland review area.

3) Describe the type of materials you are using for the project: On site material for grading; bank run and process gravel for driveway; select fill for septic system

a) include **type** of material used as fill or to be excavated see above

b) include **volume** of material to be filled or excavated _____

Driveway: 150 cu. yds; septic system: 15 cu. yds.

4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

Silt fence utilized along grading limits to contain sediment transport.

Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

Majority of proposed improvements in a lawn area with moderate slopes and well drained soils.

Balance of parcel lightly wooded with moderat slopes.

Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

Septic system placement is constrained to only area with suitable soils and as far as possible from wetland.

Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

- 2) Applicant's map date and date of last revision October 4, 2016
- 3) Zone Classification RAR-90
- 4) Is your property in a flood zone? Yes No Don't Know

Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

Part H - Notice to Abutting Property Owners

1) Attach list of abutters, name, and address

- Edward & Violet H. Dorgan, 164 Ravine Road, Storrs, CT 06268
- John M. Clausen, 174A Ravine Lane, Storrs, CT 06268
- Karen W. Green, 1090 Stafford Road, Storrs, CT 06268

2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

Part I - Additional Notices, if necessary

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

Part J - Other Impacts To Adjoining Towns, if applicable

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? ___ Yes X No ___ Don't Know
- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? ___ Yes X No ___ Don't Know
- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? ___ Yes X No ___ Don't Know

Part K - Additional Information from the Applicant

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

Part L - Filing Fee

Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.

Certification

I hereby certify that:

- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.

Signature

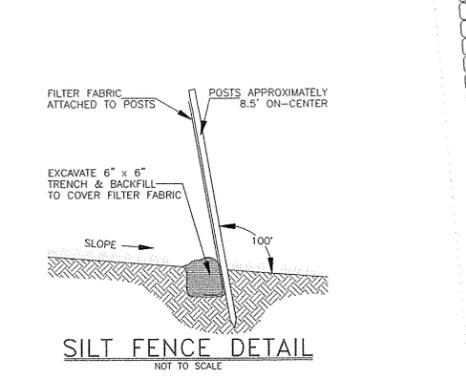
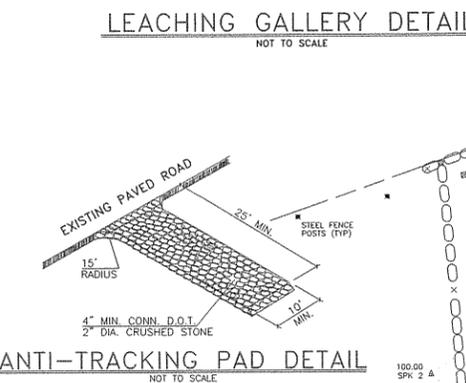
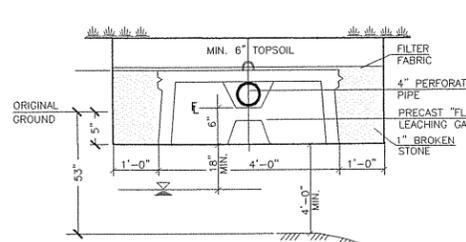
Date

Authorization to Enter Property

The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.

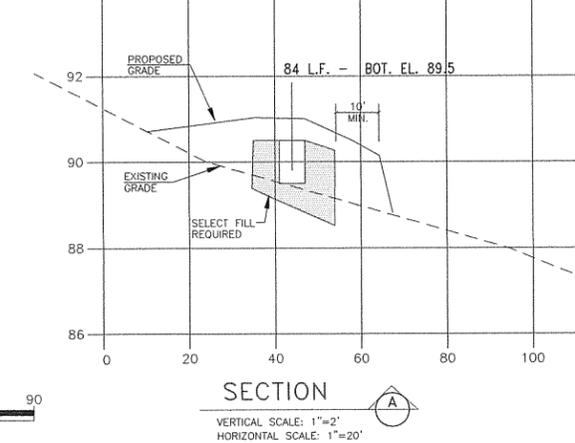
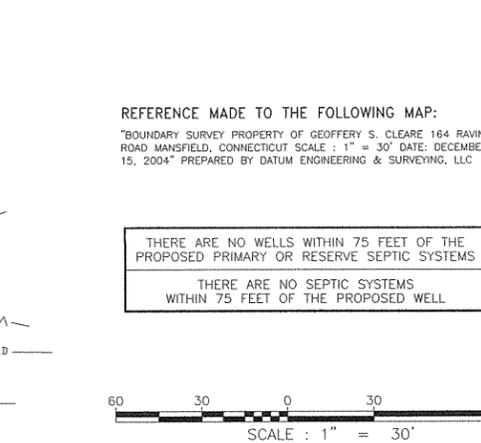
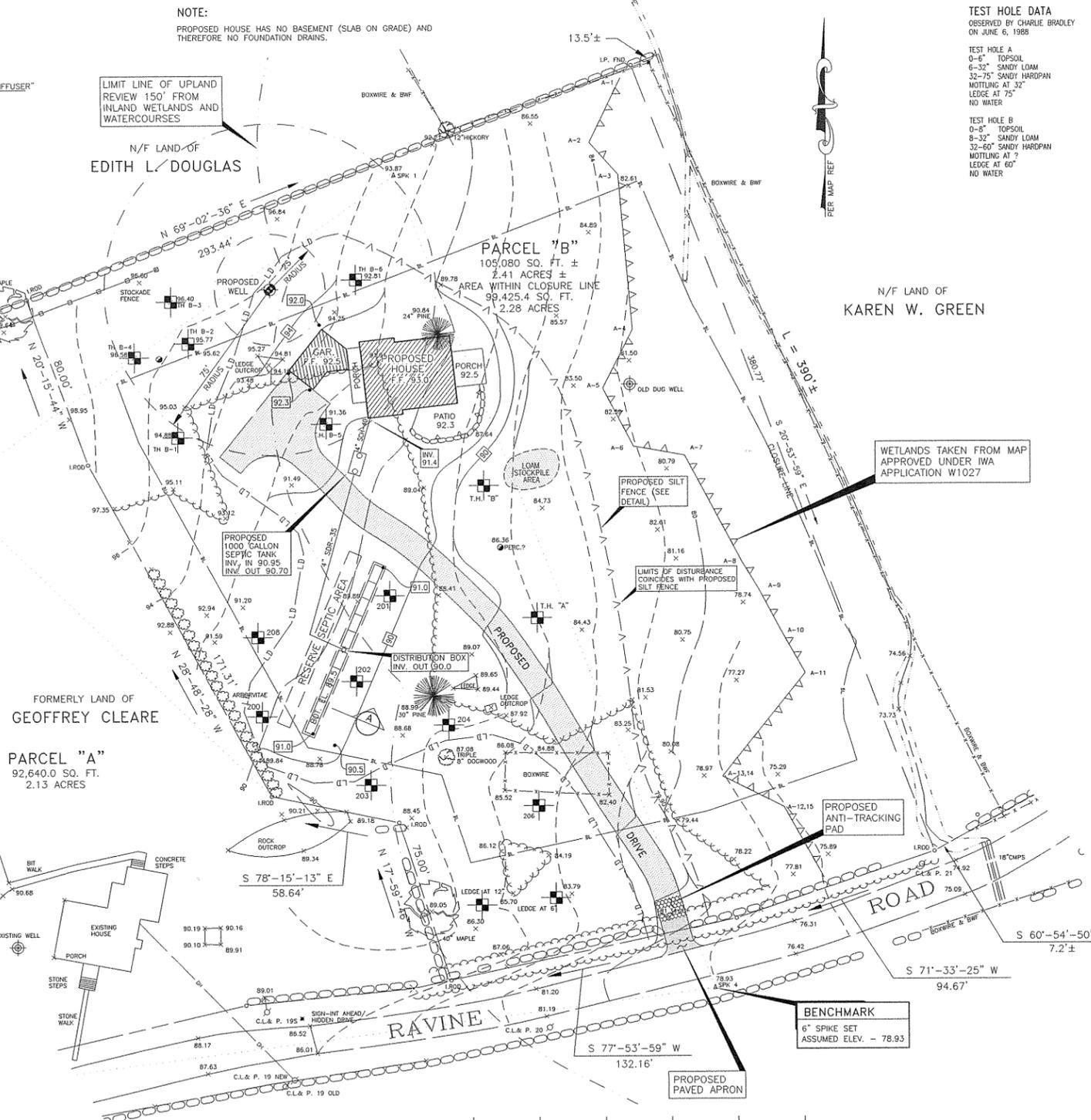
Signature

Date



HOUSE SITE DEVELOPMENT

- THE FOLLOWING PROCEDURES FOR THE DEVELOPMENT OF THESE LOTS ARE RECOMMENDED:
- THE LIMITS OF DISTURBANCE SHALL BE ESTABLISHED IN THE FIELD FOR THE PROPOSED RESIDENTIAL STRUCTURE. DISTURBANCE LIMITS OF 25'-35' FEET BEYOND THE PHYSICAL DIMENSIONS OF THE STRUCTURE AND RELATED APPURTENANCES IS RECOMMENDED.
- DRIVEWAY SHOULDERS SHOULD BE STABILIZED IMMEDIATELY UPON COMPLETION OF ROUGH GRADING. SHOULDER SEED BED PREPARATION SHOULD BE USED TO ENTRAP ANY SEDIMENT GENERATED FROM EXPOSED SOIL SURFACES. DRIVEWAY ROADSIDES SHALL BE STABILIZED WITH COMPACTED ROAD AGGREGATES AS SOON AS POSSIBLE.
- TOPSOIL AND EXCAVATED SUBSOIL FROM THE FOUNDATION AREA SHOULD BE STOCKPILED WITHIN THE AREA OF DISTURBANCE IF NOT USED FOR ON-SITE REGRADING. EACH STOCKPILE MUST BE ADEQUATELY RINGED WITH SEDIMENT CONTROL MATERIALS (I.E., HAY-BALES AND/OR SILT FENCE).
- ANY ADDITIONAL STOCKPILING OF LUMBER AND BUILDING MATERIALS SHOULD ALSO BE CONFINED TO THE AREA OF DISTURBANCE. SIMILARLY, VEHICULAR MOVEMENT SHALL BE DIRECTED TO ESTABLISHED PARKING AREAS. DEVELOPMENT OF SEWAGE DISPOSAL LEACHING AREAS SHOULD BE STAGED TO FOLLOW HOUSE SITE PREPARATION. ONLY THE PRIMARY LEACHING SYSTEM NEED BE CLEARED OF EXISTING VEGETATION IN COORDINATION WITH THE APPROVED SEPTIC SYSTEM DESIGN. RESERVE AREA SHALL REMAIN UNDISTURBED IF SITE CONDITIONS PERMIT.
- ONCE THE PROPOSED STRUCTURE IS ENCLOSED, ALL EFFORTS SHOULD BE MADE TO COMPLETE ON-SITE IMPROVEMENTS SUCH AS WELL, FOOTING DRAIN, SEPTIC SYSTEM, DRIVEWAY, ETC., THEREAFTER, ALL RAW SOIL AREAS SURROUNDING THE HOME SITE SHALL BE FINE GRADED AND MULCHED.



SUBSURFACE SEWAGE DISPOSAL DESIGN

PREPARED FOR

PAUL & LOUISE LEWIS

RAVINE ROAD
MANSFIELD, CONNECTICUT

SCALE: 1" = 30' DATE: OCTOBER 4, 2016

DATUM
ENGINEERING & SURVEYING, LLC

132 CONANTVILLE ROAD
MANSFIELD CENTER, CT 06250
TEL (860)456-1357 FAX (860)456-1840

JOB NO: 216050

CHECKED BY: _____ CORRECTIONS BY: _____

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THRU 20-300b-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. IT IS AN IMPROVEMENT LOCATION MAP BASED ON A DEPENDENT RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS "A-2" AND TOPOGRAPHIC ACCURACY "1-2". THIS SURVEY AND MAP IS INTENDED TO ENABLE DETERMINATION OF COMPLIANCE OR NON-COMPLIANCE WITH APPLICABLE MUNICIPAL OR STATUTORY REQUIREMENTS WITH RESPECT TO IMPROVEMENTS

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

EDWARD PELLETIER, L.S. #14203

ANY ORIGINAL OR DUPLICATE OF THIS MAP IS NOT VALID UNLESS IT BEARS THE EMBOSSED SEAL OF THE SURVEYOR WHOSE REGISTRATION NUMBER AND SIGNATURE APPEAR ABOVE. NO OTHER CERTIFICATION OR WARRANTY IS EXPRESSED OR IMPLIED.

COMMUNICATIONS