From: Ellen Bartlett
To: David McKay
Subject: RE: Jensen"s SWPPP
Date: Thursday, September 21, 2017 11:10:04 AM

Hey Dave,

We met on 9/21/17 to sign Jensen's SWPPP. We logged in onto your account, as I am having difficulty logging onto my account. I did sign the Jensen's SWPPP as an independent qualified reviewing professiona.

Ellen Bartlett, PE, CPSWQ
LEED Accredited Professional
CLA Engineers, Inc.
317 Main Street
Norwich, CT 06360
P: (860) 886-1966
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ebartlett@claengineers.com
www.claengineers.com
Consulting Civil Engineers Since 1984

From: David McKay [mailto:dmckay@boundariesllc.net]
Sent: Thursday, September 21, 2017 10:16 AM
To: Robert Russo
Cc: Ellen Bartlett
Subject: RE: Jensen's SWPPP

Good morning Bob,

I can be at your office at 11:00.

Thanks, see you then!
Dave

David C. McKay, P.E.
Boundaries L.L.C.
179 Pachaug River Drive
P.O. Box 184
Griswold, CT 06351
Phone: 860-376-2006
Fax: 860-376-5899

From: Robert Russo [mailto:brusso@claengineers.com]
Sent: Thursday, September 21, 2017 10:10 AM
To: David McKay <dmckay@boundariesllc.net>

Cc: Ellen Bartlett <ebartlett@claengineers.com>
Subject: RE: Jensen's SWPPP

Dave, can you come down before 1200 today?

Thanks,

Bob

From: David McKay [mailto:dmckay@boundariesllc.net]
Sent: Thursday, September 21, 2017 8:15 AM
To: Robert Russo
Subject: RE: Jensen's SWPPP

Good morning Bob,

Sorry to keep bugging you about this, but it looks like the EZ file system still needs Ellen's sign off. I'd be happy to swing by your office and we could complete the form using my account if there are still issues accessing it from hers. Just let me know.

Thank you!
Dave

David C. McKay, P.E.
Boundaries L.L.C.
179 Pachaug River Drive
P.O. Box 184
Griswold, CT 06351
Phone: 860-376-2006
Fax: 860-376-5899

From: Robert Russo [mailto:brusso@claengineers.com]
Sent: Tuesday, September 19, 2017 2:27 PM
To: David McKay <dmckay@boundariesllc.net>
Subject: RE: Jensen's SWPPP

Just so you know – we really want to get it done, but Ellen got locked out of her account and we have a call in to CTDEP to resotre it.

Bob

From: David McKay [mailto:dmckay@boundariesllc.net]
Sent: Tuesday, September 19, 2017 2:27 PM
To: Robert Russo
Subject: RE: Jensen's SWPPP

Thank you, Bob!

Dave

David C. McKay, P.E.
Boundaries L.L.C.
179 Pachaug River Drive
P.O. Box 184
Griswold, CT 06351
Phone: 860-376-2006
Fax: 860-376-5899

From: Robert Russo [mailto:brusso@claengineers.com]
Sent: Tuesday, September 19, 2017 2:23 PM
To: David McKay <dmckay@boundariesllc.net>
Subject: RE: Jensen's SWPPP

Trying to finish it today. (not the review, the login and sign off)

Bob

From: David McKay [mailto:dmckay@boundariesllc.net]
Sent: Tuesday, September 19, 2017 7:50 AM
To: Robert Russo
Subject: Jensen's SWPPP

Good morning Bob,

I noticed that the "Reviewing Professional Signature" section of the SWPPP is still in progress on the DEEP website. Do you need anything else from us to get the certification completed for the Jensen's SWPPP? I would really like to get this submitted and start the clock on the review period.

Thanks for all your help!
Dave

David C. McKay, P.E.
Boundaries L.L.C.
179 Pachaug River Drive
P.O. Box 184
Griswold, CT 06351
Phone: 860-376-2006
Fax: 860-376-5899

Stormwater Pollution Prevention Plan

Prepared For:

Millwood at Old Colchester Road
416 Old Colchester Road
Uncasville, CT 06382

Facility Operator:

Jensen's, Inc.
Keith Jensen
246 Redstone Street
P.O. Box 608
Southington, CT 06489
(860) 793-0281
kejensen@jensencommunities.com

Stormwater Manager and SWPPP Contact

Stormwater Program Manager:

Jensen's, Inc.
Keith Jensen
246 Redstone Street
P.O. Box 608
Southington, CT 06489
(860) 793-0281
kejensen@jensencommunities.com

SWPPP Contractor Contact:

Jensen's, Inc.
Keith Jensen
246 Redstone Street
P.O. Box 608
Southington, CT 06489
(860) 793-0281
kejensen@jensencommunities.com

SWPPP Preparation Information:

Boundaries LLC
James F. McNally Jr.
179 Pachaug River Drive
P.O. Box 184
Griswold, CT 06351
860-376-2006
(jmcnally@boundariesllc.net)

Date Prepared: July 10, 2017

Estimated Project Construction Dates:

Start of Construction: October 2017
Completion of Construction: October 2019

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SECTION 1

SITE EVALUATION, ASSESSMENT, AND PLANNING

1.1 Project/Site Information

Project/Site Name: Millwood at Old Colchester Road

Project Street/Location: 416 Old Colchester Road

City: Uncasville State: Connecticut Zip Code: 06382

County or Similar Subdivision: New London County

Latitude/Longitude (Use **one** of three possible formats, and specify method)

Latitude: Longitude:

41º 26' 10'' N (degrees, minutes, seconds) 72º 08' 40'' W (degrees, minutes, seconds)

Method for determining latitude/longitude:

☐ USGS topographic map (specify scale: _____) ☐ EPA Web site ☒ GPS

☐ Other (please specify):

Is the project located in Indian country? ☐ Yes ☒ No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable." N/A

Is this project considered a federal facility? ☐ Yes ☒ No

NPDES project or permit tracking number: (to be assigned)

(This is the unique identifying number assigned to your project by your permitting authority after you have applied for coverage under the appropriate NPDES construction general permit.)

1.2 Contact Information/ Responsible Parties

Facility Operator:

Jensen's, Inc.
Keith Jensen
246 Redstone Street
P.O. Box 608
Southington, CT 06489
(860) 793-0281
kejensen@jensencommunities.com

Project Manager:

Jensen's, Inc.
Keith Jensen
246 Redstone Street
P.O. Box 608
Southington, CT 06489
(860) 793-0281
kejensen@jensencommunities.com

SWPPP Prepared By:

Boundaries LLC
James F. McNally Jr.
179 Pachaug River Drive
P.O. Box 184
Griswold, CT 06351
860-376-2006
jmcnally@boundariesllc.net

1.3 Nature and Sequence of Construction Activity

The proposed improvements to the site include the construction of approximately 2,150 linear feet of private roads and the installation of a stormwater management system and underground utilities to support a development consisting of 46 manufactured homes intended to serve as a retirement community. The project includes approximately 3.6 acres of impervious area including the new roads, driveways, and manufactured homes. Water and sewer services for the proposed development shall connect to the existing utilities in Old Colchester Road. The majority of the stormwater runoff from the proposed development shall be collected in a series of catch basins and discharge to the two (2) western stormwater detention basins prior to discharging upgradient of the inland wetlands on the site. The remaining runoff shall flow overland to the proposed Water Quality Basin in the southeasterly portion of the property, where the runoff shall be treated prior to discharging to the southern inland wetlands.

What is the function of the construction activity?

☒ Residential ☐ Commercial ☐ Industrial ☐ Road Construction

☐ Linear Utility

☐ Other (please specify):_____

Estimated Project Start Date: October 2017
Estimated Project Completion Date: October 2019

Construction must be sequenced to minimize the exposure time of cleared surface areas. The Contractor is to coordinate work in five (5) phases. Phased work shall include the pollution prevention plan to maintain continuous pollution prevention. Stabilization shall be accomplished by temporarily or permanently protecting the disturbed soil surface from rain fall impacts and runoff.

Suggested Sequence of Construction:

Phase 1 - Installation of Erosion Controls

1. Obtain appropriate permits, notify Town officials of construction commencement, and submit construction timetable.
2. Stake and flag the limits of construction, roadway base-line, and right-of-way.
3. Perform site clearing and remove marketable timber. All stumps to remain in place. The remainder of cleared materials are to be chipped and utilized for wood chip berms.
4. Provide geotextile sediment fence, anti-tracking pad construction entrance, wood chip/sediment and erosion control berms and hay/straw bales as shown on the plans or as required.
5. Install temporary sedimentation traps as required (in same location as proposed stormwater basins, at a minimum).
6. Following installation of the erosion controls, the Contractor shall contact the Engineer for inspection and approval of installed measures. No work shall commence until all erosion control measures have been installed and approved by the Engineer.

Phase 2 - Site Preparation

1. Clear and grub road right-of-way to the proposed clearing limits.
2. Strip and stockpile topsoil from proposed grading areas after erosion and sediment control measures have been installed. The topsoil shall be seeded immediately after stockpiling in order to stabilize the slope and limit sediment runoff. Stockpiled topsoil shall be seeded and mulched when it is to be stored for more than 21 days from time of stockpiling.
3. Cut or fill the proposed road corridor to establish proper road sub-grade.
4. Excavate and rough grade stormwater ponds and outlets.
5. Provide water bars and temporary drainage swales.

Phase 3 - Site Utilities and Roadway Construction

1. Reconfigure erosion controls as required.
2. Install all sanitary sewers and drainage facilities starting at the outfall and proceeding upgrade. Install remaining utilities (water, gas, electric, cable, fiber optic, telephone). Ensure that the drainage outlet protection is in place prior to any flow being allowed to discharge.
3. Place, grade and compact the crusher run stone and processed aggregate in the roadway base in accordance with the construction detail.

4. Grade all adjacent sloped areas to within 2 feet of the proposed curbing and place topsoil.
5. Install first course of bituminous concrete.
6. Install bituminous concrete lip curbing in locations as shown on the plans.
7. Grade all areas immediately adjacent to the back of BCLC or road edge as required and apply topsoil.
8. Apply stabilization measures to remaining disturbed areas in accordance with the erosion and sediment control plan (topsoil, seeding, sodding, mulching, etc.)
9. Inspect and clean drainage system, as needed.
10. Install the final course of bituminous concrete pavement.

Phase 4 - Final Seeding and Cleanup

1. Reconfigure erosion controls as required.
2. Install topsoil in lawn areas and amended topsoil and landscape materials in stormwater ponds in accordance with the plans.
3. Following the completion of final grading, the contractor shall loam, seed, and mulch all remaining disturbed areas. All disturbed areas shall be prepared with topsoil and seeded and mulched according to this plan.
4. Remove temporary erosion and sediment controls (e.g. geotextile silt fences) after final stabilization has been completed (3 months following the end of construction activity).
5. After all final graded disturbed areas have been stabilized, remove all erosion and sediment structures (hay bales and wood chip berms may remain to decay in-situ). Clean all stormwater structures of sediment and debris.

Phase 5 - Building Construction

1. Excavate and form building foundations/slabs and install utility services.
2. Pour concrete for building foundations/slabs.
3. Remove forms and rough grade sites around buildings.
4. Construct proposed buildings.
5. Place processed aggregate and pavement for driveways. Restore lawn areas with topsoil

.

Anticipated Construction Schedule

NO.	Phase Description	Estimated Duration
1	Installation of erosion controls	1 week
2	Site preparation	3 to 4 months
3	Site utilities and roadway construction	4 to 6 months
4	Paving, final seeding, and cleanup	1 to 2 months
5	Building construction	2 to 3 years

1.4 Soils, Slopes, Vegetation, and Current Drainage Patterns

Soil type:

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey the soils on the site consist of the following soil types:
Canton & Charlton "61B" & "61C", Charlton-Chatfield Complex "73C" & "73E" and Paxton & Montauk "84B"
"61"- Canton & Charlton soils consist of very stony fine sandy loams. Soils are well drained and are located on glacial till upland hills, plains and ridges.
"73"- Charlton & Chatfield soils consist of gently sloping to strongly sloping bedrock-controlled hills, bedrock-controlled uplands located on glacial till upland hills, plains and ridges.
"84"- Paxton & Montauk soils consist of gently sloping well drained fine sandy loam located on drumloidal, glacial till and upland landforms.

Slopes:

The existing overall topography of the site is gently sloping to severely sloping with slopes varying from 3% to 20%. Current elevations across the site range from 320 to 242 feet, and the site currently drains north to south towards a locally regulated inland wetland to the west of the proposed development, an inland wetland near the southern property line, and an intermittent watercourse in the northeasterly portion of the property. The proposed development upon completion shall direct stormwater to the existing wetland located to the west of the proposed development and the inland wetland located near the southern property line.

Existing Drainage System:

Existing conditions watersheds were delineated using topographic survey data for the subject parcels and aerial mapping for off-site contributing areas. Land uses were estimated using aerial photography and existing conditions survey data.

Runoff Curve Numbers (CN) used for the existing conditions analysis are as follows: 55 (woods with good ground cover) for wooded areas in Hydrologic Soil Group B, 70 (woods with good ground cover) for wooded areas in Hydrologic Soil Group C, 58 (woods and grass mix) for lightly wooded areas in Hydrologic Soil Group B, 48 (brushy areas with good ground cover) for brushy areas in Hydrologic Soil Group B, 65 (brushy areas with good ground cover) for brushy areas in Hydrologic Soil Group C, 61 (>75% grass cover) for the grassed areas in Hydrologic Soil Group B, 74 (>75% grass cover) for the grassed areas in Hydrologic Soil Group C, 82 (dirt roads) for the exposed dirt/gravel areas in Hydrologic Soil Group B, 87 (dirt roads) for the exposed dirt/gravel areas in Hydrologic Soil Group C, and 98 (impervious) for existing impervious areas such as paved areas and buildings.

The existing conditions watersheds are described further below:

Drainage Area #1 (DA #1)

This 15.0± acre drainage area encompasses the eastern portion of the project area and the upgradient residential properties that contribute runoff to the project area from the northeast. The drainage area is comprised of the adjacent residential properties and Old Colchester Road as well as a portion of the project area consisting of grassed and wooded areas, and the existing driveway/cart path. The weighted CN of the drainage area is 63. Runoff from this area flows overland to the southeast to the stone wall located at the property line shared with 386 Old Colchester Road.

Drainage Area #2 (DA #2)

This 9.3± acre drainage area encompasses the area that contributes runoff to the inland wetland area westerly of the project area. The drainage area is comprised of a portion of the grassed and wooded areas in the project area and some of the upgradient residential properties to the northeast. The weighted CN of the drainage area is 57. Runoff from this area flows overland to the inland wetland area before it continues southerly onto 386 Old Colchester Road.

1.5 Construction Site Estimates

The following are estimates of the project site characteristics before and after construction:

Subject Property Area	26.75 acres
Construction Site Area to be disturbed	14.3 acres
Percentage impervious area before construction	0.06%
Percentage impervious area after construction	12.29%

1.6 Receiving Waters

Description of receiving waters:

The state of Connecticut is divided into 5 major watershed basins. The project is located entirely within the Thames Area, which encompasses all of eastern Connecticut and is more specifically located within contributing subregional basin 3006.

Proposed Drainage Systems:

Proposed conditions watersheds were delineated using topographic survey data and the proposed development plans for the subject parcels and aerial mapping for off-site contributing areas. Land uses were estimated using aerial photography and the proposed development plans.

Runoff Curve Numbers (CN) used for the proposed conditions analysis are as follows: 55 (woods with good ground cover) for wooded areas in Hydrologic Soil Group B, 70 (woods with good ground cover) for wooded areas in Hydrologic Soil Group C, 58 (woods and grass mix) for lightly wooded areas in Hydrologic Soil Group B, 48 (brushy

areas with good ground cover) for brushy areas in Hydrologic Soil Group B, 65 (brushy areas with good ground cover) for brushy areas in Hydrologic Soil Group C, 61 (>75% grass cover) for the grassed areas in Hydrologic Soil Group B, 74 (>75% grass cover) for the grassed areas in Hydrologic Soil Group C, 82 (dirt roads) for the exposed dirt/gravel areas in Hydrologic Soil Group B, 87 (dirt roads) for the exposed dirt/gravel areas in Hydrologic Soil Group C, and 98 (impervious) for existing and proposed impervious areas such as paved roads, driveways, and buildings.

The proposed conditions watersheds are described further below:

Drainage Area #1 (DA #1A)

This 4.9± acre drainage area encompasses a portion of the off-site area that contributes runoff to the proposed stormwater management system. The drainage area is comprised of the up-gradient residential properties, and a portion of the proposed development. The weighted CN of the drainage area is 74. Runoff from this area flows overland to a series of catch basins and discharges to proposed Stormwater Basin 2.

Drainage Area #1B (DA #1B)

This 4.5± acre drainage area encompasses a portion of the off-site area that contributes runoff to the stormwater management system and the project area along Old Colchester Road. The drainage area is comprised of a portion of the proposed Millwood Drive and upgradient proposed units, a portion of Old Colchester Road that discharges to the property via a paved leak-off, and upgradient residential properties. The weighted CN of the drainage area is 76. Runoff from this area flows overland and is collected in the proposed Water Quality Basin prior to discharging to the southerly wetland system.

Drainage Area #1C (DA #1C)

This 2.4± acre drainage area encompasses a portion of the project area south of Millwood Drive. The area is comprised of the proposed units upgradient of the stone wall shared with 386 Old Colchester Road and a portion of the existing wooded area that is to remain undisturbed by the development. The weighted CN of the drainage area is 69. The runoff from this area flows overland to 386 Old Colchester Road.

Drainage Area #1D (DA #1D)

This 3.5± acre drainage area encompasses a portion of the project area between proposed Millwood Drive and proposed Highland Circle. The drainage area is comprised of a portion of the proposed roads and upgradient proposed units. The weighted CN of the drainage area is 72. Runoff from this area is collected by a series of catch basins and discharges to proposed Stormwater Basin 2.

Drainage Area #2A (DA #2A)

This 3.6± acre drainage area encompasses a portion of the off-site area that contributes runoff to the proposed stormwater management system and a portion of the project area upgradient of proposed Highland Circle. The drainage area is comprised of a portion of the proposed road, upgradient proposed units, and upgradient off-site low density residential properties. The weighted CN of the drainage area is 66. Runoff from this area is collected by a series of catch basins and discharges via a water quality swale to proposed Stormwater Basin 3.

Drainage Area #2B (DA #2B)

This 0.7± acre drainage area encompasses a portion of the proposed units and undisturbed areas west of proposed Millwood Drive. The drainage area is comprised of the upgradient units and wooded area that shall remain undisturbed by the project. The weighted CN of the drainage area is 62. Runoff from this area is collected by the water quality swale and discharges to proposed Stormwater Basin 3.

Drainage Area #2C (DA #2C)

This 1.1± acre drainage area encompasses a portion of the proposed units and undisturbed areas west of proposed Millwood Drive. The drainage area is comprised of the upgradient units and wooded area that shall remain undisturbed by the project. The weighted CN of the drainage area is 69. Runoff from this area flows overland into proposed Stormwater Basin 3.

Drainage Area #2D (DA #2D)

This 1.6± acre drainage area encompasses a portion of the proposed units and undisturbed areas south west of proposed Millwood Drive. The drainage area is comprised of the upgradient units and wooded area that shall remain undisturbed by the project. The weighted CN of the drainage area is 70. Runoff from this area flows overland into proposed Stormwater Basin 2.

Drainage Area #2E (DA #2E)

This 0.7± acre drainage area encompasses the area west of Stormwater Basins 2 and 3. The drainage area is comprised of the embankments of the stormwater basins and wooded area that shall remain undisturbed by the project. The weighted CN of the drainage area is 63. Runoff from this area flows overland to the adjacent inland wetlands.

Drainage Area #2F (DA #2F)

This 1.4± acre drainage area encompasses a portion of the project area between proposed Millwood Drive and proposed Highland Circle. The drainage area is comprised of a portion of the proposed roads and upgradient proposed units. The weighted CN of the drainage area is 75. Runoff from this area is collected by a series of catch basins and discharges to proposed Stormwater Basin 2.

Description of impaired waters or waters subject to TMDLs: N/A

1.7 Site Features and Sensitive Areas to be Protected

Description of unique features and measures to protect them:

The site contains three site features to be preserved:

Wetland Flag Series WF#1 – WF#28
The development proposes no direct impact to this resource. The resource shall receive treated stormwater discharge from the project stormwater management system which is not expected to have any adverse impact on existing wetland functions.

Intermittent Watercourse Series IWC#1 – IWC#17
The development proposes to preserve the seasonal point source groundwater discharge (spring) in its current location, but does propose to eliminate the existing intermittent watercourse channel and redirect the flow into the stormwater management system.

Wetland Flag Series WF#1B – WF#11B
The development proposes no direct impact to this resource. The existing seasonal point groundwater discharge (spring) shall be preserved. The resource shall receive treated stormwater discharge from the project stormwater management system which is not expected to have any adverse impact on existing wetland functions.

1.8 Potential Sources of Pollution

Potential sources of sediment to storm water runoff:

Potential sources of sediment include clearing and grubbing operations, grading, site excavation operations, and vehicle tracking.

Potential pollutants and sources, other than sediment, to storm water runoff:

Combined staging area including fueling activities, equipment maintenance, sanitary facilities, and waste storage.

Materials storage area including solvents, adhesives, paving materials, paints, aggregates, trash.

Construction activity including paving, curb/gutter installation, concrete pouring, building construction. Concrete washout areas.

1.9 Endangered Species Certification

Are endangered or threatened species and critical habitats on or near the project area?

☐ Yes ☒ No

Describe how this determination was made:

A “State and Federal Listed Species and Natural Communities Map” review as described by the Connecticut Department of Environmental Protection was conducted for the project location in June 2017. The date of the map was June 2017.

If yes, describe the species and/or critical habitat: N/A

If yes, describe or refer to documentation which determines the likelihood of an impact on identified species and/or habitat and the steps taken to address that impact. (Note, if species are present on or near your project site, EPA strongly recommends that the site operator work closely with the appropriate field office of the U.S. Fish and Wildlife Service or National Marine Fisheries Service. Please contact a state or tribal official for concerns related to state or tribal listing of species.): N/A

1.10 Historic Preservation

Are there any historic sites on or near the construction site?

☐ Yes ☒ No

Describe how this determination was made:

Review in accordance with CTDEEP Appendix 'G'

If yes, describe or refer to documentation which determines the likelihood of an impact on this historic site and the steps taken to address that impact: N/A

1.11 Maps

Develop and keep up-to-date site maps showing non-structural BMPs. Location changes resulting from on-going construction activities should be indicated on these maps.

These maps include:

☒ Direction(s) of stormwater flow and approximate slopes before and after major grading activities

☒ Areas and timing of soil disturbance and areas that shall not be disturbed

☒ Natural features to be preserved

☒ Locations of major structural and non-structural BMPs identified in the SWPPP

☒ Locations and timing of stabilization measures

☒ Locations of off-site material, waste, borrow, or equipment storage areas

☒ Locations of all waters of the U.S., including wetlands

☒ Locations where stormwater discharges to a surface water

☒ Locations of storm drain inlets

☒ Areas where final stabilization has been accomplished

End of Section 1

SECTION 2

EROSION AND SEDIMENT CONTROL BMPs

2.1 Minimize Disturbed Area and Protect Natural Features and Soil:

Topsoil:

Topsoil shall be removed and stockpiled on site and utilized for final grading. Additional topsoil, if required, shall be supplied from an off-site source. Excess materials resulting from "cut slopes" in the areas of the proposed construction that are not intended for reuse shall be immediately removed from the site. When soil is stockpiled, the slope of the stockpile shall not exceed 2 horizontal to 1 vertical.

Installation Schedule: As noted, excavated topsoil shall be stockpiled on site. Sediment fence shall be placed around all stockpiles.

Maintenance and Inspection: The cut and fill areas shall be inspected weekly for erosion. These areas shall be stabilized immediately with erosion controls or graded to avoid possible disturbance to surrounding areas. See also maintenance and inspection procedures for silt fence.

As noted in the "sequence of construction", the proposed improvements shall be phased. All areas of the work site shall be stabilized and/or off site discharge prevented if land disturbance activities are not planned for more than 14 days.

Construction Sequence with erosion BMPs are described in Section 1.3

2.2 Control Stormwater Flowing Onto and Through the Project:

The applicant shall be responsible for the installation and maintenance of erosion and sediment control measures throughout the project. No construction shall proceed until proper sedimentation and erosion control measures have been installed as the sequence of construction necessitates.

Maintenance of erosion and sediment controls shall be completed in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control (2002). The Contractor shall maintain a copy of the Guidelines on-site and refer to the appropriate maintenance procedures that shall be utilized during construction. A summary of the maintenance requirements for the project is provided below.

During construction, all erosion and sediment control measures shall be maintained in proper working order. Disturbed areas shall be kept to a minimum and shall only take place where required to further construction. Final grading and seeding shall take place as soon as practical.

A rain gauge shall be placed at the project in a workable location and monitored during rainfall periods until all disturbed areas are stabilized.

Every precaution shall be used during construction to prevent and minimize the degradation of the existing water quality from stormwater runoff during construction. All activities shall be in conformance to and consistent with all applicable water quality standards and management practices as set forth by Local, State and Federal agencies.

The site contractor shall appoint an onsite agent who shall be personally responsible for implementing this erosion and sediment control plan and enforcing the prescribed safeguards during the excavation and operation period.

This responsibility includes the installation and maintenance of control measures throughout the project, informing all parties engaged on site of the requirements and objectives of the plan, and notifying the proper agency and officials of any transfer of this responsibility.

All erosion and sediment control measures shall be repaired, cleaned and/or replaced as necessary throughout the project in order to maintain complete and integral erosion and sediment control protection. Once in place, all erosion and sediment control measures are to remain in place in proper condition and be continuously maintained until final site restoration has been completed. Following such permanent stabilization, the erosion and sediment control measures shall be dismantled, removed, and disposed of in an approved manner. Additional erosion and sediment control measures beyond those shown on the plans or prescribed herein shall be put in place, whenever necessary, to address field conditions and/or as ordered by the Engineer.

Qualified personnel provided by the Site Contractor shall inspect disturbed areas, installed erosion and sedimentation control measures, and the locations where vehicles enter and leave the site. These areas shall be inspected at least once every seven calendar days and within twenty-four hours at the end of a storm that has a rainfall total of 0.5 inches or greater. Where sites have been temporarily or finally stabilized, such inspection shall be conducted at least once every month for three consecutive months.

No soil, fill or other materials shall be deposited in surrounding inland wetlands.

All temporary storage and/or stockpile areas shall be properly stabilized to prevent erosion and suitably contained to prevent turbid runoff.

Dumping of oil or other deleterious materials on the ground is forbidden. The applicant shall provide a means of catching, retaining and properly disposing of drained oil, removed oil filters, or other deleterious material from equipment used on site. Equipment maintenance shall be completed off site to the maximum extent practical. All oil spills shall be immediately reported to the Department of Energy and Environmental Protection/Hazardous Materials Office. Failure to do so may result in the imposition of fines under the applicable Connecticut General Statutes.

During construction, the Site Contractor shall be responsible for site inspection and maintenance to ensure proper performance of erosion control measures. Inspection and maintenance shall include, at a minimum, the following:

- Inspect all sediment fence, sediment and erosion control berms and other erosion control measures. Repair or replace any damaged portion to insure its proper and effective operation. Remove accumulated sediment if required (greater than 4" depth).
- Inspect all stockpiles. Repair or replace any damaged portion of erosion control measures surrounding these areas to prevent downgradient sedimentation.
- Inspect restored grassed areas. Revegetate any eroded or disturbed areas to provide permanent stabilization. Reseed and/or revegetate any areas that do not have a suitable stand of grass or any scoured areas to provide permanent stabilization.
- Inspect anti-tracking pad. remove and dispose of pad and replace if pad is no longer functioning efficiently or accumulated sediment is to a depth of 2" below the stone surface.
- Inspect all stone check dams, temporary diversions, and water bars. Remove accumulated sediment if required (blocking more than 3” depth of flow).
- Inspect all temporary and permanent stormwater basins. Remove accumulated sediment if required (greater than 6” depth), Revegetate if necessary to provide stabilization.
- Inspect areas downgradient of all stormwater discharges and development areas. Stabilize any eroded areas if encountered.

Construction Specifications

Sediment and Erosion Control Berm:

The material for sediment and erosion control berms shall be acquired in conjunction with the removal and chipping of trees located within the project area.

Installation:
Erect sediment and erosion control berm in a continuous fashion at the specified height and width.

Maintenance:
1. Sediment should be removed once it has accumulated to a depth of 4".
2. Berm should be repaired if it has been breached.
3. Berm can be left in place permanently and left to deteriorate.

Silt Fence

1. The material for silt fences should be a pervious sheet of synthetic fabric such as polypropylene, nylon, polyester, or polyethylene yarn. Choose the material based on the minimum synthetic fabric requirements shown in Table 1.
2. If a standard-strength fabric is used, it can be reinforced with wire mesh behind the filter fabric. This increases the effective life of the fence.
3. The stakes used to anchor the filter fabric should be wood or metal. Wooden stakes should be at least 5 feet long and have a minimum diameter of 2 inches if a hardwood like oak is used. Stakes from soft woods like pine should be at least 4 inches in diameter.
4. Erect silt fence in a continuous fashion from a single roll of fabric to eliminate gaps in the fence. If a continuous roll of fabric is not available, overlap the fabric from both directions only at stakes or posts. Overlap at least 6 inches. Excavate a trench to bury the bottom of the fabric fence at least 6 inches below the ground surface. This helps to prevent gaps from forming near the ground surface. Gaps would make the fencing useless as a sediment barrier.
5. The height of the fence posts should be 16 to 34 inches above the original ground surface. If standard-strength fabric is used with wire mesh, space the posts no more than 10 feet apart. If extra-strength fabric is used without wire mesh reinforcement, space the posts no more than 5 feet apart.
6. The fence should be designed to withstand the runoff from a 10-year peak storm event. Once installed, it should remain in place until all areas upslope have been permanently stabilized by vegetation or other means.

Physical property	Requirements
Filtering efficiency	75%-85% (minimum): highly dependent on local conditions
Tensile strength at 20% (maximum) Elongation	Standard strength: 30 lb/linear inch (minimum) Extra strength: 50 lb/linear inch (minimum)
Ultraviolet radiation	90% (minimum)
Slurry flow rate	0.3 gal/ft^2/min (minimum)

Table 1
Minimum requirements for silt fence construction
(Sources: USEPA, 1992; VDCR, 1995)

Maintenance

1. Sediment should be removed once it has accumulated to one-third to one-half the original height of the barrier.
2. Filter fabric should be replaced whenever it has deteriorated to such an extent that the effectiveness of the fabric is reduced (approximately six months).
3. Silt fence should remain in place until disturbed areas have been permanently stabilized.
4. All sediment accumulated at the fence should be removed and properly disposed of before the fence is removed.

Inspection

1. Inspect silt fence before anticipated storm events (or series of storm events such as intermittent showers over one or more days) and within 24 hours after the end of a storm event of 0.5 inches or greater, and at least twice every seven calendar days, at least 72 hours apart.
2. Where sites have been finally or temporarily stabilized, such inspections may be conducted only once per month.

Hay/Straw Bale Barrier

Installation:

1. Excavate trench 4" and place material upslope of trench.
2. Place bales in a single row in the trench, lengthwise, with ends of adjacent bales tightly abutting one another and the bindings oriented around the sides rather than along the tops and bottoms of the bales (to avoid premature rotting of the bindings).
3. Anchor each bale with at least 2 stakes, driving the first stake in each bale toward the previously laid bale to force the bales together. Stakes must be driven a minimum of 18 inches into the ground. Fill any gaps between the bales with straw to prevent water from escaping between the bales.
4. Backfill the bales with the excavated trench material to a minimum depth of 4 inches on the uphill side of the bales. Tamp by hand or machine and compact the soil. Loose hay/straw scattered over the disturbed area immediately uphill from the hay bale barrier tends to increase barrier efficiency.

Maintenance:

1. Inspect the hay/straw bale barrier at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater to determine maintenance needs. For dewatering operations, inspect frequently before, during, and after pumping operations. Remove the sediment deposits when sediment deposits reach approximately one half the height of the barrier.
2. Replace or repair the barrier within 24 hours of observed failure. failure of the barrier has occurred when sediment fails to be retained by the barrier because:
   (a) the barrier has been overtopped, undercut or bypassed by runoff water,
   (b) the barrier has been moved out of position, or
   (c) the bales have deteriorated or been damaged.
3. When repetitive failures occur at the same location, review conditions and limitations for use and determine if additional controls are needed to reduce failure rate or replace hay/straw bale barrier.

4. Maintain the hay/straw bale barrier until the contributing area is stabilized. after the upslope areas have been permanently stabilized, pull the stakes out of the hay bales. Remove sediment.

2.3 Stabilize Soils:

Temporary Stabilization:

BMP Description: Hydromulching shall be used on slopes where construction shall cease for more than 14 days and over the winter months to stabilize erodible materials. Straw mulch and wood fiber shall be mixed with a tackifier and applied uniformly by machine with an application rate of 2 tons (100-200 bales) per acre. The contractor shall use crimping equipment to bind the mulch to the soil if the tackifier is not effective. Jute Netting shall be used on small areas with steep slopes. In areas where hydromulching is inaccessible, straw mulch shall be applied by hand at the same application rate.

Temporary Seeding shall be used on any area where construction activity is suspended for more than twenty-one days to stabilize erodible materials. Refer to the Erosion Control Plan for guidance on seeding mixtures, rates, and acceptable planting dates for temporary seeding.

Installation Schedule: Portions of the site where construction activities shall temporarily cease for more than 14 days shall be stabilized with mulch. Where construction activities shall temporarily cease for more than 21 days it shall be temporarily seeded. Winter stabilization shall be provided between December 25 and March 30.

Maintenance and Inspection: Mulched areas shall be inspected weekly to ensure that adequate coverage is provided. Repairs shall be conducted as needed.

Permanent Stabilization:

Permanent stabilization shall be completed within 14 days after the site is brought to its final grades in accordance with the procedures detailed in Section 7.

Maintenance and Inspection: All areas shall be inspected weekly during construction for failure until a dense vegetation cover has been established.

Dust Control:

Dust from the site shall be controlled by using a mobile pressure-type distributor truck that shall apply potable water at rate of 300 gallons per acre and minimized as needed to avoid ponding.

Installation Schedule: Dust control shall be implemented as needed once site grading has been initiated, and during windy conditions exceeding 20mph, while site grading is occurring. Spraying of potable water shall be performed once per day during the months of March through May and no more than three times per day from June to September or whenever dryness of soil warrants it.

Maintenance Schedule: At least one mobile unit shall be available at all times during construction to apply potable water. Each mobile unit shall be equipped with a positive shutoff valve to prevent over watering of disturbed areas.

2.4 Protect Slopes:

Erosion Control Blanket:

BMP Description: Erosion control blankets shall be used to provide stabilization on steep (3H:1V or greater) interior side slopes and immediate stabilization for swales. The blanket shall cover the entire graded side slopes. The side slopes shall be seeded and mulched before the blanket is applied. The blanket shall be installed in a 12 inch wide by 6 inch deep trench in the upside of the slope, and stapling the leading edge of the blanket in the trench. The blanket shall be rolled down the slope slowly to maintain soil contact and stapled at 12 inch intervals. The blankets can be overlapped a minimum of 2 inches and stapled at the overlapping edge.

Installation Schedule: The erosion control blankets shall be installed after grading of the side slopes and swales is complete.

Construction Specifications

Erosion Control Blanket

1. Biodegradable rolled erosion control products (RECPs) are typically composed of jute fibers, curled wood fibers, straw, coconut fiber, or a combination of these materials. In order for an RECP to be considered 100% biodegradable, the netting, sewing or adhesive system that holds the biodegradable mulch fibers together must also be biodegradable.
   a. *Jute* is a natural fiber that is made into a yarn that is loosely woven into a biodegradable mesh. It is designed to be used in conjunction with vegetation and has longevity of approximately one year. The material is supplied in rolled strips, which should be secured to the soil with U-shaped staples or stakes in accordance with manufacturers' recommendations.
   b. *Excelsior* (curled wood fiber) blanket material should consist of machine produced mats of curled wood excelsior with 80 percent of the fiber 6 in. or longer. The excelsior blanket should be of consistent thickness. The wood fiber must be evenly distributed over the entire area of the blanket. The top surface of the blanket should be covered with a photodegradable extruded plastic mesh. The blanket should be smolder resistant without the use of chemical additives and should be non-toxic and non-injurious to plant and animal life. Excelsior blankets should be furnished in rolled strips, a minimum of 48 in. wide, and should have an average weight of 0.8 lb/yd2, ±10 percent, at the time of manufacture. Excelsior blankets must be secured in place with wire staples. Staples should be made of minimum 11 gauge steel wire and should be U-shaped with 8 in. legs and 2 in. crown.
2. Grade and shape the area of installation.

3. Remove all rocks, clods, vegetation or other obstructions so that the installed blankets or mats shall have complete, direct contact with the soil.
4. Prepare seedbed by loosening 2 to 3 in. of topsoil.
5. Seed the area before blanket installation for erosion control and revegetation.
6. Seeding after mat installation is often specified for turf reinforcement application. When seeding prior to blanket installation, all check slots and other areas disturbed during installation must be re-seeded. Where soil filling is specified, seed the matting and the entire disturbed area after installation and prior to filling the mat with soil.
7. Fertilize and seed in accordance with seeding specifications or other types of landscaping plans. When using jute matting on a seeded area, apply approximately half the seed before laying the mat and the remainder after laying the mat. The protective matting can be laid over areas where grass has been planted and the seedlings have emerged. Where vines or other ground covers are to be planted, lay the protective matting first and then plant through matting according to design of planting.
8. Check slots are made of glass fiber strips, excelsior matting strips or tight folded jute matting blanket or strips for use on steep, highly erodible watercourses. The check slots are placed in narrow trenches 6 to 12 in. deep across the channel and left flush with the soil surface. They are to cover the full cross section of designed flow.
9. Before laying the matting, all check slots should be installed and the friable seedbed made free from clods, rocks, and roots. The surface should be compacted and finished according to the requirements of the manufacturer's recommendations.
10. Mechanical or manual lay down equipment should be capable of handling full rolls of fabric and laying the fabric smoothly without wrinkles or folds. The equipment should meet the fabric manufacturer's recommendations or equivalent standards.
11. Anchor and install as detailed in the Erosion Control Plan.

Maintenance

1. Areas where erosion is evident shall be repaired and BMPs reapplied as soon as possible. Care should be exercised to minimize the damage to protected areas while making repairs, as any area damaged shall require reapplication of BMPs
2. If washout or breakage occurs, re-install the material after repairing the damage to the slope or channel.
3. Make sure matting is uniformly in contact with the soil.
4. Check that all the lap joints are secure, the staples are flush with the ground, and that disturbed areas are seeded.

Inspection

1. Inspect Erosion Control Blankets prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.
2. Inspect Erosion Control Blankets subject to non-stormwater discharges daily while non-stormwater discharges occur.

2.5 Protect Storm Drain Inlets:

Drop Inlet Protection:

BMP Description: The proposed on-site storm drain inlets shall be protected with Silt Filter Fence, Gravel and Wire Mesh, Block and Gravel, or a Filter Fabric Insert as detailed in the Erosion Control Plan as soon as these facilities are installed. Stabilized base course shall be installed in the road within four weeks after the inlets are installed to limit conveyance of silt to the inlets. Any existing storm drain inlets are to be protected similarly if receiving runoff from un-stabilized areas.

Construction Specifications

Drop Inlet Protection

1. Silt Fence Drop Inlet Protection
   a. Silt Fence shall conform to the construction documents for extra strength found in Table 1 and shall be cut from a continuous roll to avoid joints.
   b. For stakes, use 2 x 4-inch wood (preferred) with a minimum length of 3 feet.
   c. Space stakes evenly around the perimeter of the inlet a maximum of 3 feet apart, and securely drive them into the ground, approximately 18-inches deep.
   d. To provide needed stability to the installation, frame with 2 x 4-inch wood strips around the crest of the overflow area at a maximum of 1-1/2 feet above the drop inlet crest.
   e. Place the bottom 12 inches of the fabric in a trench and backfill the trench with 12 inches of compacted soil.
   f. Fasten fabric securely by staples or wire to the stakes and frame. Joints must be overlapped to the next stake.
   g. It may be necessary to build a temporary dike on the down slope side of the structure to prevent bypass flow.

2. Gravel and Wire Mesh Drop Inlet Sediment Filter
   a. Wire mesh shall be laid over the drop inlet so that wire extends a minimum of 1 foot beyond each side of the inlet structure. Wire mesh with 1/2-inch openings shall be used. If more than one strip of mesh is necessary, the strips shall be overlapped.
   b. Coarse aggregate shall be placed over the wire mesh as indicated on Sheet C1.3. The depth of stone shall be at least 12 inches over the entire inlet opening. The stone shall extend beyond the inlet opening at least 18 inches on all sides.
   c. If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stones must be pulled away from the inlet, cleaned and/or replaced.

Note: This filtering device has no overflow mechanism; therefore, ponding is likely especially if sediment is not removed regularly. This type of device must never be used where overflow may endanger an exposed fill slope.

3. Block and Gravel Drop Inlet Sediment Filter
   a. Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, with the ends of adjacent blocks abutting. The size of the barrier can be varied, depending on design needs, by stacking combinations of 4-inch, 8-inch and 12-inch wide blocks. The barrier of blocks shall be at least 12-inches high and no greater than 24-inches high.
   b. Wire mesh shall be placed over the outside vertical face (webbing) of the concrete blocks to prevent stone from being washed through the holes in the blocks. Wire mesh with 2-inch openings shall be used.
   c. Stone shall be placed against the wire to the top of the block barrier, as shown on Sheet C1.3.
   d. If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the blocks, cleaned and replaced.

4. Filter Fabric Insert: Follow specifications described by the product manufacturer for effective installation. A detail for the Dandy Bag[7] II is included in the Erosion Control Plan as an example of an acceptable filter.

Maintenance

1. Sediment should not be allowed to wash into the storm drain inlet. It should be removed from the inlet protection and disposed of and stabilized so that it shall not enter the inlet again.
2. When the contributing drainage area has been permanently stabilized, all materials and any sediment should be removed, and either salvaged or disposed of properly.
3. Expected life of a silt fence barrier is 3 months. Maintenance needs and repairs should be accomplished immediately should the inlet protection fail.

Inspection

1. Inspections of storm drain inlet protection methods should be made before anticipated storm events (or series of storm events such as intermittent showers over one or more days) and within 24 hours after the end of a storm event of 0.5 inches or greater, and at least twice every seven calendar days, at least 72 hours apart.
2. Where sites have been finally or temporarily stabilized, such inspections may be conducted only once per month.

2.6 Establish Perimeter Controls and Sediment Barriers:

BMP Description/Installation: As noted above, before any grading operations begin proper sedimentation and erosion control shall be installed adjacent to the areas under construction, just outside the limits of disturbance. Storm drain inlet protection is to be provided as detailed in Section 2.5 of this report.

2.7 Retain Sediment On-Site and Control Dewatering Practices:

Dewatering:

BMP Description/Installation: In the event groundwater is encountered, dewatering may be required using sump pumps. Installation of sumps shall follow the requirements of the Sump Pit detail as provided in the Erosion Control Plan. The purpose of this practice is to remove excessive water from excavations in a manner that improves the quality of the water being pumped.

Construction Specifications

Sump Pit

1. A perforated vertical standpipe shall be placed in the center of the pit to collect filtered water. The standpipe shall be a perforated corrugated metal or PVC pipe and its diameter and number of perforations shall be compatible with the pump size being used.
2. Water is then to be pumped from the center of the pipe to a suitable discharge area.
3. The pit shall be filled with crushed stone or gravel no smaller than CT DOT #67 size nor larger than CT DOT #3 size. Crushed stone shall extend a minimum of 12” below the bottom of the standpipe.
4. Discharge of water pumped from the standpipe shall be to a suitable practice such as a Portable Sediment Tank, or an approved dewatering settling basin.
5. If water from the sump pit shall be pumped directly to a storm drainage system, filter fabric shall be wrapped around the standpipe to ensure clean water discharge.
6. It is recommended that 1/4 to 1/2 inch hardware cloth wire be wrapped around and secured to the standpipe prior to attaching the filter fabric. This shall increase the rate of water seepage into the standpipe.

Maintenance

1. Replace the sump pit if the pit and filter fabric plugs with sediment.

2.8 Establish Stabilized Construction Exits:

Stabilized Construction Exit:

BMP Description/Installation: A stabilized construction exit shall be installed at the entrance and exit to the job site before construction begins (the staging and on site construction parking area is in an existing asphalt area). Stabilized exits are used to prevent the off-site transport of sediment by construction vehicles. At the entrance and exits to the site, the vehicle tracking pad (VTP) shall be at least 25 ft wide or at least the width of the entrance or exist, whichever is greater. The crushed stone for the VTP at the entrance or exit shall be placed over a layer of geotextile. For additional details see the Erosion Control Plan.

Construction Specifications

Stabilized Construction Exit

1. The width should be at least 14 feet but not less than the full width of points where ingress or egress occurs. At sites where traffic volume is high, the entrance should be wide enough for two vehicles to pass safely. Flare the entrance where it meets the existing road to provide a sufficient turning radius.
2. The minimum length should be 50 ft.
3. Total depth of rock should be at least 6 inches. Fractured stone 2 to 8 in. diameter (for the base layer) and crushed stone 2 in. diameter or reclaimed or recycled concrete equivalent (for the top layer).
4. Include geotextile (filter fabric) with the products placed over the entire area to be covered with aggregate. The geotextile should be a woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The geotextile should be inert to commonly encountered chemicals, hydrocarbons, mildew, and rot resistant.
5. Runoff from a stabilized construction entrance should drain to a sediment trap or protected inlet.
6. Clear all vegetation, roots, and all other obstructions in preparation for grading. Prior to placing geotextile (filter fabric), make sure that the entrance is properly graded and compacted.

Maintenance

1. The entrance should be maintained in a condition that shall prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with additional 2 in. stone (as conditions demand) and repair or cleaning of any structures used to trap sediment.
2. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains should be removed immediately. When necessary, vehicle wheels should be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it should be done on an area stabilized with aggregate that drains into an approved sediment trap or protected inlet.

3. Trapped sediment should be removed from the site or stabilized on site and prevented from entering storm drains, ditches, or waterways. Disturbed soil areas resulting from removal should be permanently stabilized.
4. The stabilized construction entrance may be removed after final site stabilization is achieved or after the temporary BMPs are no longer needed.

Inspection

1. Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
2. While activities associated with the BMPs are under way, and at least twice every seven calendar days, at least 72 hours apart.
3. Inspect local roads adjacent to the site daily. Sweep or vacuum to remove visible accumulated sediment.

2.9 Additional BMPs:

N/A

End of Section 2

SECTION 3

GOOD HOUSEKEEPING BMPs

3.1 Good Housekeeping BMPs (from EPA Website)

1. Material Handling and Waste Management:

Waste Materials:

All waste materials shall be collected and disposed of into three metal waste dumpsters in the materials storage area. Dumpsters shall have a secure tight lid, be placed away from storm water drains and structures, and shall meet all federal, state, county, and local regulations. Only trash and construction debris shall be placed in the dumpsters. Construction materials shall not be buried on site. All personal shall be instructed, during tailgate training sessions, regarding the correct disposal of trash and construction debris. Notices that state these practices shall be posted in the office trailer and the individual who manages day-to-day site operations shall be responsible for seeing that these practices are followed.

Installation Schedule: Trash dumpsters shall be installed when the materials storage area has been established.

Maintenance and Inspection: The dumpsters shall be inspected weekly and immediately after storm events. The dumpster shall be emptied weekly or more frequently if needed, and taken to the appropriate landfill.

Hazardous Waste Materials:

BMP Description: All hazardous waste materials including oil filters, petroleum products, paint, and equipment maintenance fluids shall be stored in structurally sound and sealed shipping containers, within the hazardous materials storage area. Hazardous waste materials shall be stored in appropriate and clearly marked containers and segregated from other non-waste materials. Secondary containment shall be provided for all waste materials in the hazardous materials storage area and shall consist of commercially available spill pallets. Additionally, all hazardous waste materials shall be disposed of in accordance with federal, state, county, and local regulations. Hazardous waste materials shall not be disposed of into the on-site dumpsters. All personnel shall be instructed, during tailgate training sessions, regarding proper procedures for hazardous waste disposal. Notices that state these procedures shall be posted in the office trailer and the individual who manages day-to-day site operations shall be responsible for seeing that these procedures are followed.

Installation Schedule: Shipping containers used to store hazardous waste materials shall be installed once the site materials storage area has been installed.

Maintenance and Inspection: The hazardous waste materials area shall be inspected weekly and after storm events. The storage area shall be kept clean, organized and

equipped with ample cleanup supplies for the materials being stored. Material safety datasheets, material inventory, and emergency contact numbers shall be maintained in the office trailer.

Sanitary Waste:

BMP Description: Portable toilets, located in the staging area, shall be provided at the site throughout the construction phase. The toilets shall be anchored and located away from concentrated drainage flow paths and shall have collection pans underneath as secondary containment.

Installation schedule: The portable toilets shall be set up at the site when the staging area is complete.

Maintenance and Inspection: Sanitary waste shall be collected and inspected weekly for evidence of leaking holding tanks.

Recycling:

BMP Description: Wood pallets, cardboard boxes, and other recyclable construction scraps shall be disposed of in a designated dumpster for recycling. The dumpster shall have a secure watertight lid, be placed away from stormwater conveyances and drains and meet all local and state solid-waste management regulations. Only solid recyclable construction scraps from the site shall be deposited in the dumpster. All personnel shall be instructed, during tailgate training sessions, regarding the correct procedure for disposal of recyclable construction scraps. Notices that state these procedures shall be posted in the office trailer, and the individual who manages day-to-day site operations shall be responsible for seeing that these procedures are followed.

Installation Schedule: Designated recycling dumpsters shall be installed once the combined staging area has been established.

Maintenance and Inspection: The recycling dumpster shall be inspected weekly. The recycling dumpster shall be emptied when full and taken to an approved recycling center by the contractor. If recyclable construction wastes are exceeding the dumpster's capacity, the dumpsters shall be emptied more frequently.

2. Establish Proper Construction Material Staging Areas:

Materials Storage Area:

BMP Description: Construction equipment and maintenance materials shall be stored at the combined staging area and materials storage areas. This area shall be located in an area designated at the start of construction. Hay Bales shall be installed around the perimeter of the area. A watertight shipping container shall be used to store hand tools, small parts, and other construction materials. Non-hazardous materials such as packaging material (wood, plastic, and glass), and construction scrap material (brick, wood, steel, metal scraps, and pipe cuttings) shall be stored in a separate covered

storage facility adjacent to the shipping container. All hazardous-waste materials such as oil filters, petroleum products, paint, and equipment maintenance fluids shall be stored in structurally sound and sealed containers.

Installation Schedule: The materials storage area shall be installed immediately and before any grading occurs or before any infrastructure is constructed at the site.

Maintenance and Inspection: The storage area shall be inspected weekly. The storage area shall be kept clean, organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners shall be repaired or replaced as needed to maintain proper function.

3. Designate Washout Areas:

Concrete Washout

BMP Description: A designated temporary, above-grade concrete washout area shall be provided. The temporary concrete washout area shall be constructed, with a recommended minimum length and minimum width of 10 feet, but with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. The washout area shall be lined with plastic sheeting at least 10 mils thick and free of holes or tears. Signs shall be posted marking the location of the washout area to ensure that concrete equipment operators use the proper facility.

Concrete pours shall not be conducted during or before an anticipated storm event. Concrete mixer trucks and chutes shall be washed in the designated area or concrete wastes shall be properly disposed of off-site. When the temporary washout area is no longer needed for the construction project, the hardened concrete and materials used to construct the area shall be removed and disposed of according to the maintenance section below, and the area shall be stabilized.

Installation Schedule: The washout area shall be constructed before concrete pours occur at the site.

Maintenance and Inspection: The washout areas shall be inspected weekly and each day of use to ensure that all concrete washing is being discharged into the washout area, no leaks or tears are present, and to identify when concrete wastes need to be removed. The washout areas shall be cleaned out once the area is filled to 75 percent of the holding capacity. Once the area's holding capacity has been reached, the concrete wastes shall be allowed to harden; the concrete shall be broken up, removed, and taken to the appropriate landfill for disposal. The plastic sheeting shall be replaced if tears occur during removal of concrete wastes from the washout area.

4. Establish proper equipment/vehicle fueling and maintenance practices:

Vehicle/Equipment Fueling and Maintenance:

BMP Description: Several types of vehicles and equipment shall be used on-site throughout the project, including graders, scrapers, excavators, loaders, paving equipment, rollers, trucks and trailers, backhoes, and forklifts. Only minor equipment/vehicle fueling and maintenance shall be performed on-site. All vehicle fueling activity shall occur in the staging area. Both of these proposed activities are to be situated so that drainage facilities or water courses located in the area are not at risk from potential infiltration. All equipment fluids generated from maintenance activities shall be disposed of into designated drums stored on spill pallets in accordance with Part 3.1. Absorbent, spill-cleanup materials and spill kits shall be available at the combined staging and materials storage area. Drip pans shall be placed under all equipment receiving maintenance and vehicles and equipment parked overnight.

Installation Schedule: BMPs implemented for equipment and vehicle maintenance and fueling activities shall begin at the start of the project.

Maintenance and Inspection: Inspect equipment/vehicle storage areas and fuel tank weekly. Vehicles and equipment shall be inspected on each day of use. Leaks shall be repaired immediately, or the problem vehicle(s) or equipment shall be removed from the project site. Keep ample supply of spill-cleanup materials on-site and immediately clean up spills and dispose of materials properly.

5. Allowable non-stormwater discharges and control equipment/vehicle washing:

BMP Description: All equipment and vehicle washing shall be performed off-site. (See section 3.2 below for additional information related to non-storm water discharges)

6. Spill Prevention and Control Plan:

Spill Prevention and Control Procedures:

BMP Description:

1. Employee Training: All employees shall be trained via biweekly tailgate sessions, as detailed in Section 6, Part 6.3.
2. Vehicle Maintenance: Vehicles and equipment shall be maintained off-site. All vehicles and equipment including subcontractor vehicles shall be checked for leaking oil and fluids. Vehicles leaking fluid shall not be allowed on-site. Drip pans shall be placed under all vehicles and equipment that are parked overnight.
3. Hazardous Material Storage: Hazardous materials shall be stored in accordance with Section 3, Part 1 and federal and municipal regulations.
4. Spill Kits: Spill kits shall be stored within the material storage area and concrete washout areas.
5. Spills: All spills shall be cleaned up immediately upon discovery. Spent absorbent materials and rags shall be hauled off-site immediately after the spill is cleaned up for disposal at the appropriate landfill. Spills large enough to discharge to surface water shall be reported to the National Response Center at 1-800-424-8802.

6. Material safety data sheets, a material inventory, and emergency contact information shall be maintained at the on-site project trailer.

Installation Schedule: The spill prevention and control procedures shall be implemented once construction begins on-site.

Maintenance and Inspection: All personnel shall be instructed, during tailgate training sessions, regarding the correct procedures for spill prevention and control. Notices that state these practices shall be posted in the office trailer, and the individual who manages day-to-day site operations shall be responsible for seeing that these procedures are followed.

7. Any Additional BMPs:

N/A

3.2 Allowable Non-Stormwater Discharge Management

Items include: Discharges from fire fighting activities, fire hydrant flushing, landscape watering, water used to control dust, dewatering of foundation and utility trenches and wash downs with potable water that does not include detergents. All erosion control practices shall be followed by the contractor in connection with these activities.

Irrigation waters shall be sprayed onto landscape areas only. The sprinklers shall have low flow rates and increased watering time. The irrigation area shall be inspected regularly for excess watering and if needed, adjustments shall be made.

Any changes in construction activities that produce other allowable non-storm water discharges shall be identified, and the SWPPP shall be amended and the appropriate erosion and sediment control shall be implemented.

End of Section 3

SECTION 4

POST-CONSTRUCTION BMPs

Storm Water Management Plan:

1. Pollution Prevention Team
   The Owners shall be responsible for carrying out the provisions of this plan.
2. Sweeping
   Parking lots, sidewalks and other impervious surfaces shall be swept clean of sand, litter, and other pollutants at least twice a year.
   A. Between November 15 and December 15 (After Leaf Fall)
   B. During April (After Snow Melt)
3. Outside Storage
   Accessories or equipment stored outside shall be covered or maintained to minimize the possibility of these materials or their residue from passing to storm water.
4. Washing
   No washing vehicles or equipment in parking areas.
5. Maintenance and Inspection
   A. Monthly inspection of storm water structures and outfalls.
   B. Clean sediment and debris from structures and outfalls once a year during April.
6. Spill or Accidental Discharge
   Comply with State and Federal regulations to contain and clean up any spill or disposal or discharge and dispose of materials at an approved facility.

End of Section 4

SECTION 5

INSPECTIONS AND MAINTENANCE

5.1 Inspections

1. **Inspection Personnel:**

   Contractor Personnel

2. **Inspection Schedule and Procedures:**

   See Sections 2 and 3.

5.2 Maintenance of Controls

Maintenance Procedures: See Sections 2 and 3.

5.3 Corrective Action Log

Corrective Action Log: See Appendix E for a sample Corrective Action Log

End of Section 5

SECTION 6

RECORDKEEPING AND TRAINING

6.1 Recordkeeping

The following is a list of records that should be kept at the project site available for inspectors to review:

- Copy of the Construction General Permit (See Appendix C).
- Inspection Reports (See Appendix D).
- Corrective Action Log (See Appendix E).
- Grading and Stabilization Activities Log (See Appendix H)
- Stormwater Outlet Document (See Appendix J)

6.2 Log of Changes to the SWPPP

Log of changes and updates to the SWPPP

See Appendix F for the SWPPP Amendment Log

6.3 Training

General stormwater and BMP awareness training for staff and subcontractors can be found in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. Every person working on the site must be trained on a variety of topics, including good housekeeping practices, best management practices, materials management practices, spill control prevention, and spill response procedures. A site walk through of the site should be conducted to review the stormwater sampling locations, and potential sources of stormwater impacts. On-going site issues should be discussed with employees as they occur. Monthly tool box talks should be held with employees to review relevant site issues.

See Appendix I for the Employee Training Log

Detailed training for staff and subcontractors with specific stormwater responsibilities can be found in the National Menu of Stormwater Best Management Practices by the U.S. Environmental Protection Agency's National Pollutant Discharge Elimination System:
< http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>

Individual(s) Responsible for Training: Contractor Personnel

End of Section 6

SECTION 7

FINAL STABILIZATION

Permanent seeding should be applied immediately after the final design grades are achieved at the site but no later than 14 days after construction activities have permanently ceased. After the entire site is stabilized, any sediment that has accumulated shall be removed and hauled off site to a licensed landfill facility. Construction debris, trash, and temporary BMP's shall also be removed and any areas disturbed during removal shall be seeded immediately.

Seedbed Preparation:

1. Topsoil shall be spread over final graded areas at a minimum depth of four inches.
2. The seedbed shall be free of rocks, woody debris and other objectionable material.
3. Fertilizer shall be applied to the seedbed as needed. Fertilizers shall be commercial type of uniform composition, free-flowing and conforming to the applicable State and Federal laws. Choose native species that are adapted to local weather and soil conditions wherever possible to reduce water and fertilizer inputs and lower maintenance overall.
4. Topsoil shall be loosened by raking, tilling or other suitable methods.

Refer to the Site Landscape Plan for proposed vegetation locations and plant/seed lists for the new Commissary site. See the Vegetative Soil Cover guidelines located in Chapter 5, Section 3 of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control* for additional guidance and specifications relating to seeding, fertilizer, mulching, and sodding.

Final stabilization should be installed on portions of the site where construction activities have permanently ceased but no later than 14 days after construction ceases.

All seeded areas shall be inspected weekly during construction activities for failure until a dense cover of vegetation has been established. If failure is noticed on the seeded area, the area shall be seeded, fertilized and mulched immediately. After construction is complete at the site permanent stabilization measures shall be monitored until final stabilization is reached.

Responsible Staff: Contractor Personnel

A Notice of Termination (NOT) shall be submitted after all cleanup at the site is complete and after all seeding, fertilizing and mulching operations are complete and all plants are installed.

*Document can be found online at: <http://www.ct.gov/dep/cwp/view.asp?A=2720&Q=325660>

End of Section 7

SECTION 8

EXECUTIVE SUMMARY

Reference

Civil Engineering Plans
Millwood at Old Colchester Road
416 Old Colchester Road, Montville, CT
Jensen's, Inc.
Dated: 20 June 17

The following information is being provided by Boundaries LLC, based on the review of the below referenced plans and their compliance with the requirements of the "State of Connecticut DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities"

1. Cover Sheet
2. Notes, Legend, and test Pit Observations
3. Boundary and Topographic Survey
4. Zoning Compliance Plan
5. Development Plan
6. Development Plan & Typical Landscape Plan
7. Roadway and Stormwater Plan & Profile – Millwood Drive
8. Roadway and Stormwater Plan & Profile – Millwood Drive
9. Roadway and Stormwater Plan & Profile – Highland Circle
10. Stormwater Outlet and Treatment Basins South of Millwood Drive
11. Utility Design Plan & Profile – Millwood Drive
12. Utility Design Plan & Profile – Millwood Drive
13. Utility Design Plan & Profile – Highland Circle
14. Stormwater, Sanitary Sewer and Site Improvements – Old Colchester Road
15. Stormwater Basin Landscape Plan
16. Erosion & Sediment Control Plan
17. Erosion & Sediment Control and Stormwater Pollution Prevention Plan
18. Erosion & Sediment Control Details
19. General Site Details
20. Stormwater Details
21. Stormwater, Electric, Telecom, and Site Lighting Details
22. Stormwater Basin Details
23. Water and Sanitary Sewer Details
24. Water and Sanitary Sewer Details

End of Section 8

SECTION 9

CERTIFICATION AND NOTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ Title: _____

Signature: _____ Date: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ Title: _____

Signature: _____ Date: _____

End of Section 9

SWPPP APPENDICES

Attached are the following documents in support of the SWPPP

Appendix A - General Location Map

Appendix B - Site Maps

Appendix C - Copy of Construction General Permit

Appendix D - Inspection Reports

Appendix E - Corrective Action Log

Appendix F - Log of Changes and Updates to SWPPP

Appendix G - Subcontractor Certifications/Agreements

Appendix H - Grading and Stabilization Activities Log

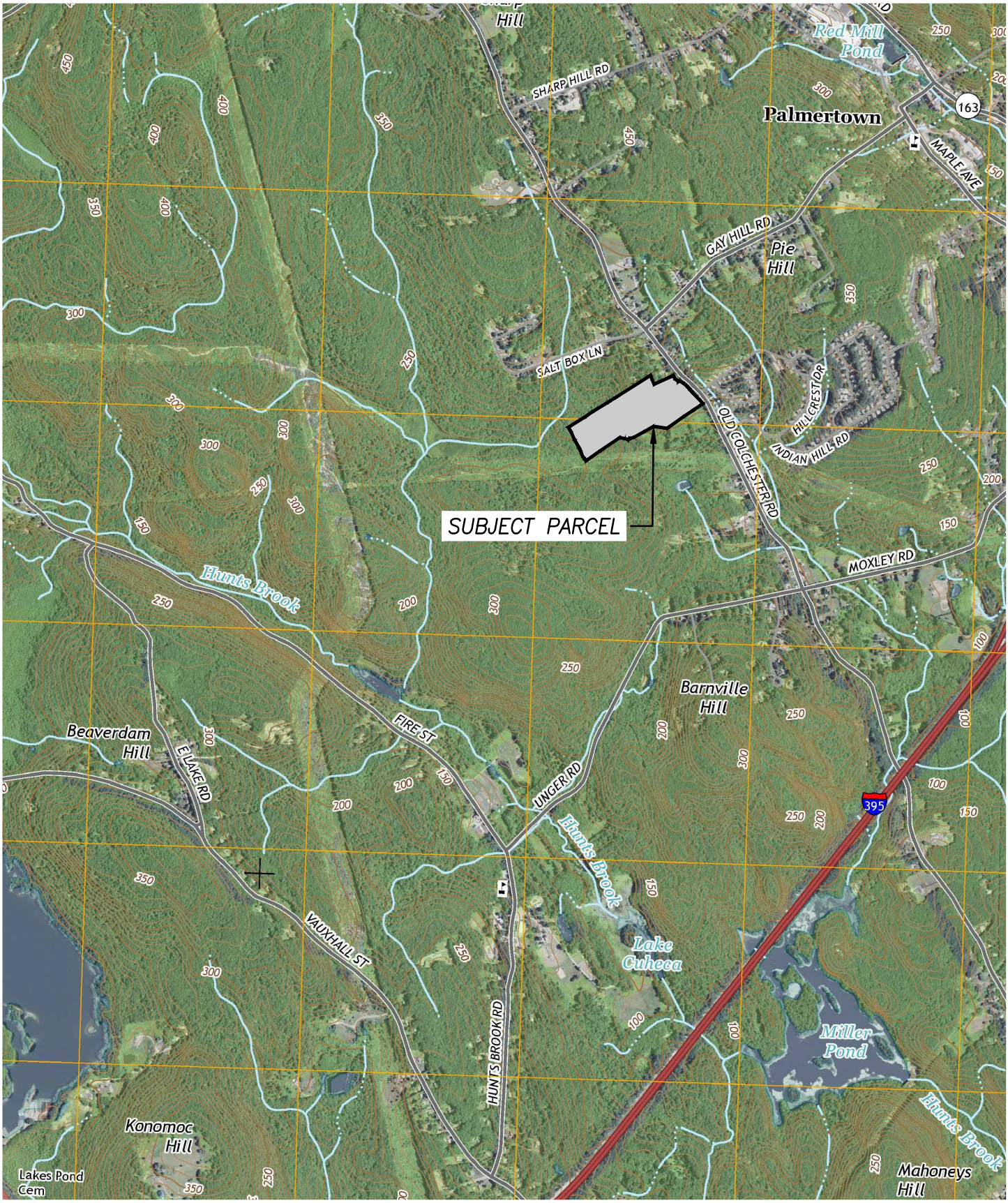
Appendix I - SWPPP Training Log

Appendix J – Stormwater Outlet Monitoring Locations and Report Document

Appendix K - Delegation of Authority

APPENDIX A

GENERAL LOCATION MAP



BOUNDARIES
CIVIL ENGINEERING LAND SURVEYING LAND USE PLANNING SOIL SCIENCE
Boundaries LLC
179 Pachaug River Drive, Griswold, CT 06351
T 860.376.2006 | www.boundariesllc.net

Location Map
(Palmertown Quad)
Millwood at Old Colchester

416 Old Colchester Road, Uncasville, CT

SCALE:	1"=2,000'
DATE:	March 2017
JOB NO.	14-2320-2
FIGURE	1

APPENDIX B

SITE DEVELOPMENT PLAN – SHEETS 1-24

Site Development Plan
Millwood at Old Colchester Road
Prepared For
JENSEN'S, INC.
416 Old Colchester Road, Uncasville, Connecticut
November 2016
Additions & Revisions:
9 May 2017, 9 June 2017, 20 June 2017, 20 July 2017, 15 September 2017

Applicants:

Jensen's, Inc.
246 Redstone Street
PO Box 608
Southington, CT 06489

Property Info:

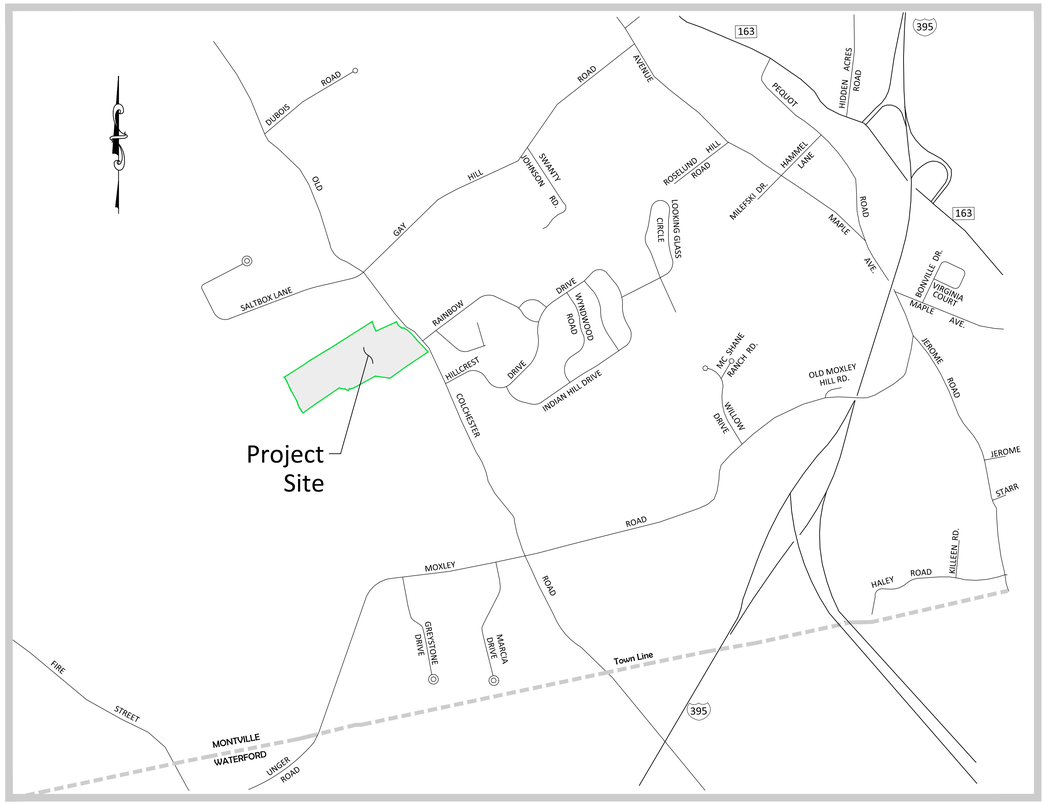
Address: 416 Old Colchester Road
Montville Assessor's ID: 16-003-000
Area: 26.75± Ac.
Owners: Jensen's, Inc.
246 Redstone Street
PO Box 608
Southington, CT 06489
Telephone: (860) 793-0281

"APPROVED BY THE TOWN OF MONTVILLE PLANNING AND ZONING COMMISSION"

SIGNATURE OF CHAIRMAN OR SECRETARY *DATE*

"APPROVED BY THE TOWN OF MONTVILLE INLAND WETLANDS COMMISSION"

SIGNATURE OF CHAIRMAN OR SECRETARY *DATE*



Site Location Map
Scale: 1" = 1000'

Index To Drawings	
Sheet	*Sheet Title*
1	*Cover Sheet*
2	*Notes, Legend, and Test Pit Observations*
3	*Boundary and Topographic Survey*
4	*Zoning Compliance Plan*
5	*Development Plan*
6	*Development Plan & Typical Landscape Plan*
7-8	*Roadway and Stormwater Plan & Profile - Millwood Drive*
9	*Roadway and Stormwater Plan & Profile - Highland Circle*
10	*Stormwater Outlet and Treatment Basins South of Millwood Drive*
11-12	*Utility Design Plan & Profile - Millwood Drive*
13	*Utility Design Plan & Profile - Highland Circle*
14	*Stormwater, Sanitary Sewer and Site Improvements - Old Colchester Road*
15	*Stormwater Basin Landscape Plan*
16	*Erosion & Sediment Control Plan*
17	*Erosion & Sediment Control and Stormwater Pollution Prevention Narrative*
18	*Erosion & Sediment Control Plan Details*
19	*General Site Details*
20	*Stormwater Details*
21	*Stormwater, Electric, Telecom, and Site Lighting Details*
22	*Stormwater Basin Details*
23-24	*Water and Sanitary Sewer Details*

Note: *Plan Set Signatures For Sheets 1-24*

BOUNDARIES
ORIGINAL INK DRAWING

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

70016
JOHN U. FAULISE JR. L.S. *LICENSE NO.* *DATE*

I HAVE CONDUCTED AN ON-SITE SOIL INVESTIGATION OF THE PARCEL OF LAND DEPICTED HEREON. THE INTERMITTENT WATERCOURSES AND INLAND WETLAND BOUNDARIES AS PORTRAYED ARE AN ACCURATE REPRESENTATION OF THE DELINEATION PERFORMED IN THE FIELD.

DEMIAN A. SORRENTINO, C.S.S. *DATE*

29102
DAVID C. McKAY, P.E. *LICENSE NO.* *DATE*

LEGEND & ABBREVIATIONS

	UTILITY POLE		FENCE POST
	GUY WIRE	N/F	NOW OR FORMERLY
CL&P	CONNECTICUT LIGHT & POWER	300	EXISTING CONTOUR
SNET	SOUTHERN NEW ENGLAND TELEPHONE	300	PROPOSED CONTOUR
EVS	EVERSOURCE	290.10 x	PROPOSED SPOT GRADE
±	MORE OR LESS	BIT	BITUMINOUS
W/	WITH	CONC	CONCRETE
REC	RECOVERED	SCHED	SCHEDULE
SF	SQUARE FEET	R	RADIUS
	REBAR OR IRON PIN RECOVERED	S	SLOPE
	ANGLE POINT	L	LENGTH
	DRILL HOLE	BCLC	BITUMINOUS CONCRETE LIP CURB
	MONUMENT	E	ELECTRIC
RBR	REBAR	S S	SANITARY SEWER
IP	IRON PIPE	W W	WATER
DH	DRILL HOLE		OVERHEAD WIRE
MON	MONUMENT	CB	CATCH BASIN
TYP	TYPICAL	TF	TOP OF FRAME
MIN	MINIMUM	FE	FLARED END
BL	BUILDING SETBACK LINE	RCP	REINFORCED CONCRETE PIPE
FF	FINISHED FLOOR	HDPE	HIGH DENSITY POLYETHYLENE
PVC	POLYVINYL CHLORIDE	PVC	POLYVINYL CHLORIDE
SAN	SANITARY	WV	WATER VALVE
INV	INVERT		WATER VALVE
DMH	DRAINAGE MANHOLE		SIGN
SMH	SANITARY MANHOLE		DEEP TEST PIT
WMH	WATER MANHOLE	WF 10	INLAND WETLAND FLAG
	CATCH BASIN		DECIDUOUS TREE
	SANITARY MANHOLE		EXISTING TREELINE
	STORM DRAINAGE MANHOLE	D	DRAINAGE
PCB	PROPOSED SINGLE CATCH BASIN	S	SEWER
PCB(II)	PROPOSED DOUBLE CATCH BASIN (TYPE II)	W	WATER
PDMH	PROPOSED DRAINAGE MANHOLE	E/T/C	ELECTRIC/TELEPHONE/CABLE
PSMH	PROPOSED SANITARY MANHOLE	GAR	GARAGE
OPR	OPTIONAL ROOM	POR	PORCH

TEST PIT OBSERVATIONS

TEST PITS 1A AND 11A WERE OBSERVED BY BOUNDARIES LLC ON SEPTEMBER 10, 2016.

TP #1A
0" – 6" TOPSOIL
6" – 32" TAN SANDY LOAM WITH ROOTS
32" – 99" LIGHT TAN COMPACT MEDIUM TO COARSE SAND WITH SILT, SOME GRAVEL, AND TRACE COBBLES
MOTTLING AT 34", NO GROUNDWATER, NO LEDGE

TP #2A
0" – 6" TOPSOIL
6" – 30" TAN SANDY LOAM WITH ROOTS
30" – 96" LIGHT TAN COMPACT MEDIUM TO COARSE SAND AND SILT WITH SOME GRAVEL AND COBBLES
MOTTLING AT 36", NO GROUNDWATER, NO LEDGE

TP #3A
0" – 4" TOPSOIL/HUMUS
4" – 38" TAN SANDY LOAM WITH ROOTS
38" – 110" LIGHT TAN FINE TO MEDIUM SILTY SAND WITH GRAVEL, TRACE COBBLES
NO MOTTLING, NO GROUNDWATER, NO LEDGE

TP #4A
0" – 5" TOPSOIL/HUMUS
5" – 28" TAN SANDY LOAM
28" – 63" LIGHT TAN MEDIUMT TO COARSE SAND AND GRAVEL WITH COBBLES
63" – 84" GRAY HARDPAN
NO MOTTLING, NO GROUNDWATER, REFUSAL AT 84"

TP #5A
0" – 6" TOPSOIL/HUMUS
6" – 34" TAN SANDY LOAM
34" – 72" LIGHT TAN FINE TO COARSE SAND, SOME GRAVEL, TRACE SILT AND COBBLES
72" – 96" GRAY FINE TO MEDIUM SAND WITH SILT
MOTTLING AT 72", NO GROUNDWATER, NO LEDGE

TP #6A
0" – 4" TOPSOIL/HUMUS
4" – 24" TAN SANDY LOAM WITH ROOTS
24" – 48" LIGHT TAN FINE TO COARS SAND WITH GRAVEL
48" – 72" GRAY HARDPAN
MOTTLING AT 48", NO GROUNDWATER, REFUSAL AT 72"

TP #7A
0" – 6" TOPSOIL/HUMUS
6" – 28" TAN SANDY LOAM WITH ROOTS
28" – 48" LIGHT TAN MEDIUM TO COARSE SAND WITH GRAVEL
48" – 70" GRAY HARDPAN
MOTTLING AT 48", NO GROUNDWATER, NO LEDGE

TP #8A
0" – 6" TOPSOIL/HUMUS
6" – 30" TAN SANDY LOAM WITH ROOTS
30" – 50" LIGHT TAN MEDIUM TO COARSE SAND WITH GRAVEL
50" – 72" GRAY HARDPAN
MOTTLING AT 40", NO GROUNDWATER, NO LEDGE

TP #9A
0" – 4" TOPSOIL/HUMUS
4" – 32" TAN SANDY LOAM WITH ROOTS
32" – 78" LIGHT TAN MEDIUM TO COARSE

TP #10A
0" – 12" TOPSOIL
12" – 42" TAN SANDY LOAM WITH ROOTS
42" – 101" LIGHT TAN MEDIUM TO COARSE SAND WITH GRAVEL, TRACE COBBLES
MOTTLING AT 66", NO GROUNDWATER, NO LEDGE

TP #11A
0" – 6" TOPSOIL
6" – 30" TAN SANDY LOAM
NO MOTTLING, NO GROUNDWATER, BOULDER/LEDGE AT 30"

TEST PITS 1 THROUGH 10 WERE OBSERVED BY JENSEN'S INC. IN APRIL 2016.

TP #1
EXCAVATED 9 FT
GROUNDWATER AT 9 FT

TP #2
EXCAVATED 4 FT TO 6 FT
LEDGE AT 4 FT TO 6 FT

TP #3
EXCAVATED 7 FT
GROUNDWATER AT 7 FT

TP #4
EXCAVATED 9 FT
GROUNDWATER AT 9 FT

TP #5
EXCAVATED 8 FT
NO GROUNDWATER/LEDGE

TP #6
EXCAVATED 8 FT
NO GROUNDWATER/LEDGE

TP #7
EXCAVATED 5 FT TO 7 FT
LEDGE AT 5 FT TO 7 FT

TP #8
EXCAVATED 9 FT
NO GROUNDWATER OR LEDGE

TP #9
EXCAVATED 4 FT TO 5 FT
BOULDER/LEDGE AT 4 FT TO 5 FT

TP #10
EXCAVATED 6 FT
BOULDER/LEDGE AT 6 FT

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL CALL "CALL BEFORE YOU DIG" (CBYD) AT 1–800–922–4455 AT LEAST 48 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE CBYD PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH OSHA REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THESE REQUIREMENTS. IN ADDITION, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ANY EXCAVATION SAFEGUARDS, NECESSARY BARRICADES, FLAGMEN, ETC. FOR TRAFFIC CONTROL AND SITE SAFETY.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF TRAFFIC AND TRAFFIC CONTROL.
4. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
5. TEST PITS TO LOCATE EXISTING UTILITIES MAY BE REQUIRED BY THE ENGINEER.
6. STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES, ETC. SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK. UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
7. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS BEYOND PAYMENT LIMITS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.
8. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
9. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES OR WITHIN 100 FEET OF WETLANDS.
10. OPENINGS FOR PIPE IN PRECAST STRUCTURES SHALL BE CAST IN THE REQUIRED LOCATIONS DURING STRUCTURE MANUFACTURE. FIELD CUT OPENINGS WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER.
11. IN PAVED AREAS THE TOP OF THE MANHOLE COVER SHALL BE SET FLUSH WITH THE PAVED SURFACE. IN OTHER AREAS THE TOP OF THE COVER SHALL BE SET 6" ABOVE FINISHED GRADE, OR AS SHOWN ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER.
12. NEW WATER SERVICES SHALL BE INSTALLED WITH A MINIMUM COVER OF 54".
13. THE LOCATION OF PIPES, CAPS, REDUCERS, BENDS, AND OTHER FITTINGS AT POINTS OF CONNECTIONS TO EXISTING MAINS IS APPROXIMATE.
14. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES WHICH HOLD WATER IN THE SYSTEM. THE CONTRACTOR WILL COMPLY WITH SOUTHEASTERN CONNECTICUT WATER AUTHORITY STANDARDS.
15. INLET PROTECTION SHALL BE PROVIDED AND MAINTAINED ON THE EXISTING AND PROPOSED CATCH BASINS IN THE PROJECT AREA FOR THE DURATION OF THE PROJECT.
16. THE TRUNKS OF TREES WHICH ARE ADJACENT TO THE WORK AND ARE NOT TO BE REMOVED SHALL BE ENCLOSED WITH SUBSTANTIAL WOODEN BOXES OF SUCH HEIGHT AS MAY BE NECESSARY TO PROTECT THEM FROM INJURY FROM PILED MATERIAL, FROM EQUIPMENT, FROM THE OPERATIONS, OR OTHERWISE DUE TO THE WORK.
17. BRANCHES, LIMBS AND ROOTS OUTSIDE OF THE LIMIT OF CLEARING SHALL NOT BE CUT EXCEPT BY PERMISSION OF THE ENGINEER OR OWNER. ALL CUTTING SHALL BE SMOOTHLY AND NEATLY DONE WITHOUT SPLITTING OR CRUSHING.
18. ALL PROPOSED PAVING SHALL MATCH GRADE AT ROADWAY INTERSECTIONS.
19. ALL WORK IN OLD COLCHESTER ROAD SHALL COMPLY WITH THE TOWN OF MONTVILLE ROAD STANDARDS.
20. ALL STREET EXCAVATIONS SHALL BE COMPLETELY CLOSED AT THE END OF EACH WORKING DAY BY BACKFILLING AND COMPACTING OR COVERING WITH STEEL PLATES.

GENERAL NOTES:

1. A PRECONSTRUCTION MEETING WITH TOWN OF MONTVILLE STAFF, SOUTHEASTERN CONNECTICUT WATER AUTHORITY STAFF, MONTVILLE WATER POLLUTION CONTROL AUTHORITY STAFF, THE OWNER, AND THE ENGINEER IS REQUIRED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
2. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES, AND INCIDENTAL CONSTRUCTION" FORM 817, LATEST REVISION.
3. NO ACCESS TO ADJACENT PROPERTIES IS PERMITTED WITHOUT PRIOR WRITTEN APPROVAL OF THE PROPERTY OWNER.
4. VEHICULAR TRAFFIC SHALL ACCESS THE SITE OVER THE PROVIDED ANTI–TRACKING PAD.
5. THE CONTRACTOR SHALL MAINTAIN SIDE SLOPES AND DRAINAGE SWALES DURING CONSTRUCTION TO PREVENT PONDING AND EROSION.
6. THE CONTRACTOR SHALL MAINTAIN EXCAVATION SLOPES DURING CONSTRUCTION IN ACCORDANCE WITH THE MINIMUM AND MAXIMUM SLOPES SPECIFIED IN THE CONTRACT OR STIPULATED BY ANY STATE OR FEDERAL AGENCY. ANY LATERAL SUPPORT SYSTEM USED IN THE FIELD SHALL BE INCIDENTAL TO THE APPROPRIATE WORK ITEM AND CONFORM TO THE APPLICABLE REGULATORY REQUIREMENTS.
7. ALL EARTHWORK SHALL BE PERFORMED IN THE DRY.
8. ALL WORK ITEMS DETAILED IN THESE DRAWINGS SHALL BE COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
9. THE CONTRACTOR IS RESPONSIBLE FOR: BYPASSING ANY FLOWS COMING DIRECTLY FROM ANY UPSTREAM SOURCES; ALL CONSTRUCTION DEWATERING NECESSARY FOR ACHIEVING A FIRM, DRY SUBGRADE; CONTROLLING ANY STORMWATER FLOWS COMING FROM ON–SITE AND OFF–SITE LOCATIONS; AND ANY OTHER MEASURES NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND MONITORING OVERHEAD UTILITIES AND UNDERGROUND UTILITIES AT THE SITE FOR THE DURATION OF THE PROJECT.

WATER CONSTRUCTION NOTES:

1. A PRECONSTRUCTION MEETING WITH THE SOUTHEASTERN CONNECTICUT WATER AUTHORITY IS REQUIRED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITY.
3. ALL BACTERIOLOGICAL AND PRESSURE TESTING SHALL BE COMPLETED UNDER THE SUPERVISION OF UTILITY PERSONNEL OR AN AUTHORIZED REPRESENTATIVE.
4. ALL MATERIALS AND METHODS TO CONFORM TO THE REQUIREMENTS OF THE SOUTHEASTERN CONNECTICUT WATER AUTHORITY. UTILITY PERSONNEL OR AN AUTHORIZED REPRESENTATIVE MUST INSPECT AND APPROVE ALL UTILITY INSTALLATIONS PRIOR TO BACKFILLING.
5. ALL MECHANICAL JOINTS (I.E. VALVES, FITTINGS) SHALL BE RESTRAINED BY MEANS OF DUCTILE IRON RETAINER GLANDS. WEDGE–ACTION JOINT RESTRAINERS OR GASKET–TYPE JOINT RESTRAINT SHALL BE USED TO RESTRAIN ALL PIPE JOINTS FOR A DISTANCE OF AT LEAST 27 FEET OF PIPE ON EACH SIDE OF ALL RETAINER GLANDS. NO MORE THAN ONE PIPE JOINT SHALL BE ALLOWED WITHIN THAT 27 FEET OF PIPE.
6. ALL VALVE BOXES AND CURB BOXES SHALL BE ADJUSTED TO THE FINAL GRADES. ALL CURB BOXES SHALL BE LOCATED IN GRASSED AREAS UNLESS INDICATED OTHERWISE ON THE PLANS.
7. ALL VALVES AND HYDRANTS SHALL BE LEFT–OPENING (COUNTERCLOCKWISE) UNLESS INDICATED OTHERWISE BY THE UTILITY COMPANY. ALL MAIN LINE AND AUXILIARY VALVES (4" TO AND INCLUDING 12") SHALL BE RESILIENT WEDGE GATE VALVES.
8. ALL WATER MAINS SHALL HAVE 4.5 FEET OF COVER UNLESS OTHERWISE INDICATED ON THE PLANS. COVER LESS THAN OR IN EXCESS OF 4 FEET SHALL BE ALLOWED ONLY AS INDICATED ON THE PLANS OR APPROVED BY THE ENGINEER. WATER MAINS HAVING COVER LESS THAN 4 FEET SHALL BE INSULATED.
9. RECORD DRAWINGS OF ALL PUBLIC WATER FACILITIES SHALL BE SUBMITTED TO THE SOUTHEASTERN CONNECTICUT WATER AUTHORITY UPON COMPLETION OF THE WORK OR AT SUCH STAGES OF THE CONSTRUCTION AS REQUIRED BY THE ENGINEER. DRAWINGS SHALL BE IN A FORM ACCEPTABLE TO THE WATER AUTHORITY AND SHALL BE APPROVED PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROCURING ALL INFORMATION NECESSARY TO GENERATE DRAWINGS AND PROVIDING THE ACTUAL DRAWINGS. A REDLINED PROGRESS SET OF DRAWINGS SHALL BE MAINTAINED DAILY AND BE AVAILABLE TO THE ENGINEER AT ALL TIMES.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY TEMPORARY THRUST RESTRAINT THAT MAY BE REQUIRED.
11. INTERCONNECTION WITH EXISTING UTILITY INFRASTRUCTURE MUST BE COORDINATED THROUGH THE UTILITY COMPANY. CONTRACTOR SHALL PROVIDE THE UTILITY COMPANY 48 HOURS NOTICE.

SANITARY SEWER CONSTRUCTION NOTES:

1. A PRECONSTRUCTION MEETING WITH THE MONTVILLE WATER POLLUTION CONTROL AUTHORITY IS REQUIRED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITY.
3. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE MONTVILLE WATER POLLUTION CONTROL AUTHORITY. UTILITY PERSONNEL OR AN AUTHORIZED REPRESENTATIVE MUST INSPECT AND APPROVE ALL UTILITY INSTALLATIONS PRIOR TO BACKFILLING.
4. TEST ALL GRAVITY MAINLINE SANITARY SEWER PIPES AFTER BACKFILLING AND FLUSHING. TESTING IS TO INCLUDE A SEWER LEAKAGE TEST AND PIPE DEFLECTION TEST PROVIDED IN ACCORDANCE WITH TESTING PROCEDURE AS REQUIRED BY THE MONTVILLE WATER POLLUTION CONTROL AUTHORITY, STATE, AND/OR FEDERAL AUTHORITIES.
5. AT ALL UTILITY CROSSINGS, A MINIMUM 18" VERTICAL AND 10' HORIZONTAL SEPARATION DISTANCE SHALL BE PROVIDED UNLESS INDICATED OTHERWISE ON THE PLANS. IF THE INDICATED SEPARATION CANNOT BE ACHIEVED, THE TOWN SHALL BE NOTIFIED PRIOR TO PROCEEDING. A CONCRETE CRADLE SHALL BE UTILIZED AS REQUIRED.
6. TEE AND WYE CONNECTIONS SHALL BE OF THE SAME MATERIAL AND STRENGTH AS THE SEWER LINE AND SHALL HAVE THE SAME TYPE JOINT. PVC TEES AND WYES PROVIDED FOR FUTURE USE SHALL BE FITTED WITH FACTORY INSTALLED ALUMINUM STOPPERS.
7. RECORD DRAWINGS OF ALL PUBLIC WATER/SEWER FACILITIES SHALL BE SUBMITTED TO THE MONTVILLE WATER POLLUTION CONTROL AUTHORITY UPON COMPLETION OF THE WORK OR AT SUCH STAGES OF THE CONSTRUCTION AS REQUIRED BY THE ENGINEER. DRAWINGS SHALL BE IN A FORM ACCEPTABLE TO THE DEPARTMENT AND SHALL BE APPROVED PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROCURING ALL INFORMATION NECESSARY TO GENERATE DRAWINGS AND PROVIDING THE ACTUAL DRAWINGS. A REDLINED PROGRESS SET OF DRAWINGS SHALL BE MAINTAINED DAILY AND BE AVAILABLE TO THE ENGINEER AT ALL TIMES.
8. INTERCONNECTION WITH EXISTING UTILITY INFRASTRUCTURE MUST BE COORDINATED THROUGH THE UTILITY COMPANY. CONTRACTOR IS TO PROVIDE THE UTILITY COMPANY 48 HOURS NOTICE.

BOUNDARIES
ORIGINAL INK DRAWING

CIVIL ENGINEERING · LAND SURVEYING · LAND DEVELOPMENT · SITE DESIGNS
BOUNDARIES
Boundaries LLC
179 Pachaug River Drive Gilmanville, CT 06351
T 860.376.2006 | www.boundariesllc.net

Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Notes, Legend and Test Pit Observations

SCALE: As Noted
DATE: November 2016
JOB I.D. NO. 14-2320-2

Revisions
- Rev: May 9, 2017, Add Wetlands, Revise Grading Lots 1, 2, 5, 39 & 40 and Add Cutoff Trench
- Rev: June 9, 2017, Per Town Staff/Town Engineer Comments
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- Rev: July 20, 2017, Per Planning and Zoning Conditions of Approval
- Rev: September 15, 2017, Add Additional Temporary Diversion Swale To E&S Plan

SHEET NO.
2
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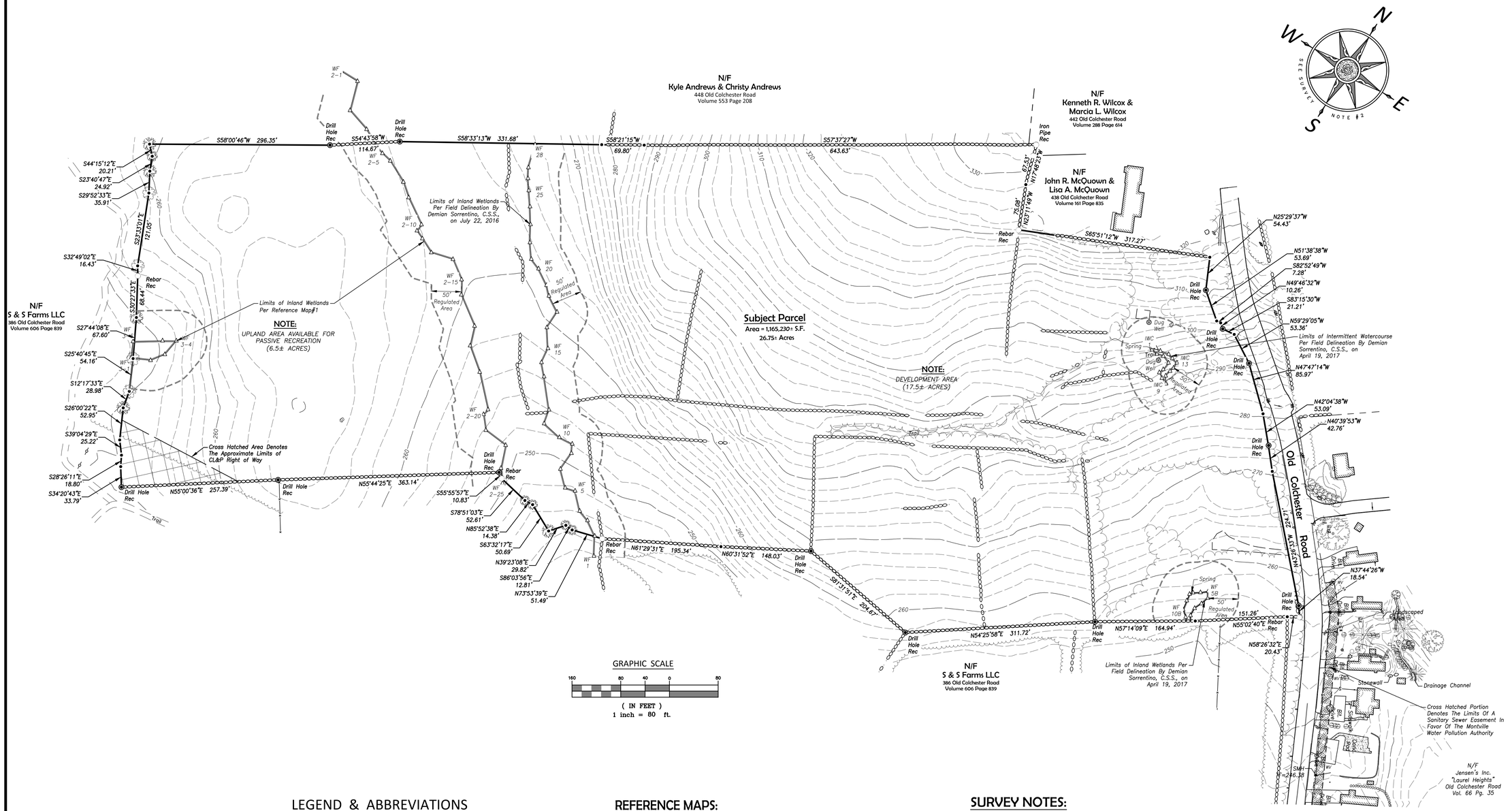

LEGEND & ABBREVIATIONS

±	MORE OR LESS		TREELINE
WV	WATER VALVE	•	ANGLE POINT
WF #1	WETLAND FLAG	○	IRON PIN
W.O.G.	WIRE ON GROUND	◉	DRILL HOLE
CONC	CONCRETE		UTILITY POLE
MON	MONUMENT		UTILITY POLE WITH LIGHT
REC	RECOVERED		GUY WIRE
EVS	EVERSOURCE		CATCH BASIN
CL&P	CONNECTICUT LIGHT AND POWER		SANITARY SEWER MANHOLE
N/F	NOW OR FORMERLY		SIGN
320	EXISTING CONTOUR	△	WETLAND FLAG
	STONE WALL		

REFERENCE MAPS:

1. JENSEN'S INC. LAUREL HEIGHTS AND HILLCREST COMMUNITIES, OLD COLCHESTER ROAD, HILLCREST DRIVE, AND RAINBOW DRIVE, UNCASVILLE, CONNECTICUT. PROPOSED SANITARY SEWER EASEMENT, SCALE: 1"=40', MARCH 2016, BOUNDARIES, L.L.C.
2. TOPOGRAPHIC & EXISTING CONDITIONS SURVEY, PROPOSED HOUSING-ZONE DISTRICT 120, JENSEN'S INC., OLD COLCHESTER ROAD, MONTVILLE, CONNECTICUT, CONCEPTUAL PLAN OF DEVELOPMENT, SCALE: 1"=100', DATED: 8/7/06, PREPARED BY: CLA ENGINEERS, INC.
3. PROPERTY SURVEY PREPARED FOR BRIAN MILLER, PROPERTY OF SOLOMON AND LILLIAN MILLER, 386 OLD COLCHESTER ROAD, UNCASVILLE CONNECTICUT, SCALE: 1"=200', MARCH 2005, BOUNDARIES, L.L.C., JEWETT CITY, CONNECTICUT, GERALD J. STEFON, L.S.
4. SUBDIVISION PLAN PREPARED FOR DONALD JUDGE, OLD COLCHESTER RD., MONTVILLE, CONN., DATE 9/82, SCALE: 1"=50', JOB NO. 82-99, LAST REVISED 10/25/82, SHEET 1 AND 2 OF 2. TOWNE ENGINEERING, SOUTH WINDHAM, CONNECTICUT.
5. LOCATION OF RIGHT OF WAY OF THE CONNECTICUT LIGHT AND POWER COMPANY ACROSS THE PROPERTY OF BENJAMIN TAUBER AND OTHERS, TOWN OF MONTVILLE, COUNTY OF NEW LONDON, STATE OF CONNECTICUT, SCALE 1"=200', MAY 1953, SHEETS 1 AND 2 OF 2.
6. THE CONNECTICUT LIGHT AND POWER COMPANY, DISTRICT: GENERAL, TOWNS: WATERFORD AND MONTVILLE, JOB: MILLSTONE POINT LINE (#0-51-280), TITLE: SURVEY PLAN FROM STA. 375+00 (300' NORTH OF COHANZIE RD.) TO STA. 472+00 (HUNTS BROOK JCT.), SCALE: 1"=200', 17445-F, DATE: 4/22/74, DWG. NO. 17445-F.
7. THE CONNECTICUT LIGHT AND POWER COMPANY, DISTRICT: GENERAL, TOWN: MONTVILLE, JOB: WIDEN MONTVILLE-MERIDEN (#0-51-209A), TITLE: SURVEY PLAN FROM STA. 90+00 (1,450' WEST OF MOXLEY ROAD) TO STA, 167+00 (1,366' EAST OF HUNSBROOK JCT.), SCALE: 1"=200', NO. 17294-2, DATE: 4/11/74, DWG. NO. 17294-2.
8. SITE DEVELOPMENT PLAN LAUREL HEIGHTS, ZONING DISTRICT R40 – PREPARED FOR, JENSEN'S, INC., RAINBOW DRIVE & HIGH RIDGE CIRCLE, MONTVILLE, CONNECTICUT, BOUNDARY, DATE: 8/3/98, SHEET 1 OF 5, CHANDLER, PALMER & KING, 110 BROADWAY, NORWICH, CT.
9. PROPERTY SURVEY PREPARED FOR JENSEN'S INC., OLD COLCHESTER RD., MONTVILLE, CONNECTICUT, DATE 3/14/99, SCALE: 1"=100', CHANDLER, PALMER & KING, 110 BROADWAY, NORWICH, CT.

SURVEY NOTES:

1. THIS SURVEY AND MAP HAVE 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 FOR USE BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. ON SEPTEMBER 26TH, 1996. IT IS A "RESURVEY AND TOPOGRAPHIC SURVEY AND CONFORMS TO HORIZONTAL CLASS "A-2" AND TOPOGRAPHIC CLASS "T-3/T-2" ACCURACY STANDARDS.
2. BEARINGS AND NORTH ORIENTATION DEPICTED HEREON ARE COORDINATE GRID NORTH PER REFERENCE MAP #3.
3. TOPOGRAPHIC INFORMATION IS DERIVED FROM REFERENCE MAP #1. PHOTOGRAMMETRY FLIGHT DATE: APRIL 30, 1999 AND FURTHER SUPPLEMENTED BY ADDITIONAL FIELD SURVEY PERFORMED BY BOUNDARIES, LLC.
4. FOR THE SUBJECT PROPERTY REFERENCE IS MADE FOLLOWING DEED ON FILE IN THE MONTVILLE TOWN HALL: VOLUME 322 PAGE 924
5. SUBSURFACE AND ENVIRONMENTAL CONDITIONS OTHER THAN WETLAND DELINEATIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY.
6. THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON THE LOCATION OF ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED TO THE SURVEYOR. LOCATIONS OF UNDERGROUND UTILITIES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL UTILITY LOCATIONS AND ELEVATIONS AND CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EARTHWORK OPERATIONS.

CIVIL ENGINEERING · LAND SURVEYING · LAND DEVELOPMENT · SOIL SCIENCE
BOUNDARIES
Boundaries LLC
179 Pachaug River Drive, Gilmantic, CT 06351
T 860.376.2006 | www.boundariesllc.net

Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Boundary and Topographic Survey

SCALE: 1" = 80'
DATE: November 2016
JOB I.D. NO. 14-2320-2

Revisions

Rev: May 9, 2017, Add Wetlands, Revise Grading Lots 1, 2, 5, 39 & 40 and Add Cutoff Trench
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SHEET NO.
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BOUNDARIES
ORIGINAL INK DRAWING

Lease Parcel Area Table			
Parcel #	SF	Parcel #	SF
1	12069	24	10000
2	12159	25	10000
3	10245	26	10000
4	10436	27	10000
5	10238	28	10000
6	12938	29	10026
7	15253	30	12768
8	13715	31	16703
9	10007	32	13310
10	10000	34	16184
11	10000	35	12936
12	10000	36	10741
13	10000	37	11148
14	10000	38	11799
15	10608	39	11580
16	15290	40	20741
17	10429	41	17296
18	10000	42	10026
19	10895	43	18644
20	10206	44	14720
21	10000	45	11754
22	10000	46	10810
23	10105		

GRAPHIC SCALE

80 40 20 0 40

(IN FEET)
1 inch = 40 ft.

BOUNDARIES
ORIGINAL INK DRAWING

BOUNDARIES
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Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Zoning Compliance Plan

SCALE: 1" = 40'

DATE: November 2016

JOB I.D. NO. 14-2320-2

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SHEET NO.

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GRAPHIC SCALE

60 30 15 0 30

(IN FEET)

1 inch = 30 ft.

BOUNDARIES
ORIGINAL INK DRAWING

CIVIL ENGINEERING LAND SURVEYING LAND DEVELOPMENT LAND PLANNING

BOUNDARIES

Boundaries LLC
179 Pachaug River Drive, Gilmantic, CT 06351
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Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Development Plan

SCALE: 1" = 30'

DATE: November 2016

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SHEET NO.

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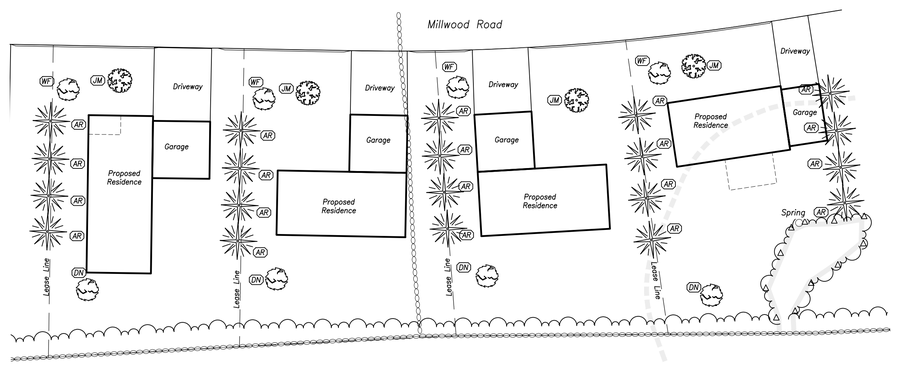
Development Plan

GRAPHIC SCALE

60 30 15 0 30

(IN FEET)
1 inch = 30 ft.



LANDSCAPE SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME
AR	Thuja Plicata	Green Giant Western Arborvitae
JM	Acer Palmatum	Japanese Maple
DN	Physocarpus Opulifolius	Diablo Ninebark
WF	Weigela Florida 'Red Prince'	Red Prince Weigela

Typical Landscape Plan

BOUNDARIES
ORIGINAL INK DRAWING

Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Development Plan & Typical Landscape Plan

CIVIL ENGINEERING LAND SURVEYING LAND DEVELOPMENT SOIL SCIENCE
BOUNDARIES
Boundaries LLC
179 Pachaug River Drive, Gilmanville, CT 06351
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SCALE: 1" = 30'
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SHEET NO.
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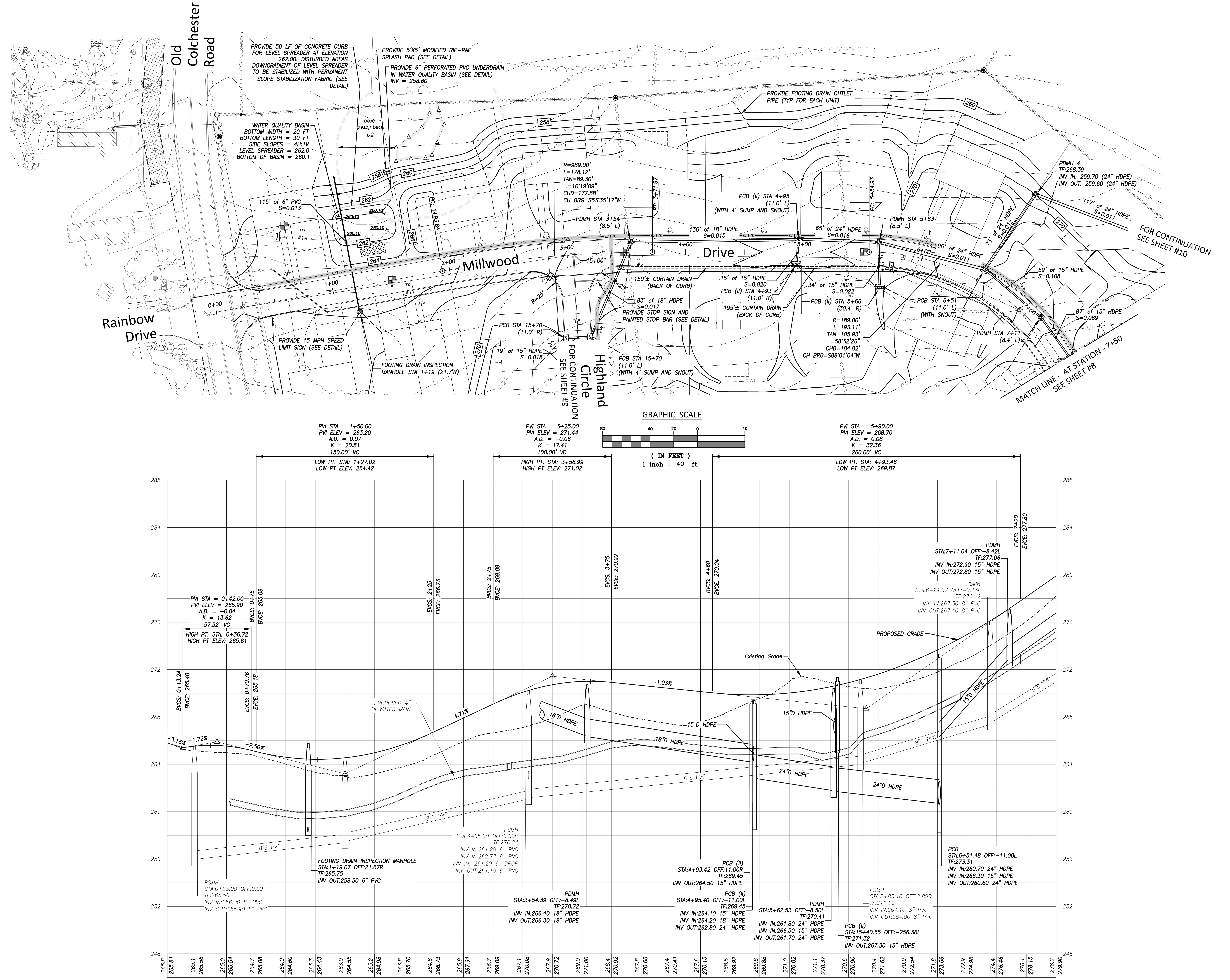
24



Profile - Proposed Millwood Drive

Horizontal Scale: 1" =40'
Vertical Scale: 1" = 4'

BOUNDARIES
ORIGINAL INK DRAWING

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Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Roadway and Stormwater Plan & Profile - Millwood Drive

SCALE: 1" = 40'
DATE: November 2016
JOB I.D. NO. 14-2320-2

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SHEET NO.
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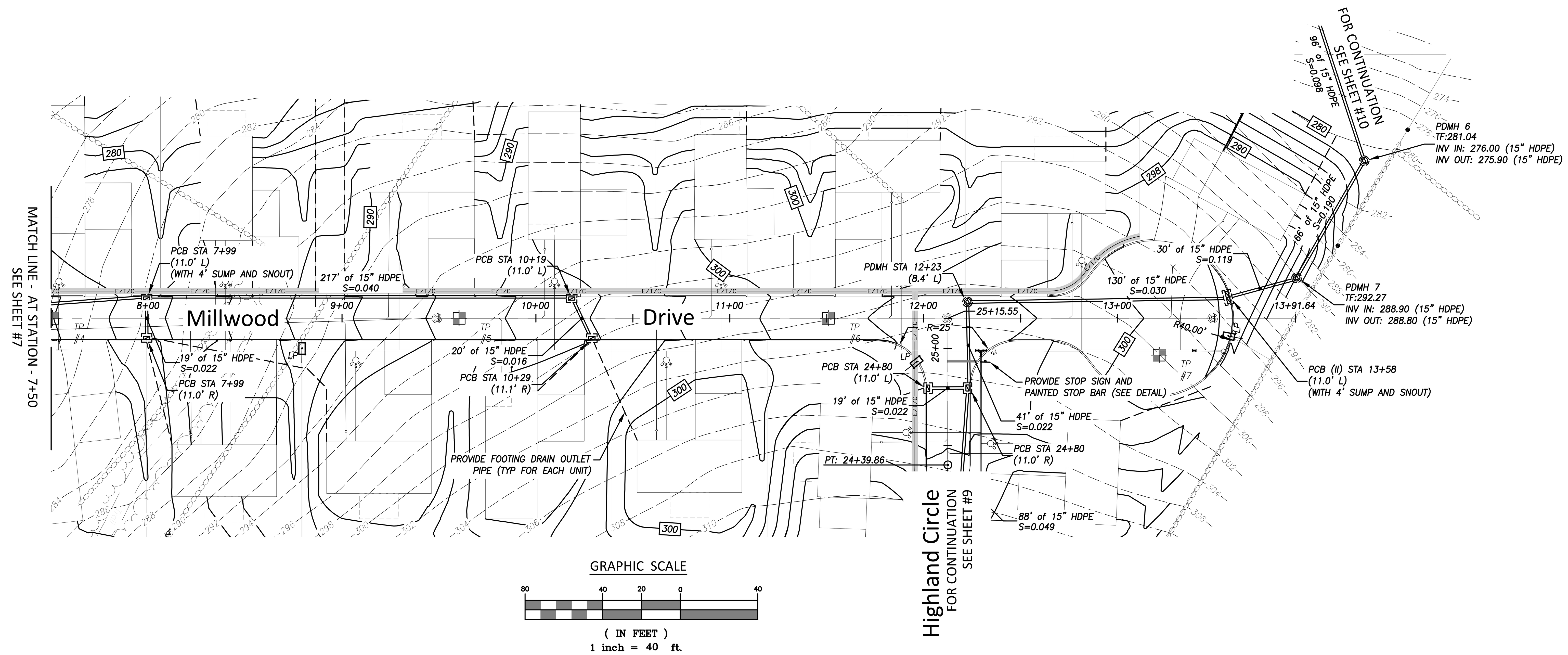

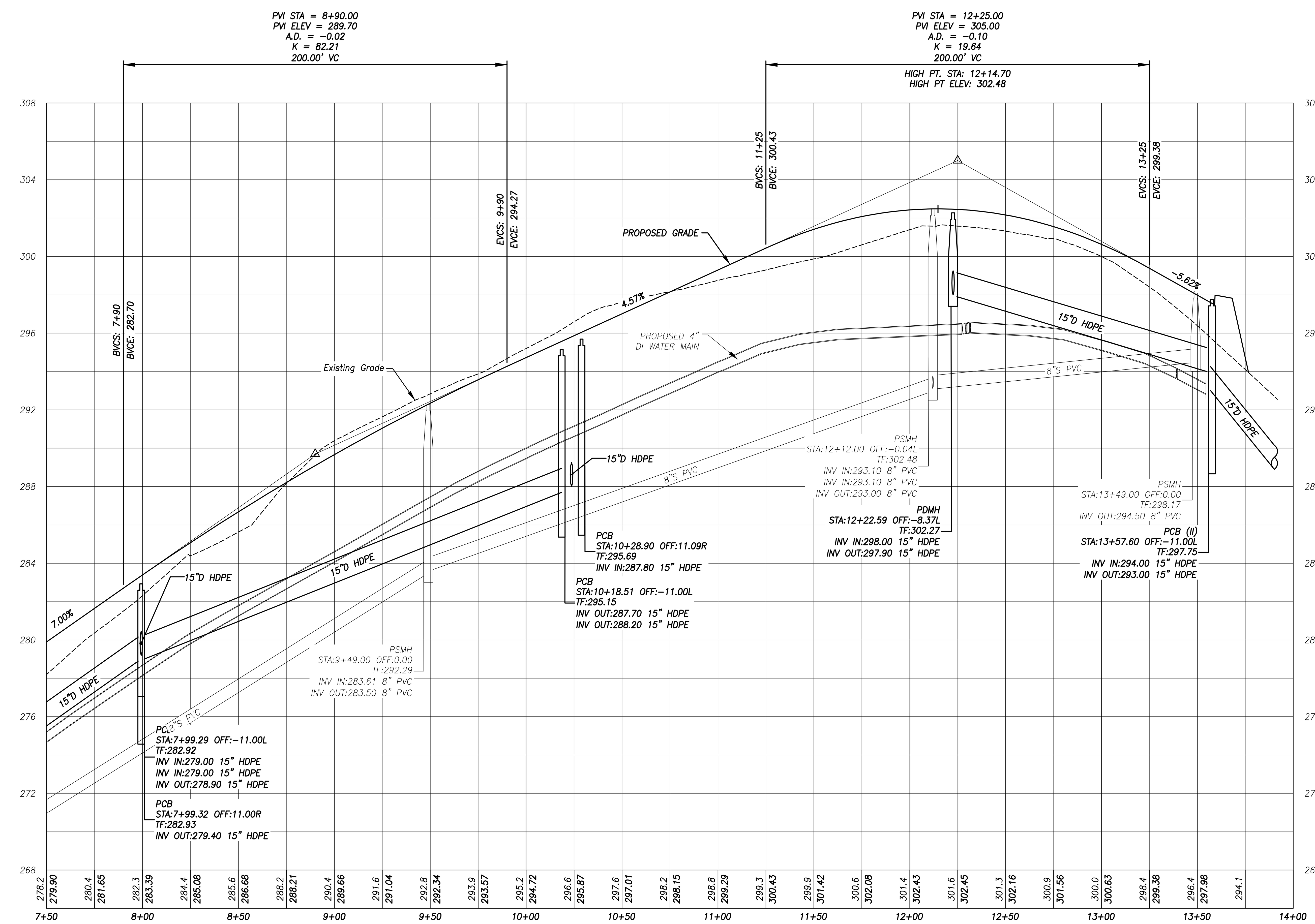

Profile - Proposed Millwood Drive

Horizontal Scale: 1" =40'
Vertical Scale: 1" = 4'

BOUNDARIES
ORIGINAL INK DRAWING

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Millwood at Old Colchester Road
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Prepared For Jensen's, Inc.
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Roadway and Stormwater Plan & Profile - Millwood Drive

SCALE: 1" = 40'
DATE: November 2016
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SHEET NO.
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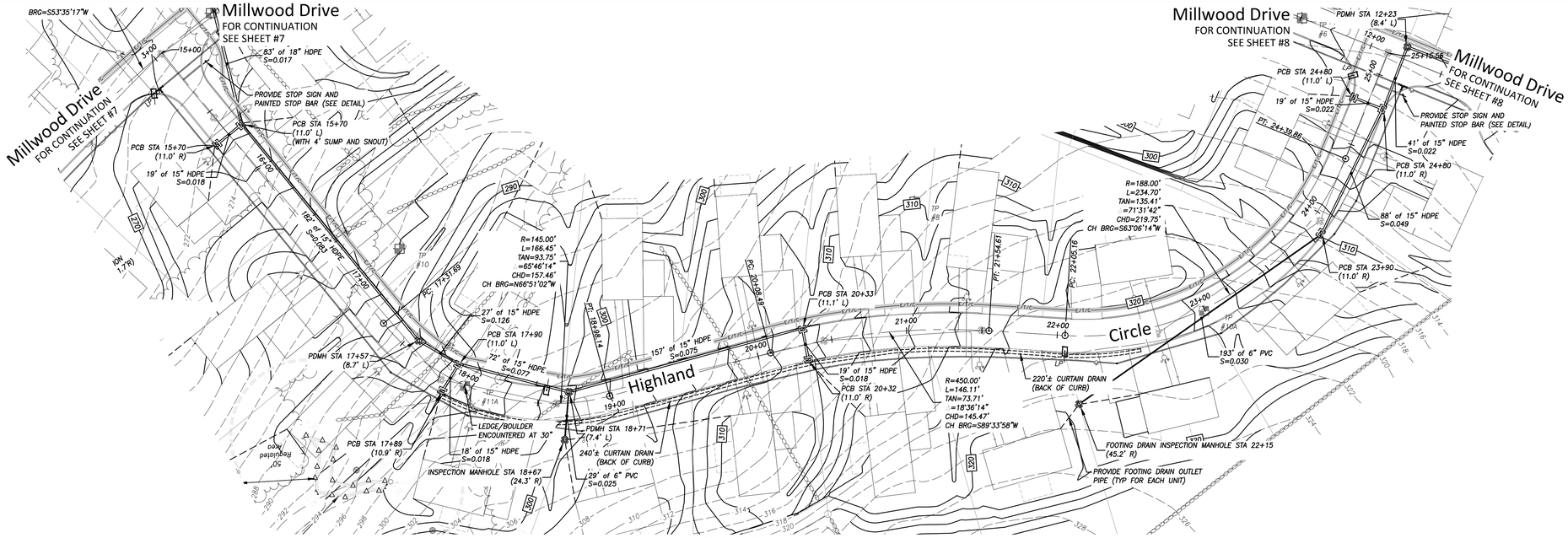

GRAPHIC SCALE

80 40 20 0 40

(IN FEET)
1 inch = 40 ft.

Profile - Proposed Highland Circle

Horizontal Scale: 1" =40'
Vertical Scale: 1" = 4'

BOUNDARIES
ORIGINAL INK DRAWING

CIVIL ENGINEERING LAND SURVEYING LAND DEVELOPMENT CONSULTANTS
BOUNDARIES
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179 Pachaug River Drive Gilman, CT 06351
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Millwood at Old Colchester Road
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416 Old Colchester Road, Uncasville, Connecticut
Roadway and Stormwater Plan & Profile - Highland Circle

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SHEET NO.
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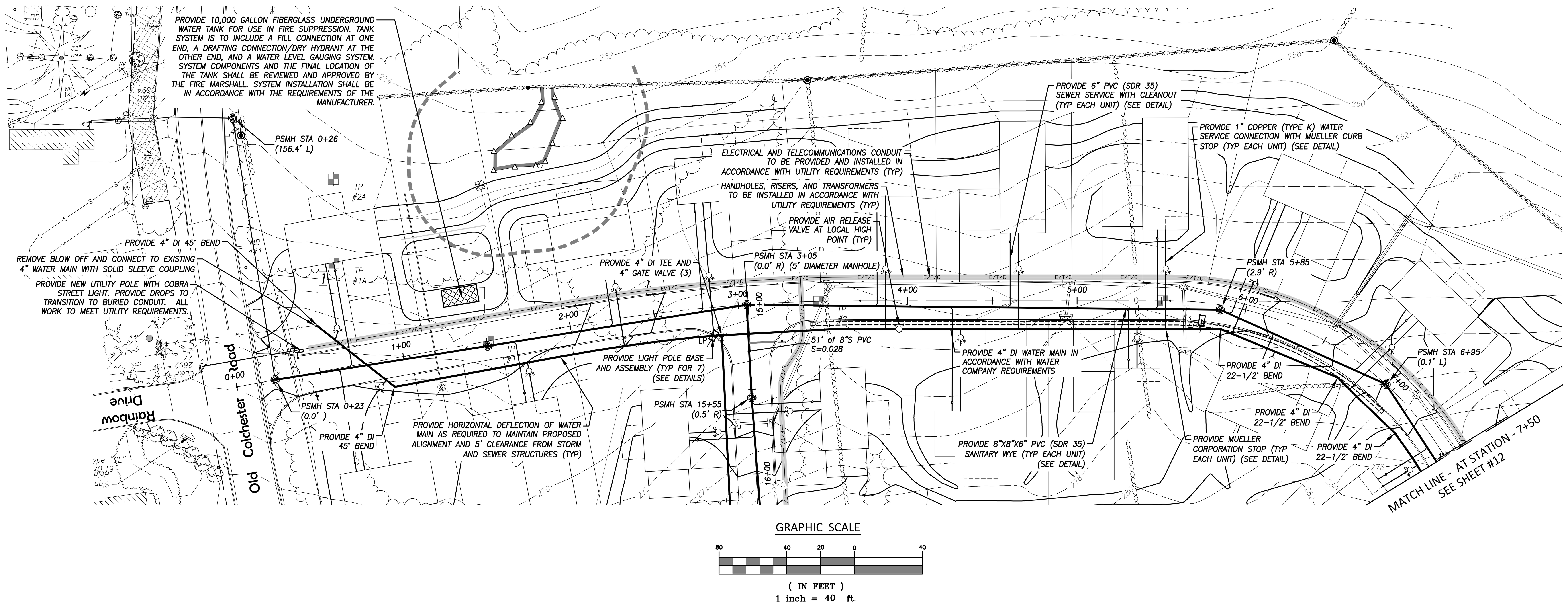
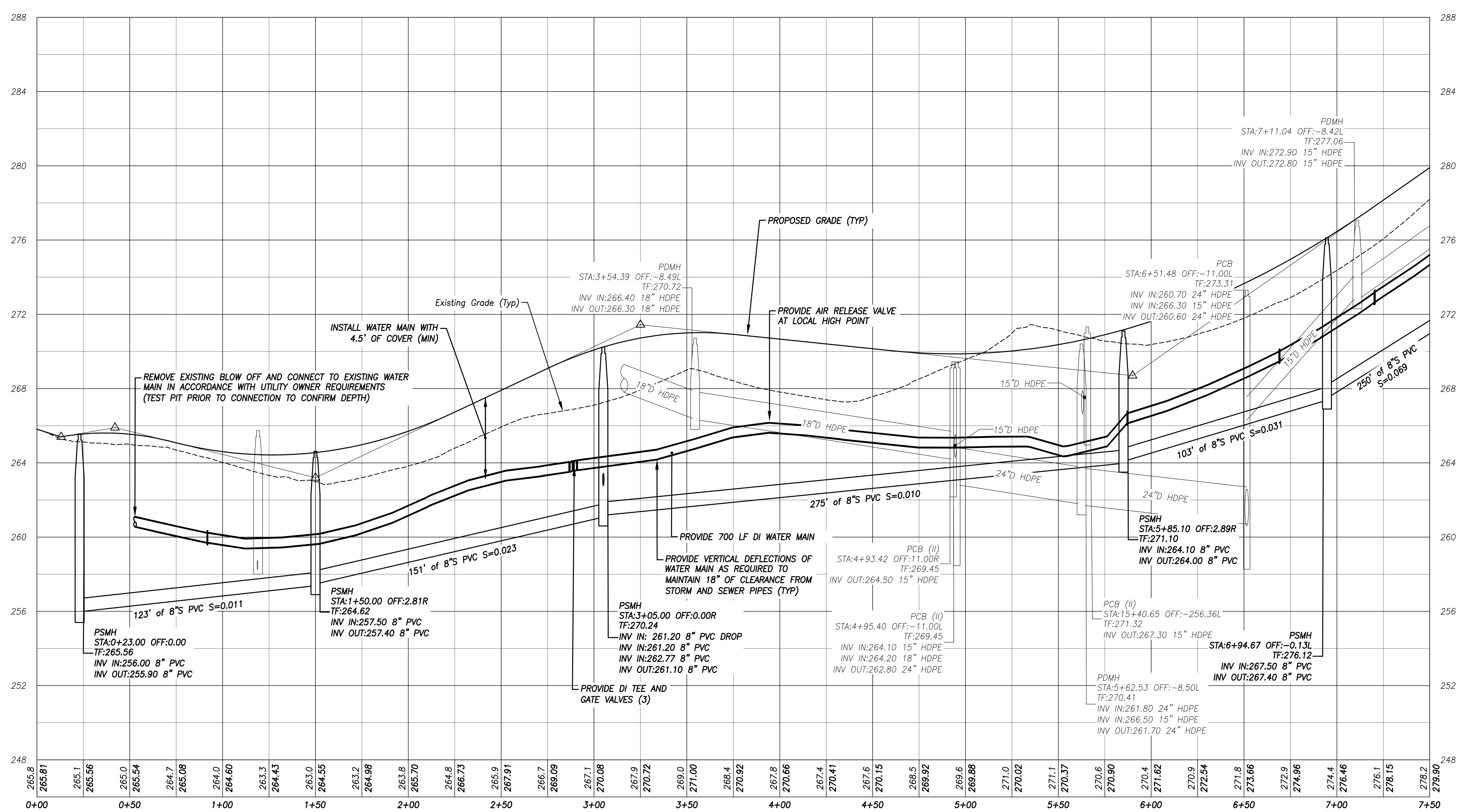
24





Profile - Proposed Millwood Drive

Horizontal Scale: 1" =40'
Vertical Scale: 1" = 4'

TEST PIT RESULTS

TEST PITS 1 THROUGH 4 WERE OBSERVED BY JENSEN'S INC. IN APRIL 2016.

TP #1
EXCAVATED 9 FT
GROUNDWATER AT 9 FT

TP #2
EXCAVATED 4 FT TO 6 FT
LEDGE AT 4 FT TO 6 FT

TP #3
EXCAVATED 7 FT
GROUNDWATER AT 7 FT

TP #4
EXCAVATED 9 FT
GROUNDWATER AT 9 FT

TEST PITS 1A AND 2A WERE OBSERVED BY BOUNDARIES LLC ON SEPTEMBER 10, 2016.

TP #1A

0" – 6"	TOPSOIL
6" – 32"	TAN SANDY LOAM WITH ROOTS
32" – 99"	LIGHT TAN COMPACT MEDIUM TO COARSE SAND WITH SILT, SOME GRAVEL, AND TRACE COBBLES

MOTTLING AT 34", NO GROUNDWATER, NO LEDGE

TP #2A

0" – 6"	TOPSOIL
6" – 30"	TAN SANDY LOAM WITH ROOTS
30" – 96"	LIGHT TAN COMPACT MEDIUM TO COARSE SAND AND SILT WITH SOME GRAVEL AND COBBLES

MOTTLING AT 36", NO GROUNDWATER, NO LEDGE

BOUNDARIES
ORIGINAL INK DRAWING

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Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Utility Design Plan & Profile - Millwood Drive

SCALE: 1" = 40'
DATE: November 2016
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SHEET NO.
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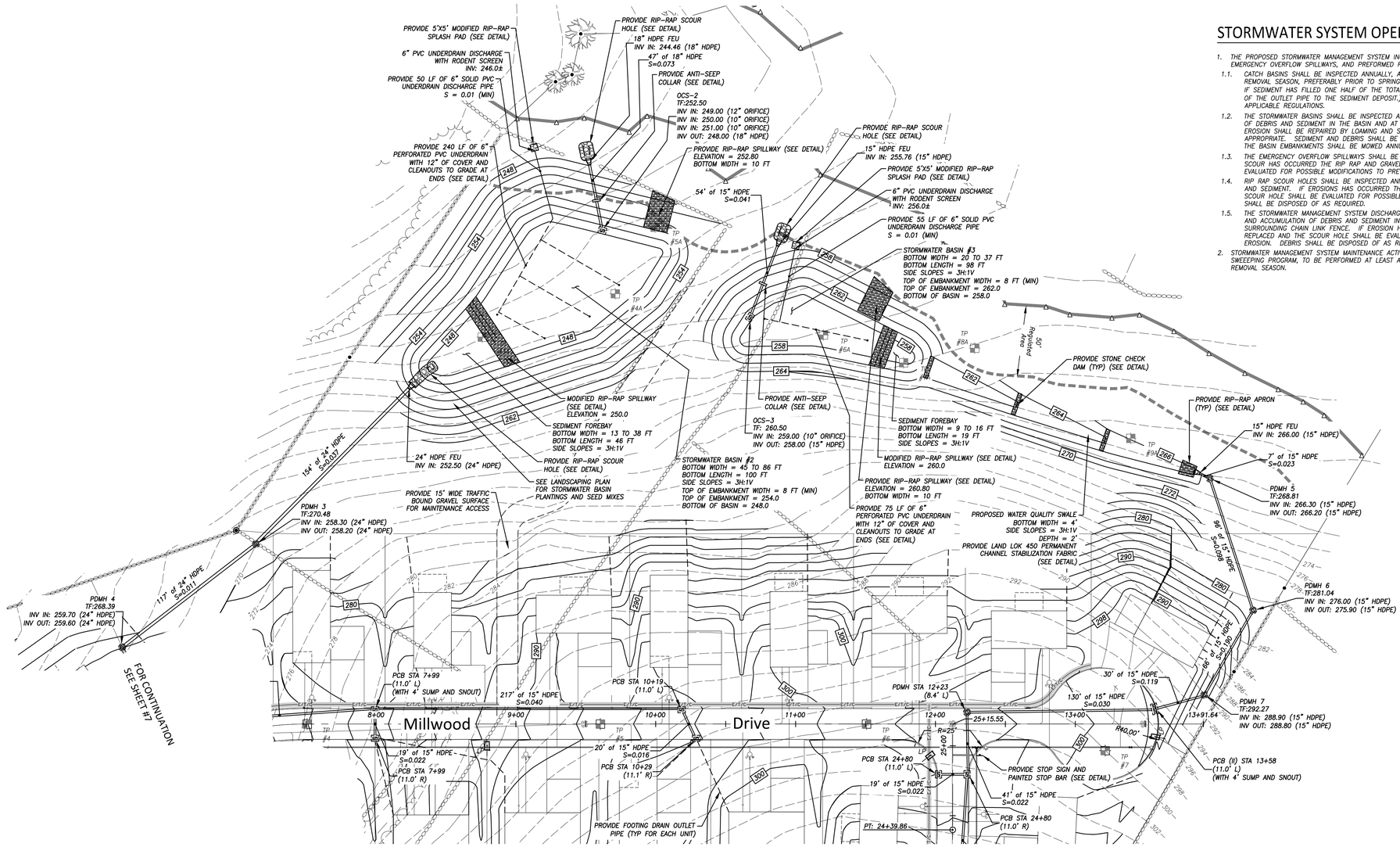

STORMWATER SYSTEM OPERATION AND MAINTENANCE

1. THE PROPOSED STORMWATER MANAGEMENT SYSTEM INCLUDES DEEP SUMP CATCH BASINS, STORMWATER BASINS, EMERGENCY OVERFLOW SPILLWAYS, AND PREFORMED RIP RAP SCOUR HOLES.
   - 1.1. CATCH BASINS SHALL BE INSPECTED ANNUALLY, AS SOON AS POSSIBLE FOLLOWING THE SNOW AND ICE REMOVAL SEASON, PREFERABLY PRIOR TO SPRING RAINFALL EVENTS. CATCH BASIN CLEANING SHOULD OCCUR IF SEDIMENT HAS FILLED ONE HALF OF THE TOTAL SUMP DEPTH (I.E. LESS THAN TWO FEET FROM THE INVERT OF THE OUTLET PIPE TO THE SEDIMENT DEPOSIT.) SEDIMENT SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.
   - 1.2. THE STORMWATER BASINS SHALL BE INSPECTED ANNUALLY FOR SIGNS OF SCOUR/EROSION AND ACCUMULATION OF DEBRIS AND SEDIMENT IN THE BASIN AND AT THE OUTLET CONTROL STRUCTURE TRASH RACK. AREAS OF EROSION SHALL BE REPAIRED BY LOAMING AND SEEDING OR REPLACING GRAVEL AND RIP RAP AS APPROPRIATE. SEDIMENT AND DEBRIS SHALL BE REMOVED AND DISPOSED OF AS REQUIRED. VEGETATION ON THE BASIN EMBANKMENTS SHALL BE MOWED ANNUALLY AND ALL WOODY BRUSH SHALL BE REMOVED.
   - 1.3. THE EMERGENCY OVERFLOW SPILLWAYS SHALL BE INSPECTED ANNUALLY FOR SIGNS OF SCOUR/EROSION. IF SCOUR HAS OCCURRED THE RIP RAP AND GRAVEL SHALL BE REPLACED AND THE SPILLWAY SHALL BE EVALUATED FOR POSSIBLE MODIFICATIONS TO PREVENT FUTURE EROSION.
   - 1.4. RIP RAP SCOUR HOLES SHALL BE INSPECTED ANNUALLY FOR SIGNS OF SCOUR AND ACCUMULATION OF DEBRIS AND SEDIMENT. IF EROSIONS HAS OCCURRED THE RIP RAP AND GRAVEL SHALL BE REPLACED AND THE SCOUR HOLE SHALL BE EVALUATED FOR POSSIBLE MODIFICATIONS TO PREVENT FUTURE EROSION. DEBRIS SHALL BE DISPOSED OF AS REQUIRED.
   - 1.5. THE STORMWATER MANAGEMENT SYSTEM DISCHARGES SHALL BE INSPECTED ANNUALLY FOR SIGNS OF SCOUR AND ACCUMULATION OF DEBRIS AND SEDIMENT IN THE SCOUR HOLE AND IN THE FABRIC OF THE SURROUNDING CHAIN LINK FENCE. IF EROSION HAS OCCURRED THE RIP RAP AND GRAVEL SHALL BE REPLACED AND THE SCOUR HOLE SHALL BE EVALUATED FOR POSSIBLE MODIFICATIONS TO PREVENT FUTURE EROSION. DEBRIS SHALL BE DISPOSED OF AS REQUIRED.
2. STORMWATER MANAGEMENT SYSTEM MAINTENANCE ACTIVITIES MAY BE REDUCED BY IMPLEMENTING A STREET SWEEPING PROGRAM, TO BE PERFORMED AT LEAST ANNUALLY IMMEDIATELY FOLLOWING THE SNOW AND ICE REMOVAL SEASON.

GRAPHIC SCALE

80 40 20 0 40

(IN FEET)
1 inch = 40 ft.

CIVIL ENGINEERING LAND SURVEYING LAND DEVELOPMENT SOIL SCIENCE
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Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Stormwater Outlet and Treatment Basins South of Millwood Drive

SCALE: 1" = 40'

DATE: November 2016

JOB I.D. NO. 14-2320-2

Revisions

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SHEET NO.

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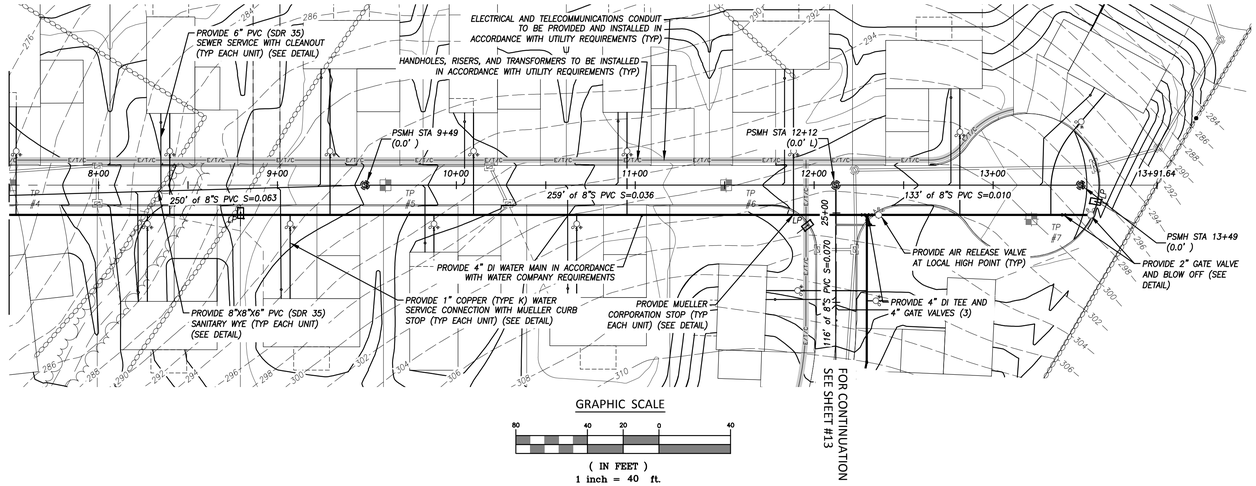
BOUNDARIES ORIGINAL INK DRAWING



GRAPHIC SCALE

80 40 20 0 40

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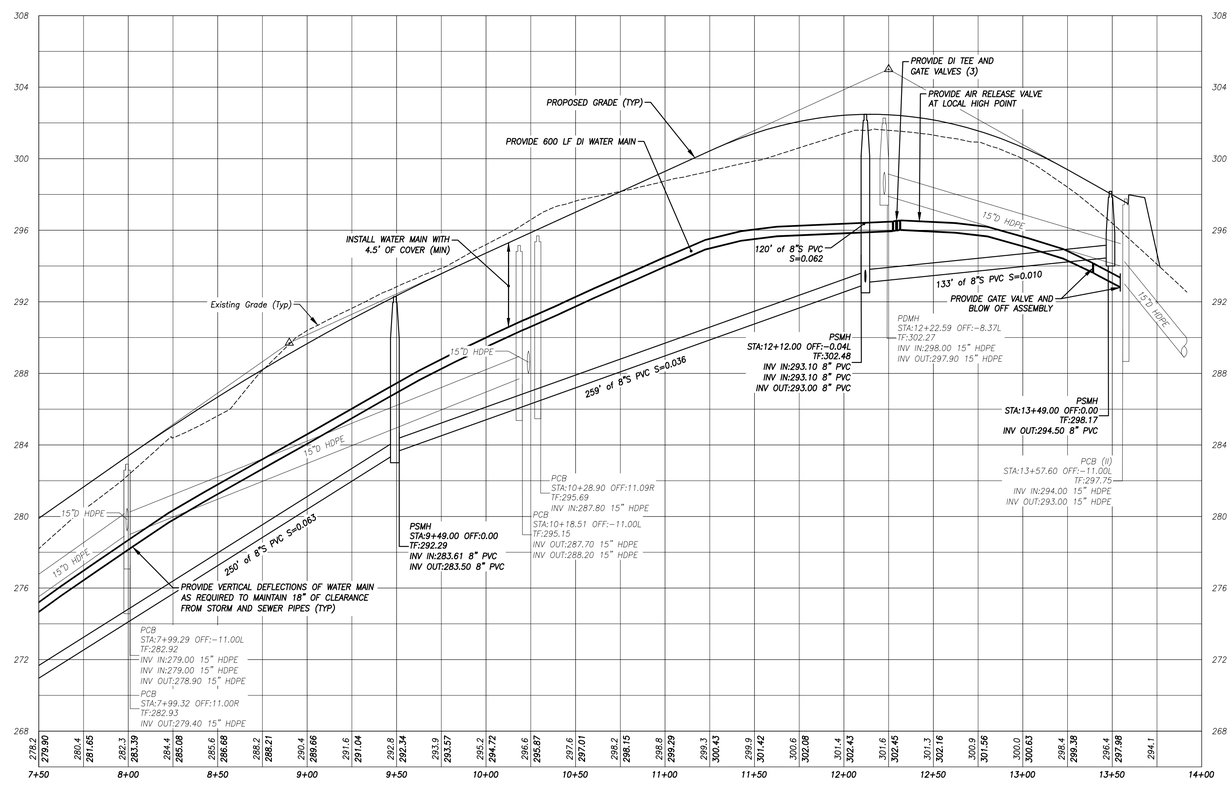

Profile - Proposed Millwood Drive

Horizontal Scale: 1" =40'
Vertical Scale: 1" = 4'

TEST PIT RESULTS

TEST PITS 5 THROUGH 7 WERE OBSERVED BY JENSEN'S INC. IN APRIL 2016.

TP #8
EXCAVATED 8 FT
NO GROUNDWATER/LEDGE

TP #6
EXCAVATED 8 FT
NO GROUNDWATER/LEDGE

TP #7
EXCAVATED 5 FT TO 7 FT
LEDGE AT 5 FT TO 7 FT

BOUNDARIES
ORIGINAL INK DRAWING

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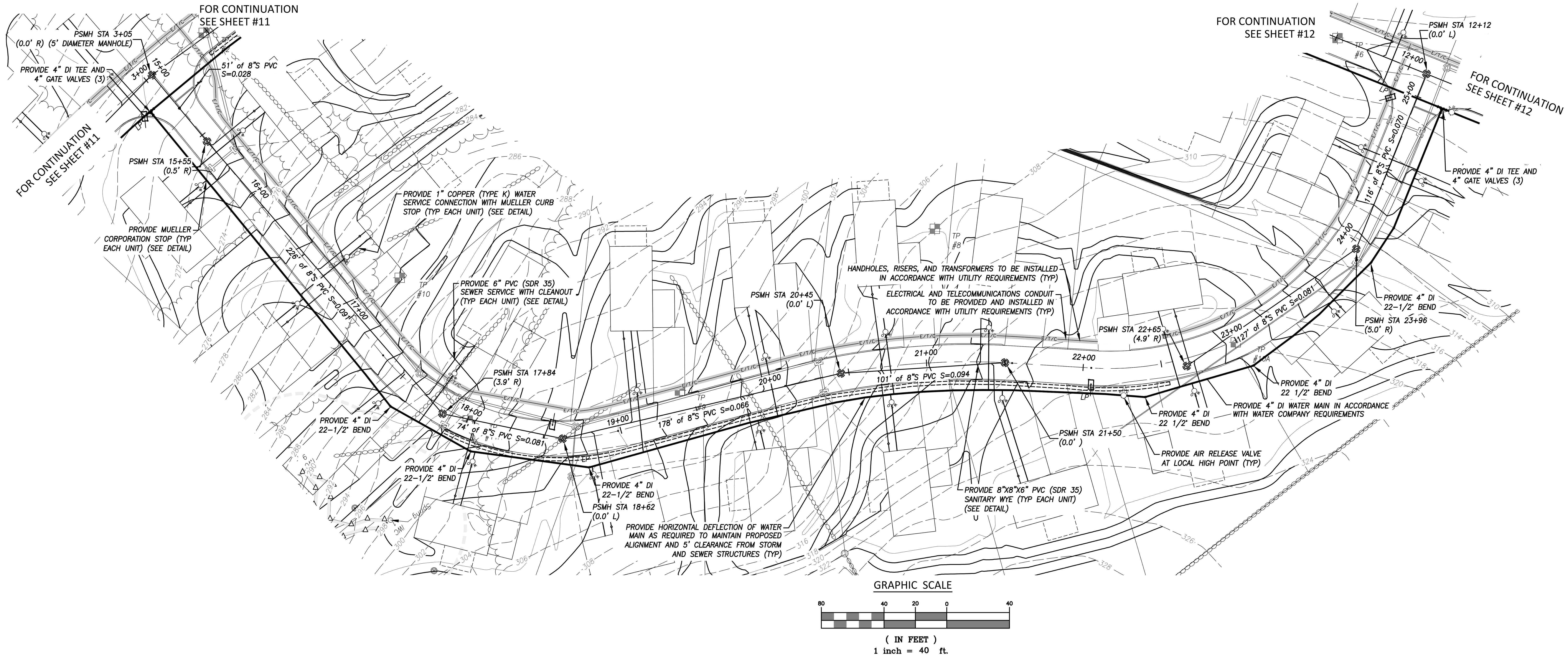


TEST PIT RESULTS

TEST PITS 8 THROUGH 10 WERE OBSERVED BY JENSEN'S INC. IN APRIL 2016.

TP #8
EXCAVATED 9 FT
NO GROUNDWATER OR LEDGE

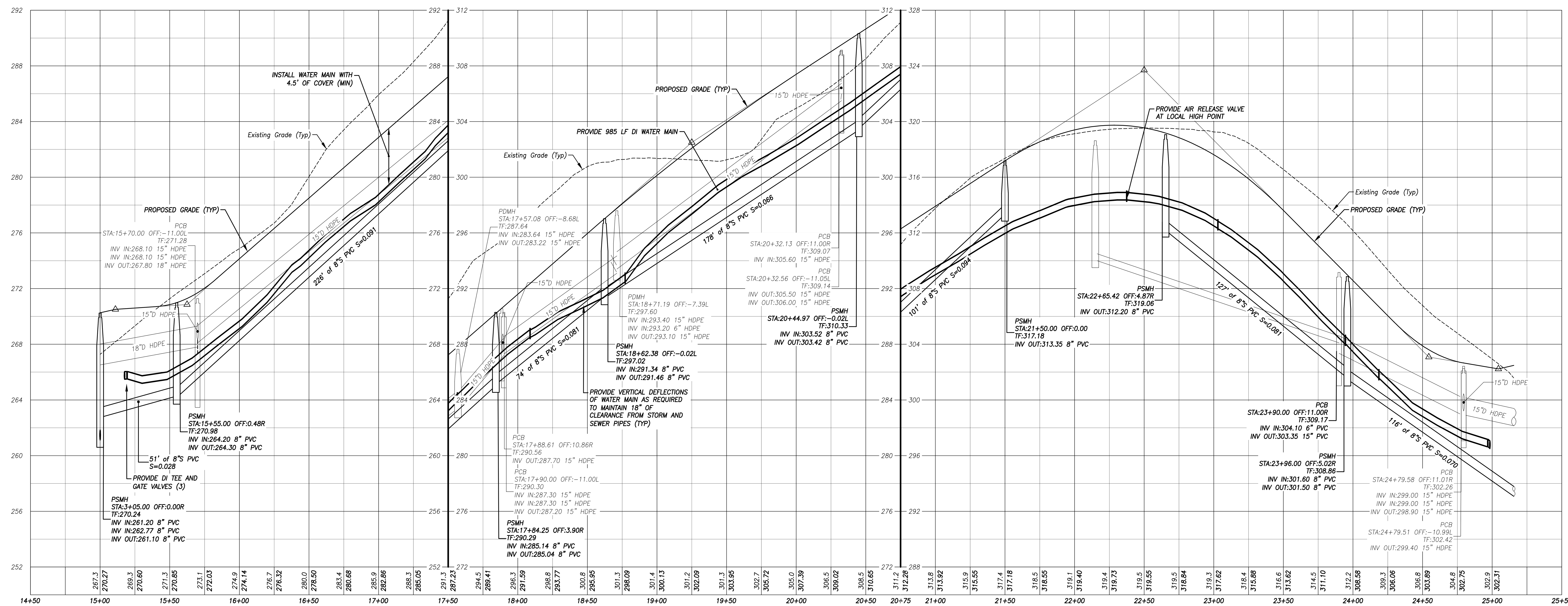
TP #9
EXCAVATED 4 FT TO 5 FT
BOULDER/LEDGE AT 4 FT TO 5 FT

TP #10
EXCAVATED 6 FT
BOULDER/LEDGE AT 6 FT

TEST PITS 1A AND 2A WERE OBSERVED BY BOUNDARIES LLC ON SEPTEMBER 10, 2016.

TP #10A
0" – 12" TOPSOIL
12" – 42" TAN SANDY LOAM WITH ROOTS
42" – 101" LIGHT TAN MEDIUM TO COARSE SAND WITH GRAVEL, TRACE COBBLES
MOTTLING AT 66", NO GROUNDWATER, NO LEDGE

TP #11A
0" – 6" TOPSOIL
6" – 30" TAN SANDY LOAM
NO MOTTLING, NO GROUNDWATER, BOULDER/LEDGE AT 30"



Profile - Proposed Highland Circle

Horizontal Scale: 1" =40'
Vertical Scale: 1" = 4'

BOUNDARIES
ORIGINAL INK DRAWING

BOUNDARIES
CIVIL ENGINEERING LAND SURVEYING LAND USE PLANNING SOIL SCIENCE
Boundaries LLC
179 Pachaug River Drive, Griswold, CT 06351
T 860.376.2006 | www.boundariesllc.net

Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Utilitiy Design Plan & Profile - Highland Circle

SCALE: 1" = 40'
DATE: November 2016
JOB I.D. NO. 14-2320-2

Revisions

Rev: May 9, 2017, Add Wetlands, Revise Grading Lots 1, 2, 5, 39 & 40 and Add Cutoff Trench
Rev: June 9, 2017, Per Town Staff/Town Engineer Comments
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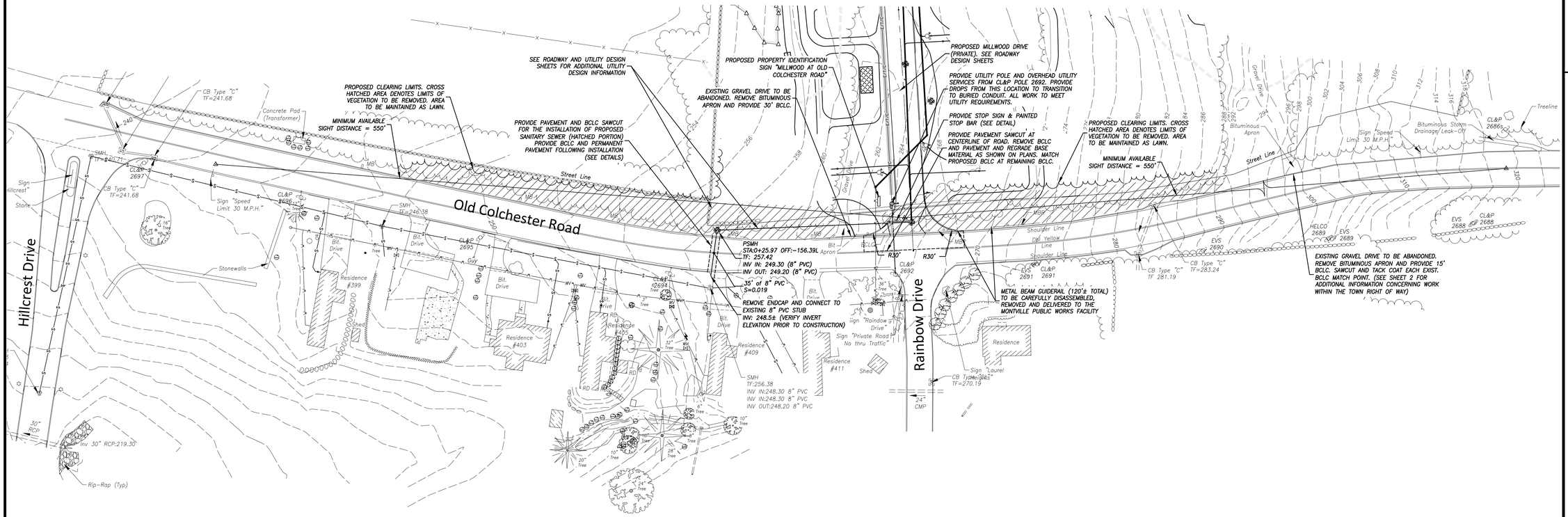
SHEET NO.



BOUNDARIES
ORIGINAL INK DRAWING

CIVIL ENGINEERING LAND SURVEYING LAND DEVELOPMENT LAND PLANNING SOIL SCIENCE
BOUNDARIES
Boundaries LLC
179 Pachaug River Drive Gilmanville, CT 06351
T 860.376.2006 | www.boundariesllc.net

Millwood at Old Colchester Road

Site Development Plan

Prepared For Jensen's, Inc.

416 Old Colchester Road, Uncasville, Connecticut

Stormwater, Sanitary Sewer and Site Improvements Old Colchester Road

SCALE: 1" = 40'

DATE: November 2016

JOB I.D. NO. 14-2320-2

Revisions

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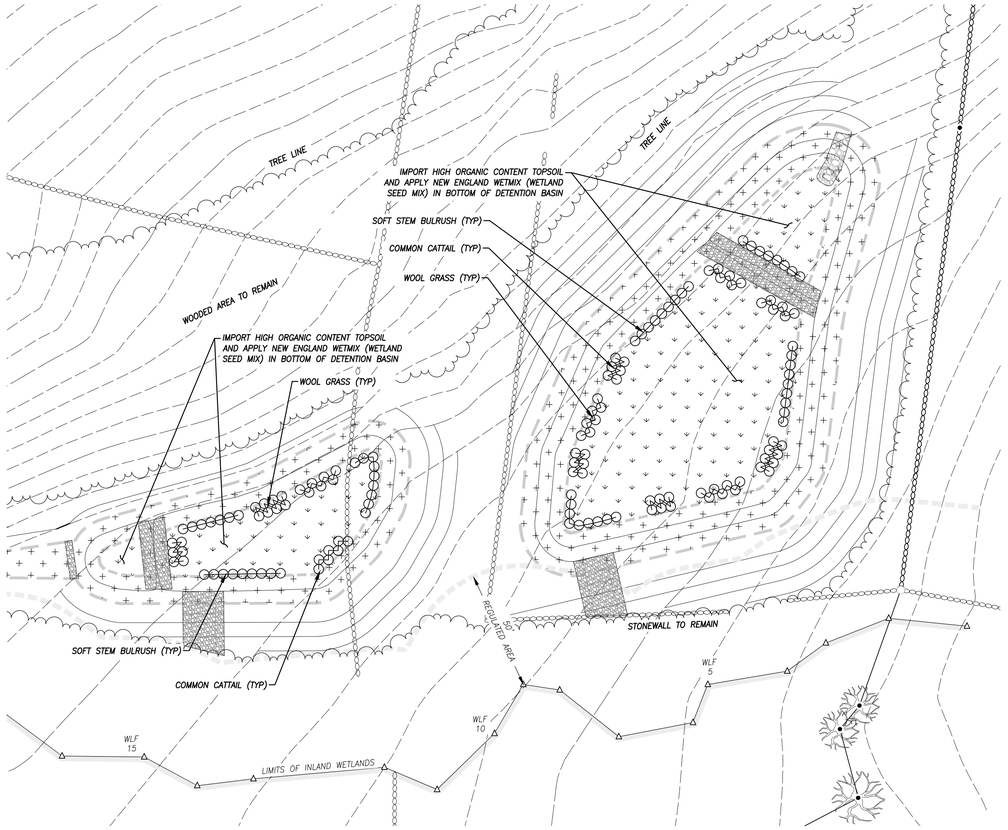
SHEET NO.

14

24



NOTE:
1. CONSTRUCTION OF THE STORMWATER BASINS AND INSTALLATION OF PROPOSED PLANTINGS AS DEPICTED HEREON SHALL BE SUPERVISED BY THE PROJECT SOIL SCIENTIST AND/OR A QUALIFIED PROFESSIONAL WETLAND SCIENTIST OF THE APPLICANT'S CHOOSING. ONCE FINALIZED, A COMPLETION REPORT SHALL BE PREPARED BY THE SUPERVISING PROFESSIONAL AND SUBMITTED TO THE MONTVILLE WEO FOR INCLUSION IN THE COMMISSION'S PERMANENT FILE.

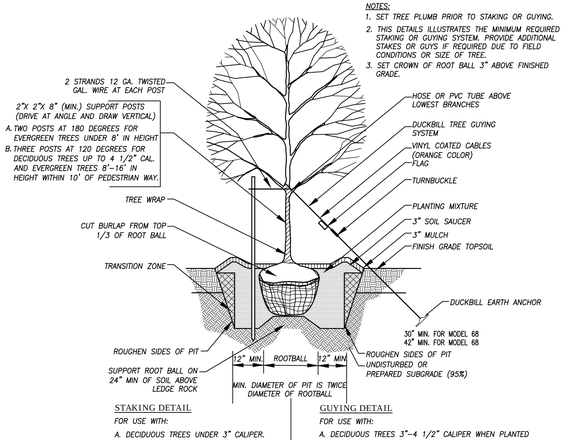
Stormwater Basins 2&3

GRAPHIC SCALE

60 30 15 0 30

(IN FEET)
1 inch = 30 ft.

NOTES:
1. SET TREE PLUMB PRIOR TO STAKING OR GUYING.
2. THIS DETAILS ILLUSTRATES THE MINIMUM REQUIRED STAKING OR GUYING SYSTEM. PROVIDE ADDITIONAL STAKES OR GUYS IF REQUIRED DUE TO FIELD CONDITIONS OR SIZE OF TREE.
3. SET CROWN OF ROOT BALL 3" ABOVE FINISHED GRADE.

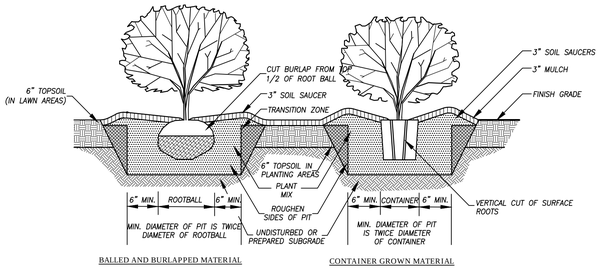


STAKING DETAIL
FOR USE WITH:
A. DECIDUOUS TREES UNDER 3" CALIPER.
B. DECIDUOUS TREES 3"-4 1/2" CALIPER WHEN PLANTED WITHIN 10' OF PEDESTRIAN WAYS.
C. EVERGREEN TREES UNDER 8' IN HEIGHT.
D. EVERGREEN TREES 8'-16' IN HEIGHT WHEN PLANTED WITHIN 10' OF PEDESTRIAN WAYS.

GUYING DETAIL
FOR USE WITH:
A. DECIDUOUS TREES 3"-4 1/2" CALIPER WHEN PLANTED GREATER THAN 10' OUTSIDE OF PEDESTRIAN WAYS.
B. DECIDUOUS TREE OVER 4 1/2" CALIPER.
C. EVERGREEN TREES 8'-16' IN HEIGHT WHEN PLANTED GREATER THAN 10' OUTSIDE OF PEDESTRIAN WAYS.
D. EVERGREEN TREES OVER 16' IN HEIGHT.

TREE PLANTING DETAIL

NOT TO SCALE

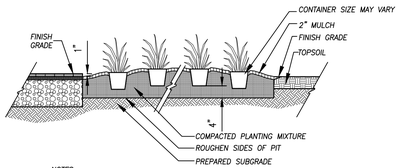


BALLED AND BURLAPPED MATERIAL — CONTAINER GROWN MATERIAL

NOTES:
1. SET CROWN OF ROOTBALL 2" ABOVE FINISH GRADE.
2. FOR CONTAINER GROWN STOCK USE FINGERS OR A SHARP KNIFE TO LOOSEN ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
3. AT PLANTING THOROUGHLY SOAK THE ROOT MASS AND ADJACENT SOIL. REPEAT SEVERAL TIMES DURING THE FIRST MONTH AND THROUGHOUT THE FOLLOWING TWO SUMMERS.
4. ALL PLANTING BEDS AND/OR SHRUBS SHALL BE MULCHED AND RINGED WITH A MINIMUM OF 24" OF SOD/LAWN SEED MIX.

SHRUB PLANTING DETAIL

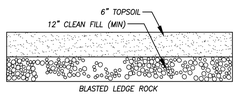
NOT TO SCALE



NOTES:
1. SET CROWN OF ROOT BALL LEVEL WITH FINISH GRADE.
2. MAINTAIN MINIMUM OF 4" PLANTING MIXTURE BELOW EACH INDIVIDUAL PLANT.
3. MULCH ENTIRE AREA OF GROUNDCOVER, PERENNIALS OR ANNUALS.
4. MULCH CAREFULLY AROUND EACH PLANT. DO NOT COVER CROWNS OF PLANTS WITH MULCH.

GROUND COVER PLANTING DETAIL

NOT TO SCALE



LOAM & SEED CROSS-SECTION DETAIL

NOT TO SCALE

LANDSCAPE SCHEDULE-STORMWATER BASINS				
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
HB	Vaccinium corymbosum	Highbush Blueberry	24-36" ht.	11
	Schoenoplectus tabernaemontanui	Soft Stem Bulrush	2" plug	80
	Typha latifolia	Common Cattail	2" plug	40
	Scirpus cyperinus	Woolgrass	2" plug	50
	New England Wetmix Wetland Seed Mix		1 lb/2,500sf	
	New England Erosion Control/Restoration Mix for Detention Basins & Moist Sites		1 lb/2,500sf	

PLANTING SPECIFICATIONS:

1. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE CONNECTICUT ASSOCIATION OF LANDSCAPE CONTRACTORS SPECIFICATION. ALL PLANTS SHALL BE NURSERY GROWN AND CONFORM TO THE LATEST EDITION OF ANSI Z60.1, AMERICAN STANDARD FOR NURSERY STOCK AND ALSO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
2. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN CONSENT OF THE PROJECT OWNER. WHERE A PLANT SIZE RANGE IS PROVIDED AT LEAST 50% OF THE PLANTS SHALL BE OF THE LARGER SIZE.
3. ALL LAWN AND PLANTING AREA SOIL PREPARATION SHALL BE FERTILIZED AND AMENDED ACCORDING TO RECOMMENDATIONS OF A SOIL ANALYSIS PROVIDED BY AN APPROVED SOIL TESTING LABORATORY.
4. ALL EXTERIOR GROUND AREAS DISTURBED BY CONSTRUCTION AND NOT COVERED BY BUILDINGS, STRUCTURES, PAVING, CONTINUOUS PLANTING BEDS OR OTHER SITE IMPROVEMENTS SHALL BE GRADED, TOPSOILED TO A MINIMUM DEPTH OF 6" AND GRASS SEEDED. PROVIDE LAWN DEVELOPMENT IN ALL AREAS OF SELECTIVE CLEARING AS DIRECTED.
5. ALL PLANT PITS MUST BE FREE DRAINING. BREAK UP THE BOTTOM OF THE HOLE BY FORK IF NECESSARY TO ENSURE PLANT HAS PROPER DRAINAGE.
6. SET ALL PLANTS IN CENTER OF PLANT PITS, PLUMB AND STRAIGHT AND AS DETAILED ON THE DRAWING. ALL PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO ORIGINAL PLANTING GRADE PRIOR TO DIGGING. TREES SHALL BE PLANTED WITH THE JUNCTION OF ROOTS AND STEM LEVEL WITH FINISHED GRADE.
7. HANDLE BALLED AND BURLAPPED PLANTS FROM THE BALL ONLY. ONCE POSITIONED IN THE HOLE, REMOVE THE TOP 1/3 OF THE BURLAP FROM THE ROOT BALL WITHOUT DISTURBING THE ROOTS.
8. FACE EACH PLANT TO GIVE THE BEST APPEARANCE. FINAL LOCATION OF PLANT MATERIAL SHOULD BE APPROVED BY THE OWNER IN THE FIELD.
9. FILL PLANT PITS 2/3 THEIR DEPTH WITH PREPARED PLANTING MIXTURE, WATER THOROUGHLY AND ALLOW TO SETTLE. COMPLETE BACK-FILLING, WATER THOROUGHLY TO ELIMINATE ANY VOIDS AND AIR POCKETS. PROVIDE ADDITIONAL BACK-FILL AS NECESSARY TO CONFORM TO REQUIRED ELEVATION AND AS DETAILED.
10. FORM SAUCER AND INSTALL MULCH OVER ENTIRE PLANT PIT AND SAUCER AREA AS DETAILED.
11. ALL TREE STAKING OR GUYING SHALL BE COMPLETED IMMEDIATELY AFTER PLANTING, BUT IN NO INSTANCE MORE THAN 24 HOURS AFTER PLANTING. SEE STAKING/GUYING DETAIL. AT THE COMPLETION OF THE MAINTENANCE PERIOD REMOVE ALL STAKES, FLAGS, GUYS, TREE WRAP, AND ANCHORS.
12. MULCH ALL NEW SHRUB BEDS AND PLANT PITS TO ACHIEVE A 3" DEPTH AFTER SETTLEMENT. MULCH ALL GROUND COVER BEDS TO ACHIEVE A 2" DEPTH AFTER SETTLEMENT. MULCH FOR SAUCERS AND PLANTING AREAS TO BE A DOUBLE SHREDDED BARK MULCH.
13. ALL PLANTS SHALL BE GUARANTEED FOR A PERIOD OF ONE FULL YEAR AFTER INSPECTION AND ACCEPTANCE BY THE OWNER'S REPRESENTATIVE, AND SHALL HAVE AT LEAST 80% HEALTHY GROWTH AT THE END OF THE GUARANTEE PERIOD.
14. RECOMMENDED PLANTINGS ARE MADE UNDER GUIDANCE FROM THE DESIGN ENGINEER THAT THE BOTTOM OF THE PROPOSED DETENTION POND WILL REMAIN WET ON A REGULAR BASIS. IF ACTUAL CONDITIONS DICTATE THAT WATER WILL NOT BE PRESENT IN THE POND ON A REGULAR BASIS, RECONSIDERATION OF THE PROPOSED PLANTING SCHEDULE BY THE PROJECT SOIL SCIENTIST WILL BE WARRANTED.
15. HIGH ORGANIC CONTENT TOPSOIL PLACED IN THE BOTTOM OF THE DETENTION POND SHOULD BE A MINIMUM OF 9" THICK AND SHALL BE DEPOSITED OVER MINERAL SOIL.
16. LANDSCAPE PLANTING MATERIALS AS PROPOSED BY THIS PLAN ARE CONNECTICUT NATIVE AND/OR NON-INVASIVE SPECIES. THIS LANDSCAPE PLAN HAS BEEN DESIGNED TO INCORPORATE SPECIES WHICH ARE PROLIFIC IN USDA PLANT HARDINESS ZONE 6B AND WHICH REQUIRE MINIMAL ENERGY INPUT FOR UPKEEP AND MAINTENANCE. REFERENCES UTILIZED FOR CONNECTICUT NATIVE AND NON-INVASIVE SPECIES SELECTION INCLUDE THE CONNECTICUT BOTANICAL SOCIETY, THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION, THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, 2004 CONNECTICUT STORMWATER QUALITY MANUAL, NEW ENGLAND WETLAND PLANTS, INC., AND OTHER SOURCES.
17. LANDSCAPE PLANTING AS SHOWN IS CONSIDERED TO BE A MINIMUM. THE APPLICANT RESERVES THE RIGHT TO ADD ADDITIONAL LANDSCAPING OR SUBSTITUTE MATERIALS SPECIFIED HEREON WITH SIMILAR EQUALS OR SPECIES WITH APPROVAL OF THE PROJECT SOIL SCIENTIST.

NEW ENGLAND WETMIX (WETLAND SEED MIX):

THE NEW ENGLAND WETMIX (WETLAND SEED MIX) CONTAINS A WIDE VARIETY OF NATIVE SEEDS THAT ARE SUITABLE FOR MOST WETLAND RESTORATION SITES THAT ARE NOT PERMANENTLY FLOODED. ALL SPECIES ARE BEST SUITED TO MOIST GROUND AS FOUND IN MOST WET MEADOWS, SCRUB SHRUB, OR FORESTED WETLAND RESTORATION AREAS. THE MIX IS WELL SUITED FOR DETENTION BASIN BORDERS AND THE BOTTOM OF DETENTION BASINS NOT GENERALLY UNDER STANDING WATER. THE SEEDS WILL NOT GERMINATE UNDER INUNDATED CONDITIONS. IF PLANTED DURING THE FALL MONTHS, THE SEED MIX WILL GERMINATE THE FOLLOWING SPRING. DURING THE FIRST SEASON OF GROWTH, SEVERAL SPECIES WILL PRODUCE SEEDS WHILE OTHER SPECIES WILL PRODUCE SEEDS AFTER THE SECOND GROWING SEASON. NOT ALL SPECIES WILL GROW IN ALL WETLAND SITUATIONS. THIS MIX IS COMPRISED OF THE WETLAND SPECIES MOST LIKELY TO GROW IN CREATED/RESTORED WETLANDS AND SHOULD PRODUCE MORE THAN 75% GROUND COVER IN TWO FULL GROWING SEASONS.

THE WETLAND SEEDS IN THIS MIX CAN BE SOWN BY HAND, WITH A HAND-HELD SPREADER, OR HYDRO-SEEDED ON LARGE OR HARD TO REACH SITES. LIGHTLY RAKE TO INSURE GOOD SEED-TO-SOIL CONTACT. SEEDING CAN TAKE PLACE ON FROZEN SOIL, AS THE FREEZING AND THAWING WEATHER OF LATE FALL AND LATE WINTER WILL WORK THE SEED INTO THE SOIL. IF SPRING CONDITIONS ARE DRIER THAN USUAL WATERING MAY BE REQUIRED. IF SOWING DURING THE SUMMER MONTHS SUPPLEMENTAL WATERING WILL LIKELY BE REQUIRED UNTIL GERMINATION. A LIGHT MULCH OF CLEAN, WEED FREE STRAW IS RECOMMENDED.

APPLICATION RATE: 1 LB/2500 SQ. FT. (18 LBS/ACRE)

SPECIES:
FOX SEDGE, (CAREX VULPINOIDEA), LURID SEDGE, (CAREX LURIDA), BLUNT BROOM SEDGE, (CAREX SCOPARIA), SENSITIVE FERN, (ONOCLEA SENSIBILIS), BLUE VERVAIN, (VERBENA HASTATA), HOP SEDGE, (CAREX LUPULINA), GREEN BULRUSH, (SCIRPUS ATROVIRENS), NODDING BUR MARIGOLD, (BIDENS CERNUA), BRISTLY SEDGE, (CAREX COMOSA), FRINGED SEDGE, (CAREX CRINITA), AMERICAN MANNAGRASS, (GLYCERIA GRANDIS), WOOL GRASS, (SCIRPUS CYPERINUS), SOFT RUSH, (JUNCUS EFFUSUS), SPOTTED JOE PYE WEED, (EUPATORIUM MACULATUM), BONESET, (EUPATORIUM PERFOLIATUM), MUD PLANTAIN, (ALISMA SUBCORDATUM), NEW ENGLAND ASTER, (ASTER NOVAE-ANGLIAE), RATTLESNAKE GRASS, (GLYCERIA CANADENSIS), SOFT STEM BULRUSH, (SCIRPUS VALIDUS), SWAMP MILKWEED, (ASCLEPIAS INCARNATA), MONKEY FLOWER, (MIMULUS RINGENS).

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES:

THE NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES CONTAINS A SELECTION OF NATIVE GRASSES AND WILDFLOWERS DESIGNED TO COLONIZE GENERALLY MOIST, RECENTLY DISTURBED SITES WHERE QUICK GROWTH OF VEGETATION IS DESIRED TO STABILIZE THE SOIL SURFACE. IT IS AN APPROPRIATE SEED MIX FOR ECOLOGICALLY SENSITIVE RESTORATIONS THAT REQUIRE STABILIZATION AS WELL AS LONG-TERM ESTABLISHMENT OF NATIVE VEGETATION. THIS MIX IS PARTICULARLY APPROPRIATE FOR DETENTION BASINS THAT DO NOT HOLD STANDING WATER. MANY OF THE PLANTS IN THIS MIX CAN TOLERATE INFREQUENT INUNDATION, BUT NOT CONSTANT FLOODING. THE MIX MAY BE APPLIED BY HAND, BY MECHANICAL SPREADER, OR BY HYDRO-SEEDER. AFTER SOWING, LIGHTLY RAKE, ROLL OR CULTIPACK TO INSURE GOOD SEED-TO-SOIL CONTACT. BEST RESULTS ARE OBTAINED WITH A SPRING OR LATE SUMMER SEEDING. LATE FALL AND WINTER DORMANT SEEDING REQUIRES AN INCREASE IN THE APPLICATION RATE. A LIGHT MULCHING OF CLEAN, WEED-FREE STRAW IS RECOMMENDED

APPLICATION RATE: 1250 SQ. FT/LB (35 LBS/ACRE)

SPECIES:
VIRGINIA WILD RYE, (ELYMUS VIRGINICUS), CREEPING RED FESCUE, (FESTUCA RUBRA), LITTLE BLUESTEM, (SCHIZACHYRIUM SCOPARIUM), BIG BLUESTEM, (ANDROPOGON GERARDII), FOX SEDGE, (CAREX VULPINOIDEA), SWITCH GRASS, (PANICUM VIRGATUM), ROUGH BENTGRASS, (AGROSTIS SCABRA), NEW ENGLAND ASTER, (ASTER NOVAE-ANGLIAE), BONESET, (EUPATORIUM PERFOLIATUM), GRASS LEAVED GOLDENROD, (EUTHAMIA GRAMINIFOLIA), GREEN BULRUSH, (SCIRPUS ATROVIRENS), BLUE VERVAIN, (VERBENA HASTATA), SOFT RUSH, (JUNCUS E&USUS), WOOL GRASS, (SCIRPUS CYPERINUS).

BOUNDARIES
ORIGINAL INK DRAWING

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SHEET NO.
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PROVIDE AND MAINTAIN A CONTINUOUS LINE OF SILT FENCE AT UPGRADIENT LIMITS OF WORK TO REDUCE OFFSITE RUNOFF FROM ENTERING THE SITE UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED (SEE DETAILS)

PROVIDE AND MAINTAIN HAY BALE CHECK DAM

PROVIDE AND MAINTAIN A TEMPORARY DRAINAGE SWALE DURING THE DISTURBANCE PERIOD

PROVIDE AND MAINTAIN A WATER BAR (SEE DETAIL)

PROVIDE AND MAINTAIN AN INLET SEDIMENT CONTROL DEVICE FOR ALL CATCH BASIN TOPS LOCATED WITHIN THE LIMITS OF CONSTRUCTION (TYP. FOR 18)(SEE DETAIL)

PROVIDE AND MAINTAIN A WATER BAR (SEE DETAIL)

PROVIDE AND MAINTAIN A TEMPORARY DRAINAGE SWALE DURING THE DISTURBANCE PERIOD

PROVIDE AND MAINTAIN ANTI-TRACKING PAD. MIN. SIZE 25'x100' (SEE DETAIL)

PROPOSED TEMPORARY STOCKPILE LOCATION

PROVIDE AND MAINTAIN A WATER BAR (SEE DETAIL)

PROVIDE AND MAINTAIN A CONTINUOUS LINE OF SILT FENCE BACKED WITH HAY BALES OR WOOD CHIP BERM (SEE DETAILS)

PROVIDE AND MAINTAIN HAY BALE CHECK DAM

PROVIDE AND MAINTAIN A TEMPORARY DRAINAGE SWALE DURING THE DISTURBANCE PERIOD

WOODED AREA TO REMAIN

PROVIDE AND MAINTAIN A WATER BAR (SEE DETAIL)

PROPOSED WATER QUALITY BASIN TO BE UTILIZED AS A TEMPORARY SEDIMENT TRAP. PROVIDE INSPECTION AND MAINTENANCE OF SEDIMENT TRAPS IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL AND STORMWATER POLLUTION PREVENTION PLAN.

TEMPORARY SEDIMENT TRAP AND SPILLWAY (SEE DETAIL)
BOTTOM WIDTH = 25 FEET
BOTTOM LENGTH = 50 FEET
WET STORAGE DEPTH = 2.1 FEET
DRY STORAGE DEPTH = 1.5 FEET

PROVIDE AND MAINTAIN A WATER BAR (SEE DETAIL)

PROVIDE AND MAINTAIN HAY BALE CHECK DAM

PROPOSED TEMPORARY STOCKPILE LOCATION

DIRECT STORMWATER RUNOFF TO THE TEMPORARY SEDIMENT TRAP. PROVIDE AND MAINTAIN A CONTINUOUS LINE OF HAY BALES OR SILT FENCE THROUGHOUT CONSTRUCTION.

PROVIDE AND MAINTAIN A TEMPORARY DRAINAGE SWALE DURING THE DISTURBANCE PERIOD

PROVIDE AND MAINTAIN HAY BALE CHECK DAM THROUGHOUT CONSTRUCTION (SEE DETAIL)

PORTION OF STONE WALL TO REMAIN

PROVIDE AND MAINTAIN A CONTINUOUS LINE OF SILT FENCE BACKED WITH HAY BALES OR WOOD CHIP BERM (SEE DETAILS)

PROVIDE AND MAINTAIN HAY BALE CHECK DAM

PROPOSED WOODS LINE AND LIMITS OF DISTURBANCE (TYP.)

WOODED AREA TO REMAIN

PROVIDE CONTINUOUS WOOD CHIP BERM TO OLD COLCHESTER ROAD

PROPOSED STORMWATER BASIN TO BE UTILIZED AS A TEMPORARY SEDIMENT TRAP. PROVIDE INSPECTION AND MAINTENANCE OF SEDIMENT TRAPS IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL AND STORMWATER POLLUTION PREVENTION PLAN.

STONE WALL TO REMAIN

DIRECT STORMWATER RUNOFF TO THE TEMPORARY SEDIMENT TRAP. PROVIDE AND MAINTAIN A CONTINUOUS LINE OF HAY BALES OR SILT FENCE THROUGHOUT CONSTRUCTION.

ENCASE THE TRASH RACK AND MANHOLE PIPE INLETS IN GEOTEXTILE FABRIC. PROVIDE AND MAINTAIN A STONE INFILTRATION BERM TO THE TOP OF THE INLET PIPES AROUND THE PROPOSED STORMWATER OUTLET STRUCTURE.

PROVIDE AND MAINTAIN A TEMPORARY DRAINAGE SWALE DURING THE DISTURBANCE PERIOD

PROVIDE AND MAINTAIN HAY BALE CHECK DAM

END SILT FENCE AND CONTINUE WOOD CHIP BERM ALONG STONE WALL TO OLD COLCHESTER ROAD

STONE WALL TO REMAIN

PROVIDE AND MAINTAIN 1100'± OF CONTINUOUS WOODCHIP BERM BACKED BY SILT FENCE (SEE DETAILS)

PROPOSED STORMWATER BASIN TO BE UTILIZED AS A TEMPORARY SEDIMENT TRAP. PROVIDE INSPECTION AND MAINTENANCE OF SEDIMENT TRAPS IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL AND STORMWATER POLLUTION PREVENTION PLAN.

ENCASE THE TRASH RACK AND MANHOLE PIPE INLETS IN GEOTEXTILE FABRIC. PROVIDE AND MAINTAIN A STONE INFILTRATION BERM TO THE TOP OF THE INLET PIPES AROUND THE PROPOSED STORMWATER OUTLET STRUCTURE.

GRAPHIC SCALE

10 50 25 0 50

(IN FEET)
1 inch = 50 ft.

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ORIGINAL INK DRAWING

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SHEET NO.

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Reference Is Made To:

1. Connecticut Guidelines For Soil Erosion and Sediment Control, May 2002.
2. Natural Resources Conservation Service Web Soil Survey for the State of Connecticut, September 15, 2014.

Soils Types and Slopes:

The proposed site is composed of the following soil types:
CANTON & CHARLTON "61B", CANTON & CHARLTON "61C"
CHARLTON–CHATFIELD COMPLEX "73C", CHARLTON–CHATFIELD COMPLEX "73E"
PAXTON & MONTAUK "84B"

"61" – Canton & Charlton soils consist of very stony fine sandy loams. Soils are well drained and are located on glacial till upland hills, plains and ridges. Slopes range from 3 to 15 percent.

"73" – Charlton & Chatfield soils consist of gently sloping to strongly sloping bedrock–controlled hills, bedrock–controlled uplands located on glacial till upland hills, plains and ridges. Slopes range from 3 to 25 percent.

"84" – Paxton & Montauk soils consist of gently sloping well drained fine sandy loam located on drumloidal, glacial till and upland landforms. Slopes range from 3 to 8 percent.

Nature and Sequence of Construction Activity:

Proposed construction activity will begin with the construction of approximately 2150 feet of private road and include the installation of a stormwater drainage system and underground utilities. A total of 46 single family retirement home sites will be developed. Each will be served by sanitary sewer and public water systems.

Estimated Project Start Date:	March 2017
Estimated Project Completion Date:	September 2022

Construction Site Estimates:

The following are estimates of the project site characteristics before and after construction:

Subject Property Area	26.75± acres
Construction Site Area to be disturbed	14.3± acres
Percentage impervious area before construction	0.06±%
Percentage impervious area after construction	12.29±%

Development Schedule:

It is anticipated that grading and construction activities will begin in March 2017. Prior to the start of construction, the contractor is to schedule a mandatory preconstruction meeting with Town Staff on site to discuss issues as they relate to the proposed project. These issues will include but not be limited to:

1. Resource protection and landscape protection zones.
2. Construction vehicle access and parking.
3. Construction methods and scheduling.
4. Existing site utilities and mark–out coordination.
5. Material delivery and stockpiling.
6. Blasting procedures and safety requirements.
7. Site Inspection procedures and as–built drawings.

Suggested Sequence of Construction:

Phase 1 – Installation of Erosion Controls

1. Obtain appropriate permits, notify Town officials of construction commencement, and submit construction timetable.
2. Flag the limits of construction, roadway base–line, and right–of–way.
3. On–site construction sequence shall start with the minimum amount of clearing required to install geotextile sediment fence, sediment and erosion control berms, and/or hay/straw bales as shown on plan.
4. Install sediment fence, anti–tracking pad construction entrance, and hay/straw bales as shown on the plans or as required.
5. Install temporary sedimentation traps as required (in same location as proposed stormwater basins, at a minimum).
6. Following installation of the erosion controls, the Contractor shall contact the Engineer for inspection and approval of installed measures. No work shall commence until all erosion control measures have been installed and approved by the Engineer.

Phase 2 – Site Preparation

1. Clear and grub road right–of–way to the proposed clearing limits and remove cut wood. Chip brush and slash, stockpile chips for future use or remove off site.
2. Strip and stockpile topsoil from proposed grading areas after erosion and sediment control measures have been installed. The topsoil shall be seeded immediately after stockpiling in order to stabilize the slope and limit sediment runoff. Stockpiled topsoil shall be seeded and mulched when it is to be stored for more than 21 days from time of stockpiling.
3. Cut or fill the proposed road corridor to establish proper road sub–grade.
4. Excavate and rough grade stormwater ponds and outlets.

Phase 3 – Site Utilities and Roadway Construction

1. Reconfigure erosion controls as required.
2. Install all sanitary sewers and drainage facilities starting at the outfall and proceeding upgrade. Install remaining utilities (water, gas, electric, cable, fiber optic, telephone). Ensure that the drainage outlet protection is in place prior to any flow being allowed to discharge.
3. Place, grade and compact the crusher run stone and processed aggregate in the roadway base in accordance with the construction detail.
4. Grade all adjacent sloped areas to within 2 feet of the proposed curbing and place topsoil.
5. Install first course of bituminous concrete.
6. Install bituminous concrete lip curbing in locations as shown on the plans.
7. Grade all areas immediately adjacent to the back of BCLC or road edge as required and apply topsoil.
8. Apply stabilization measures to remaining disturbed areas in accordance with the erosion and sediment control plan (topsoil, seeding, sodding, mulching, etc.)
9. Inspect and clean drainage system, as needed.
10. Install the final course of bituminous concrete pavement.

Phase 4 – Building Construction

1. Excavate and form building foundations/slabs and install utility services.
2. Pour concrete for building foundations/slabs.
3. Remove forms and rough grade sites around buildings.
4. Construct proposed buildings.
5. Place processed aggregate and pavement for driveways. Restore lawn areas with topsoil.

Phase 4 – Final Seeding and Cleanup

1. Reconfigure erosion controls as required.
2. Install topsoil in lawn areas and amended topsoil and landscape materials in stormwater ponds in accordance with the plans.
3. Following the completion of final grading, the contractor shall loam, seed, and mulch all remaining disturbed areas. All disturbed areas shall be prepared with topsoil and seeded and mulched according to this plan.
4. Remove temporary erosion and sediment controls (e.g. geotextile silt fences) after final stabilization has been completed (3 months following the end of construction activity).
5. After all final graded disturbed areas have been stabilized, remove all erosion and sediment structures (hay bales and wood chip berms may remain to decay in–situ). Clean all stormwater structures of sediment and debris.

Anticipated Construction Schedule

NO.	Phase Description	Estimated Duration
1	Installation of erosion controls	1 week
2	Site preparation	3 to 4 months
3	Site utilities and roadway construction	4 to 6 months
4	Building construction	2 to 3 years
5	Paving, final seeding, and cleanup	1 to 2 months

Erosion and Sedimentation Control Plan:

The applicant shall be responsible for the installation and maintenance of erosion and sediment control measures throughout the project. No construction shall proceed until proper sedimentation and erosion control methods have been installed as the sequence of construction necessitates.

Maintenance of erosion and sediment controls shall be completed in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control (2002). The Contractor shall maintain a copy of the Guidelines on–site and refer to the appropriate maintenance procedures that shall be utilized during construction. A summary of the maintenance requirements for the project is provided below.

During construction, all erosion and sediment control measures shall be maintained in proper working order. Disturbed areas shall be kept to a minimum and shall only take place where immediately required to further construction. It is desirable from an erosion prevention perspective to minimize disturbed areas. Final grading and seeding shall take place as soon as practical.

A rain gauge shall be placed at the project in a workable location and monitored during rainfall periods until all disturbed areas are stabilized.

Every precaution shall be used during construction to prevent and minimize the degradation of the existing water quality from stormwater runoff during construction. All activities shall be in conformance to and consistent with all applicable water quality standards and management practices as set forth by Local, State and Federal agencies.

The site contractor shall appoint an onsite agent who shall be personally responsible for implementing this erosion and sediment control plan and enforcing the prescribed safeguards during the excavation and operation period.

This responsibility includes the installation and maintenance of control measures throughout the project, informing all parties engaged on site of the requirements and objectives of the plan, and notifying the proper agency and officials of any transfer of this responsibility.

All erosion and sediment control measures shall be repaired, cleaned and/or replaced as necessary throughout the project in order to maintain complete and integral erosion and sediment control protection. Once in place, all erosion and sediment control measures are to remain in place in proper condition and be continuously maintained until final site restoration has been completed. Following such permanent stabilization, the erosion and sediment control measures shall be dismantled, removed, and disposed of in an approved manner. Additional erosion and sediment control measures beyond those shown on the plans or prescribed herein shall be put in place, whenever necessary, to address field conditions and/or as ordered by the Engineer.

Qualified personnel provided by the Site Contractor shall inspect disturbed areas, installed erosion and sedimentation control measures, and the locations where vehicles enter and leave the site. These areas shall be inspected at least once every seven calendar days and within twenty–four hours at the end of a storm that has a rainfall total of 0.5 inches or greater. Where sites have been temporarily or finally stabilized, such inspection shall be conducted at least once every month for three consecutive months.

No soil, fill or other materials shall be deposited in surrounding inland wetlands.

All temporary storage and/or stockpile areas shall be properly stabilized to prevent erosion and suitably contained to prevent turbid runoff.

Dumping of oil or other deleterious materials on the ground is forbidden. The applicant shall provide a means of catching, retaining and properly disposing of drained oil, removed oil filters, or other deleterious material from equipment used on site. Equipment maintenance shall be completed off site to the maximum extent practical. All oil spills shall be immediately reported to the Department of Energy and Environmental Protection/Hazardous Materials Office. Failure to do so may result in the imposition of fines under the applicable Connecticut General Statutes.

During construction, the Site Contractor shall be responsible for site inspection and maintenance to ensure proper performance of erosion control measures. Inspection and maintenance shall include, at a minimum, the following:

- Inspect all sediment fence, sediment and erosion control berms and other erosion control measures. Repair or replace any damaged portion in order to insure its proper and effective operation. Remove accumulated sediment if required (greater than 4" depth).
- Inspect all stockpiles. Repair or replace any damaged portion of erosion control measures surrounding these areas in order to prevent downgradient sedimentation.
- Inspect restored grassed areas. Revegetate any eroded or disturbed areas to provide permanent stabilization. Reseed and/or revegetate any areas that do not have a suitable stand of grass or any scoured areas to provide permanent stabilization.
- Inspect anti–tracking pad. remove and dispose of pad and replace if pad is no longer functioning efficiently or accumulated sediment is to a depth of 2" below the stone surface.
- Inspect all stone check dams, temporary diversions, and water bars. Remove accumulated sediment if required (blocking more than 3" depth of flow).
- Inspect all temporary and permanent stormwater basins. Remove accumulated sediment if required (greater than 6" depth), Revegetate if necessary to provide stabilization.
- Inspect areas downgradient of all stormwater discharges and development areas. Stabilize any eroded areas if encountered.

Erosion and Sediment Control Best Management Practices (BMP'S):

Note: Erosion and Sediment Control BMP's are to be inspected at least weekly and after rain events with greater than 0.5 inches of rainfall. Inspection logs must be maintained on site.

Minimize Disturbed Area and Protect Natural Features and Soil:

Topsoil:

Topsoil will be removed and stockpiled on site and utilized for final grading. Additional topsoil, if required, will be supplied from an off–site source. Excess materials resulting from "cut slopes" in the areas of the proposed construction that are not intended for reuse will be immediately removed from the site. When soil is stockpiled, the slope of the stockpile will not exceed 2 horizontal to 1 vertical.

Installation Schedule: As noted, excavated topsoil will be stockpiled on site. sediment fence will be placed around any stockpiles that are not immediately removed from the site to protect the existing drainage ditches and off site areas.

Maintenance and Inspection: The cut and fill areas will be inspected weekly for erosion. These areas will be stabilized immediately with erosion controls or graded to avoid possible disturbance to the existing drainage ditches or off site areas. See also maintenance and inspection procedures for silt fence.

Establish Perimeter Controls and Sediment Barriers:

Area for Silt to Accumulate:

BMP/Installation Schedule: Before any grading operations begin, a sediment and erosion control berm or sediment fence will be installed adjacent to the areas under construction just outside the limits of disturbance. Other adjacent off site areas will always be protected by a sediment fence or another BMP until final stabilization is achieved.

Maintenance and Inspection: The graded areas and sediment fence will be inspected weekly to ensure that there are no structural failures and immediately after rain events.

Construction Specifications

Sediment and Erosion Control Berm:

The material for sediment and erosion control berms will be acquired in conjunction with the removal and chipping of trees located within the project area.

Installation: Erect sediment and erosion control berm in a continuous fashion at the specified height and width.

Maintenance:

1. Sediment should be removed once it has accumulated to a depth of 4".
2. Berm should be repaired if it has been breached.
3. Berm can be left in place permanently and left to deteriorate.
4. All sediment accumulated at the berm should be removed and properly disposed of if the berm is to be removed.

Sediment Fence:

1. The material for sediment fences should be a pervious sheet of synthetic fabric such as polypropylene, nylon, polyester, or polyethylene yarn.
2. The stakes used to anchor the filter fabric should be wood or metal. Wooden stakes should be at least 3 feet long and have a minimum diameter of 2 inches if a hardwood like oak is used. Stakes from soft woods like pine should be at least 4 inches in diameter.
3. Erect sediment fence in a continuous fashion from a single roll of fabric to eliminate gaps in the fence. if a continuous roll of fabric is not available, overlap the fabric from both directions only at stakes or posts. overlap at least 6 inches. Excavate a trench to bury the bottom of the fabric fence at least 6 inches below the ground surface. This helps to prevent gaps from forming near the ground surface. Gaps would make the fencing useless as a sediment barrier.
4. The height of the fence posts should be 16 to 34 inches above the original ground surface. Space the posts no more than 10 feet apart.
5. The fence should be designed to withstand the runoff from a 10–year peak storm event. Once installed, it should remain in place until all areas upslope have been permanently stabilized by vegetation or other means.
6. In areas where the sediment fence is installed perpendicular to a slope, 10 foot long sediment fence "checks" or "J's" should be installed at a 50 foot interval to prevent undermining of the sediment fence due to channelized flow along the base of the fence.

Installation:

1. Dig a 6" deep trench on the uphill side of the proposed barrier location. The preferred method for digging the trench is with the use of a walk–behind trencher.
2. Position the posts on the downhill side of the fabric barrier and drive the post 12" into the ground.
3. Lay the bottom 6" of the fabric barrier in the trench to prevent undermining and backfill. Backfill shall be thoroughly compacted.

Maintenance:

1. Sediment should be removed once it has accumulated to 4" depth.
2. Filter fabric should be replaced whenever it has deteriorated to such an extent that the effectiveness of the fabric is reduced (approximately six months).
3. Sediment fence should remain in place until disturbed areas have been permanently stabilized.
4. All sediment accumulated at the fence should be removed and properly disposed of before the fence is removed.

Inspection:

1. Inspect sediment fence before anticipated storm events (or series of storm events such as intermittent showers over one or more days) and within 24 hours after the end of a storm event of 0.5 inches or greater, and at least once every seven calendar days, at least 72 hours apart.
2. Where sites have been finally or temporarily stabilized, such inspections may be conducted once per month.

Hay/Straw Bale Barrier

Installation:

1. Excavate trench 4" and place material upslope of trench.
2. Place bales in a single row in the trench, lengthwise, with ends of adjacent bales tightly abutting one another and the bindings oriented around the sides rather than along the tops and bottoms of the bales (to avoid premature rotting of the bindings).
3. Anchor each bale with at least 2 stakes, driving the first stake in each bale toward the previously laid bale to force the bales together. Stakes must be driven a minimum of 18 inches into the ground. Fill any gaps between the bales with straw to prevent water from escaping between the bales.
4. Backfill the bales with the excavated trench material to a minimum depth of 4 inches on the uphill side of the bales. Tamp by hand or machine and compact the soil. Loose hay/straw scattered over the disturbed area immediately uphill from the hay bale barrier tends to increase barrier efficiency.

Maintenance:

1. Inspect the hay/straw bale barrier at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater to determine maintenance needs. For dewatering operations, inspect frequently before, during, and after pumping operations. Remove the sediment deposits when sediment deposits reach approximately one half the height of the barrier.
2. Replace or repair the barrier within 24 hours of observed failure. failure of the barrier has occurred when sediment fails to be retained by the barrier because:
   (a) the barrier has been overtopped, undercut or bypassed by runoff water,
   (b) the barrier has been moved out of position, or
   (c) the bales have deteriorated or been damaged.
3. When repetitive failures occur at the same location, review conditions and limitations for use and determine if additional controls are needed to reduce failure rate or replace hay/straw bale barrier.
4. Maintain the hay/straw bale barrier until the contributing area is stabilized. after the upslope areas have been permanently stabilized, pull the stakes out of the hay bales. Remove sediment.

Dust Control:

Dust from the site will be controlled by using a mobile pressure–type distributor truck that will apply potable water at rate of 300 gallons per acre and minimized as needed to avoid ponding.

Installation Schedule: Dust control will be implemented as needed once site grading has been initiated, and during windy conditions exceeding 20mph, while site grading is occurring. Spraying of potable water will be performed once per day during the months of March through May and no more than three times per day from June to September or whenever dryness of soil warrants it.

Maintenance Schedule: At least one mobile unit will be available at all times during construction to apply potable water. Each mobile unit shall be equipped with a positive shutoff valve to prevent over watering of disturbed areas.

Establish Stabilized Construction Entrance/Exit:

BMP Description/Installation:

A stabilized construction entrance/exit shall be installed at the entrance and exit to the job site before construction begins. Stabilized exits shall be used to prevent the off–site transport of sediment by construction vehicles. At the entrance and exits to the site, the vehicle anti–tracking pad shall be at least the width of the entrance or exit. The crushed stone for the anti–tracking pad at the entrance or exit shall be placed over a layer of geotextile fabric.

Construction Specifications:

1. The width shall be as shown on the plans but not less than the full width of points where ingress or egress occurs. At sites where traffic volume is high, the entrance should be wide enough for two vehicles to pass safely. Flare the entrance where it meets the existing road to provide a sufficient turning radius.
2. The minimum length should be 50 ft.
3. Total depth of rock should be at least 6 inches. Fractured stone 2 to 8 in. diameter (for the base layer) and crushed stone 2 in. diameter or reclaimed or recycled concrete equivalent (for the top layer) shall be used.
4. Include geotextile (filter fabric) with the products placed over the entire area to be covered with aggregate. The geotextile should be a woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The geotextile should be inert to commonly encountered chemicals, hydrocarbons, mildew, and rot resistant.
5. Runoff from a stabilized construction entrance should drain to a sediment trap or protected inlet.
6. Clear all vegetation, roots, and all other obstructions in preparation for grading. Prior to placing geotextile (filter fabric), make sure that the entrance is properly graded and compacted.

Maintenance

1. The entrance should be maintained in a condition that will prevent tracking or flow of mud onto the existing paved roadway adjacent to the project site. This may require periodic top dressing with additional 2 in. stone (as conditions demand) and repair or cleaning of any structures used to trap sediment.
2. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains should be removed immediately. When necessary, vehicle wheels should be cleaned to remove sediment prior to entrance onto the existing paved roadway. When washing is required, it should be done on an area stabilized with aggregate that drains into an approved sediment trap or protected inlet.
3. Trapped sediment should be removed from the site or stabilized on site and prevented from entering storm drains, ditches, or waterways. Disturbed soil areas resulting from removal should be permanently stabilized.
4. The stabilized construction entrance may be removed after final site stabilization is achieved or after the temporary BMPs are no longer needed.

Inspection:

1. Inspect the anti–tracking pad weekly, and immediately following storm events with 0.5 inches or greater of total rainfall.
2. Inspect local roads adjacent to the site daily. Sweep or vacuum to remove visible accumulated sediment.

Retain Sediment On-site and Control Dewatering Practices:

Size and construct the basin in accordance with the requirements of the "Connecticut Guidelines for Soil Erosion and Sediment Control, May 2002".

Site Preparation:

Clear, grub and strip topsoil to remove trees, vegetation, roots, or other unsuitable material from areas under the embankment or any structural works related to the basin.

Clear and grub the area of most frequent inundation (measured from the top of the outlet control structure) of all brush and trees to facilitate clean out and restoration.

Install sediment controls for contributing areas. Install sediment controls to trap sediment before it enters and leaves the detention basin construction site. Stabilize the basin in accordance with the engineered design, stabilize the spoil and borrow areas, and other disturbed areas in accordance with the temporary seeding or permanent seeding, whichever is applicable.

Install safety features and devices to protect humans and animals from such accidents as falling or drowning. Temporary fencing can be used until barrier plantings are established. Use protective measures such as guardrails and fences on spillways and impoundments as needed.

Maintenance:

Inspect the temporary sediment basin at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater to determine conditions in the basin. Clean the sediment basin of sediments when sediment accumulation exceeds one half of the wet storage capacity of the basin or when the depth of available pool is reduced to 18 inches, whichever is achieved first. Sediment levels shall be marked within the sediment storage area by stakes or other means showing the threshold elevation for sediment cleanout. Prior to the removal of sediments, Dewater the basin through pumping or other means to expose previously submerged sediments. Do not allow accumulated sediment to flush into the drainageway. Stockpile the sediment in such a manner that it will not erode from the site or into a wetland, watercourse or other sensitive area. Temporary sediment basin shall be cleaned thoroughly prior to conversion to the permanent stormwater basin.

Dewatering:

BMP Description/Installation: In the event groundwater is encountered during construction, dewatering may be required through the use of sump pumps. Installation of sumps shall follow the requirements of the sump pit. The purpose of this practice is to remove excessive water from excavations in a manner that improves the quality of the water being pumped. Pumped water shall be discharged to an approved filtering system.

Construction Specifications

Sump Pit

1. A perforated vertical standpipe shall be placed in the center of the pit to collect filtered water. The standpipe shall be slotted or perforated corrugated metal or pvc pipe and its diameter and number of perforations shall be compatible with the pump size being used.
2. Water is then pumped from the center of the pipe to a suitable discharge area.
3. The pit shall be filled with crushed stone or gravel no smaller than CT DOT #67 size nor larger than CT DOT #3 size. Crushed stone shall extend a minimum of 12" below the bottom of the standpipe.
4. Discharge of water pumped from the standpipe shall be to a suitable practice such as a sediment filter bag, or an approved dewatering settling basin.
5. Filter fabric should be wrapped around the standpipe to ensure clean water discharge to improve the efficiency of downstream filtering measures.
6. It is recommended that 1/4 to 1/2 inch hardware cloth wire be wrapped around and secured to the standpipe prior to attaching the filter fabric. this will increase the rate of water seepage into the standpipe.

Storm Drain Protection:

Drop Inlet Protection:

BMP Description: Any proposed on–site storm drain inlets will be protected with Sediment Fence Backed by Hay Bales or a Filter Fabric Insert as soon as these facilities are installed. Any existing storm drain inlets are to be protected similarly if receiving runoff from destabilized areas.

Construction Specifications:

Sediment Fence Drop Inlet Protection

1. Sediment Fence shall shall be cut from a continuous roll to avoid joints.
2. For stakes, use 2 x 4–inch wood (preferred) with a minimum length of 3 feet.
3. Space stakes evenly around the perimeter of the inlet a maximum of 3–feet apart, and securely drive them into the ground, approximately 18–inches deep.
4. To provide needed stability to the installation, back sediment fence installation with straw/hay bales installed in accordance with requirements specified for the straw/hay bale barrier.
5. Place the bottom 12 inches of the fabric in a trench and backfill the trench with 12 inches of compacted soil.
6. Fasten fabric securely by staples or wire to the stakes. Joints must be overlapped to the next stake.
7. It may be necessary to build a temporary dike on the down slope side of the structure to prevent bypass flow.

Filter Fabric Insert:

Follow specifications described by the product manufacturer for effective installation. A detail for the bag is included in the Plans as an example of an acceptable filter.

Maintenance

1. Sediment should not be allowed to wash into the storm drain inlet. It should be removed from the inlet protection and disposed of and stabilized so that it will not enter the stormwater drainage system or off site–areas.
2. When the contributing drainage area has been permanently stabilized, all materials and any sediment should be removed, and either salvaged or disposed of properly.
3. Expected life of a silt fence barrier is 3 months. Maintenance needs and repairs should be accomplished immediately should the inlet protection fail.

Inspection:

1. Inspections of storm drain inlet protection methods should be made before anticipated storm events (or series of storm events such as intermittent showers over one or more days) and within 24 hours after the end of a storm event of 0.5 inches or greater, and at least weekly.
2. Where sites have been finally or temporarily stabilized, such inspections may be conducted only once per month.

Soil Stabilization:

Temporary Stabilization:

BMP Description: Hydromulching will be used on slopes where construction will cease for more than 14 days and over the winter months to stabilize erodible materials. Straw mulch and wood fiber will be mixed with a tackifier and applied uniformly by machine with an application rate of 2 tons (100–200 bales) per acre. The Contractor will use crimping equipment to bind the mulch to the soil if the tackifier is not effective. Netting will be used on small areas with steep slopes. In areas where hydromulching is inaccessible, straw mulch will be applied by hand at the same application rate.

Temporary Seeding will be used on any area where construction activity is suspended for more than twenty–one days to stabilize erodible materials. Refer to the Erosion Control Plan for guidance on seeding mixtures, rates, and acceptable planting dates for temporary seeding.

Installation Schedule: Portions of the site where construction activities will temporarily cease for more than 14 days will be stabilized with mulch. Where construction activities will temporarily cease for more than 21 days it will be temporarily seeded. Winter stabilization will be provided between December 25 and March 30.

Maintenance and Inspection: Mulched areas will be inspected weekly to ensure that adequate coverage is provided. Repairs will be conducted as needed.

Permanent Stabilization:

Permanent stabilization will be completed within 14 days after the site is brought to its final grades.

Maintenance and Inspection: All areas will be inspected weekly during construction for failure until a dense vegetation cover has been established.

Slope Protection:

Erosion Control Blanket:

BMP Description: Erosion control blankets will be used to provide stabilization on steep (3H:1V or greater) interior side slopes and immediate stabilization for swales. The blanket shall cover the entire graded side slopes. The side slopes shall be seeded and mulched before the blanket is applied. The blanket shall be installed in a 12 inch wide by 6 inch deep trench in the upside of the slope, and stapling the leading edge of the blanket in the trench. The blanket shall be rolled down the slope slowly to maintain soil contact and stapled at 12 inch intervals. The blankets can be overlapped a minimum of 2 inches and stapled at the overlapping edge.

Installation Schedule: The erosion control blankets will be installed after grading of the side slopes and swales is complete.

Construction Specifications:

Erosion Control Blanket:

1. Biodegradable rolled erosion control products (RECPs) are typically composed of jute fibers, curled wood fibers, straw, coconut fiber, or a combination of these materials. In order for an RECP to be considered 100% biodegradable, the netting, sewing or adhesive system that holds the biodegradable mulch fibers together must also be degradable.
   a. Jute is a natural fiber that is made into a yarn that is loosely woven into a biodegradable mesh. It is designed to be used in conjunction with vegetation and has longevity of approximately one year. The material is supplied in rolled strips, which should be secured to the soil with U–shaped staples or stakes in accordance with manufacturers' recommendations.
   b. Excelsior (curled wood fiber) blanket material should consist of machine produced mats of curled wood excelsior with 80 percent of the fiber 6 in. or longer. The excelsior blanket should be of consistent thickness. The wood fiber must be evenly distributed over the entire area of the blanket. The top surface of the blanket should be covered with a photodegradable extruded plastic mesh. The blanket should be smolder resistant without the use of chemical additives and should be non–toxic and non–injurious to plant and animal life. Grade and shape the area of installation.
2. Remove all rocks, clods, vegetation or other obstructions so that the installed blankets or mats will have complete, direct contact with the soil.
3. Prepare seedbed by loosening 2 to 3 in. of topsoil.
4. Seed the area before blanket installation for erosion control and revegetation.
5. Seeding after mat installation is often specified for turf reinforcement application. When seeding prior to blanket installation, all check slots and other areas disturbed during installation must be re–seeded. Where soil filling is specified, seed the matting and the entire disturbed area after installation and prior to filling the mat with soil.
6. Fertilize and seed in accordance with seeding specifications or other types of landscaping plans. When using jute matting on a seeded area, apply approximately half the seed before laying the mat and the remainder after laying the mat.
7. Check slots are made of glass fiber strips, excelsior matting strips or tight folded jute matting blanket or strips for use on steep, highly erodible watercourses. The check slots are placed in narrow trenches 6 to 12 in. deep across the channel and left flush with the soil surface. They are to cover the full cross section of designed flow.
8. Before laying the matting, all check slots should be installed and the friable seedbed made free from clods, rocks, and roots. The surface should be compacted and finished according to the requirements of the manufacturer's recommendations.
9. Anchor and install as detailed in the Erosion Control Plan.

Maintenance:

1. Areas where erosion is evident shall be repaired and BMPs reapplied as soon as possible. Care should be exercised to minimize the damage to protected areas while making repairs, as any area damaged will require reapplication of BMPs
2. If washout or breakage occurs, re–install the material after repairing the damage to the slope or channel.
3. Make sure matting is uniformly in contact with the soil.
4. Check that all the lap joints are secure, the staples are flush with the ground, and that disturbed areas are seeded.

Inspection:

1. Inspect Erosion Control Blankets prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two–week intervals during the non–rainy season.
2. Inspect Erosion Control Blankets subject to non–stormwater discharges daily while non–stormwater discharges occur.

Final Stabilization:

Permanent seeding should be applied immediately after the final design grades are achieved at the site but no later than 14 days after construction activities have permanently ceased. After the entire site is stabilized, any sediment that has accumulated will be removed and hauled off site to a licensed landfill facility. Construction debris, trash, and temporary BMP's will also be removed and any areas disturbed during removal will be seeded immediately.

Seedbed Preparation:

1. Topsoil will be spread over final graded areas at a minimum depth of six inches. A minimum of twelve inches of mineral soils must be provided between rock surfaces and the topsoil layer.
2. The seedbed will be free of rocks, woody debris and other objectionable material.
3. Fertilizer will be applied to the seedbed as needed. Fertilizers will be commercial type of uniform composition, free–flowing and conforming to the applicable State and Federal laws. Choose native species that are adapted to local weather and soil conditions wherever possible to reduce water and fertilizer inputs and lower maintenance overall.
4. Topsoil will be loosened by raking, tilling or other suitable methods.

Final stabilization should be installed on portions of the site where construction activities have permanently ceased but no later than 14 days after construction ceases.

All seeded areas will be inspected weekly during construction activities for failure until a dense cover of vegetation has been established. If failure is noticed on the seeded area, the area will be reseeded, fertilized and mulched immediately. After construction is complete at the site permanent stabilization measures will be monitored until final stabilization is reached.

Seed Mixture For Upland Areas

	LBS./ACRE	LBS./1000 S.F.
Kentucky Bluegrass	20	0.45
Creeping Red Fescue	20	0.45
Perennial Ryegrass	5	0.10
	45	1.00

The recommended seeding dates are: April 1–June 15 and August 1–September 15

Vegetative Cover for Detention Basins
"NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR MOIST SITES"

The NEW ENGLAND EROSION CONTROL/RESTORATION MIX contains a selection of native grasses and wildflowers designed to colonize generally moist, recently disturbed sites where quick growth of vegetation is desired to stabilize the soil surface. This mix is particularly appropriate for detention basins which do not normally hold standing water. The plants in this mix can tolerate infrequent inundation, but not constant flooding. In New England, the best results are obtained with a spring seeding. Summer and fall seeding can be successful with a light mulching of weed free straw to conserve moisture. Late fall and winter dormant seeding require a slight increase in the seeding rate. Fertilization is not required unless the soils are particularly infertile.

Vegetative Cover for Disturbed Areas Not Intended to be Mowed
"NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX"

Grasses:
Creeping Red Fescue (Festuca Rubra), Switchgrass (Panicum Virgatum), Little Bluestem (Schizachyrium Scoparius), Indiangrass (Sorghastrum Nutans), Big Bluestem (Andropogon Gerardii), Deertounge (PANICUM Clandestinum).

Wildgrasses:
Partridge Pea (Chamaecrista Fasciculata), Wild Blue Lupine (Lupinus Perennis), Showy Tick–Trefoil (Desmodium Canadense), Silky Smooth Aster (Aster Laevis), Wils Senna (Cassia Hebecarpa), Butterfly Milkweed (Asclepias Tuberosa), Round–Headed Bush Cover (Lespedeza Capitata), Early Goldenrod (Solidago Juncea), White Vervain (Verbena Urticifolia).

Shrubs:
GRAY Dogwood (Cornus Racemosa), Staghorn Sumac (Rhus Typhina).

Seed Mix Application Rates: 0.80 lbs per 1000 s.f.

Spill Prevention and Control Plan:

1. Vehicle Maintenance: Vehicles and equipment will be maintained off–site to the maximum extent practical. All vehicles and equipment including subcontractor vehicles will be checked for leaking oil and fluids. Vehicles leaking fluid will not be allowed on–site.
2. Vehicle Fueling: Refueling of vehicles and equipment shall be conducted in a designated lay–down area, at least 100 feet from wetlands or drainage structures. The location within the lay–down area shall be comprised of an impervious surface without access to any subsurface drainage structures. A spill cleanup kit shall be maintained at the fueling location.
2. Hazardous Material Storage: Hazardous materials including but not limited to fuel, oil and petroleum products and solvents will be stored in an approved covered storage unit and provided with secured secondary containment with an impervious floor in accordance with federal and municipal regulations.
3. Spill Kits: Spill kits will be stored within the material storage area and concrete washout areas.
4. Spills: All spills will be cleaned up immediately upon discovery. Spent absorbent materials and rags will be hauled off–site immediately after the spill is cleaned up for disposal at the appropriate landfill. Spills of petroleum products or hazardous chemicals will be promptly reported to the National Response Center at 1–800–424–8802 and CT DEEP at 1–800–424–3338. In accordance with Connecticut General Statutes, the Contractor shall, within 24 hours of verbal notification, complete a written "Report of Petroleum or Chemical Product Discharge, Spillage, or Release" and mail it to C DEEP, Bureau of Waste Management, 79 Elm Street, Hartford, CT 06106–5127.
5. Safety data sheets, a material inventory, and emergency contact information will be maintained at the on–site project trailer.

Installation Schedule: The spill prevention and control procedures will be implemented once construction begins on–site.

Spill Prevention and Control Best Management Practices (BMP'S):

1. Material Handling and Waste Management:

Waste Materials:

All waste materials will be collected and disposed of into metal waste dumpsters in designated areas. Dumpsters will have a secure tight lid, be placed away from storm water drains and structures, and will meet all federal, state, county, and local regulations. Only trash and construction debris will be placed in the dumpsters. Construction materials will not be buried on site.

Maintenance and Inspection: The dumpsters will be inspected weekly and immediately after storm events. The dumpster will be emptied weekly or more frequently if needed, and taken to an appropriate landfill.

Hazardous Waste Materials:

BMP Description: All hazardous waste materials including oil filters, petroleum products, paint, and equipment maintenance fluids will be stored in structurally sound and sealed shipping containers in a designated area. Hazardous waste materials will be stored in appropriate and clearly marked containers and segregated from other non–waste materials. Secondary containment will be provided for all waste materials in a designated area and will consist of commercially available spill pallets. Additionally, all hazardous waste materials will be disposed of in accordance with federal, state, county, and local regulations. Hazardous waste materials will not be disposed of into the on–site dumpsters.

Maintenance and Inspection: The hazardous waste materials area will be inspected weekly and after storm events. The storage area will be kept clean, well organized and equipped with ample cleanup supplies as appropriate for the materials being stored. Safety data sheets, material inventory, and emergency contact numbers will be maintained in the office trailer.

Sanitary Waste:

BMP Description: Portable toilets, located in the staging area, will be provided at the site throughout the construction phase. The toilets will be located away from concentrated drainage flow paths and will have collection pans underneath as secondary containment.

Maintenance and Inspection: Sanitary waste will be collected a minimum of once a week and shall be inspected weekly for evidence of leaking holding tanks.

Recycling:

BMP Description: Wood pallets, cardboard boxes, and other recyclable construction scraps will be disposed of in a designated dumpster for recycling. The dumpster will have a secure watertight lid, be placed away from stormwater conveyances and drains and meet all local and state solid–waste management regulations. Only solid recyclable construction scraps from the site will be deposited in the dumpster.

Maintenance and Inspection: The recycling dumpster will be inspected weekly. The recycling dumpster will be emptied when full and taken to an approved recycling center by the contractor. If recyclable construction wastes are exceeding the dumpster's capacity, the dumpsters will be emptied more frequently.

2. Designated Washout Areas:

Concrete Washout

BMP Description: A designated temporary, above–grade concrete washout area will be constructed for concrete washout. The washout area will be lined with plastic sheeting at least 10 mils thick and free of holes or tears. Concrete pours will not be conducted during or before an anticipated storm event. Concrete mixer trucks and chutes will be washed in the designated washout area and be properly disposed of off–site after hardening. When the temporary washout area is no longer needed for the construction project, the hardened concrete and materials used to construct the area will be removed and disposed of in accordance with all applicable local, State, and Federal regulations, and the area will be stabilized.

Installation Schedule: The washout area will be constructed before concrete pours occur at the site.

3. Vehicle Fueling and Maintenance Practices:

BMP Description: Several types of vehicles and equipment will be used on–site throughout the project, including graders, scrapers, excavators, loaders, rollers, trucks and trailers, backhoes, and forklifts. It is anticipated that all equipment/vehicle fueling will be performed on–site. All vehicle fueling activity will occur in the staging area as described above. Only minor equipment maintenance will occur on–site. Both of these proposed activities are to be situated so that drainage facilities or water courses located in the area are not at risk from potential infiltration. All equipment fluids generated from maintenance activities will be disposed of into designated drums stored on spill pallets. Absorbent, spill–cleanup materials and spill kits will be available at the combined staging and materials storage area. Drip pans will be placed under all equipment receiving maintenance and vehicles and equipment parked overnight. Fuel will be delivered to the site on an as needed basis by a fuel delivery service.

Installation Schedule: BMPs implemented for equipment and vehicle maintenance and fueling activities will begin at the start of the project.

4. Vehicle Washing: All equipment and vehicle washing will be performed off–site.

BOUNDARIES
ORIGINAL INK DRAWING

BOUNDARIES
CIVIL ENGINEERING LAND SURVEYING LAND USE PLANNING SOIL SCIENCE
Boundaries LLC
179 Pachaug River Drive, Griswold, CT 06351
T 860.376.2006 | www.boundariesllc.net

Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Erosion & Sediment Control and Stormwater Pollution Prevention Plan Narrative

SCALE: As Noted
DATE: November 2016
JOB I.D. NO. 14-2320-2

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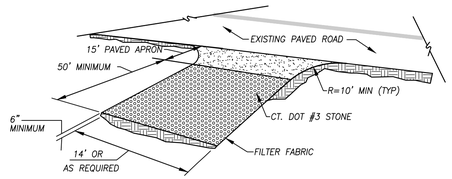
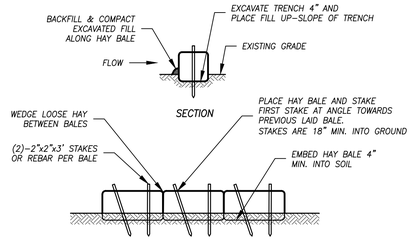
SHEET NO.
17 / 24



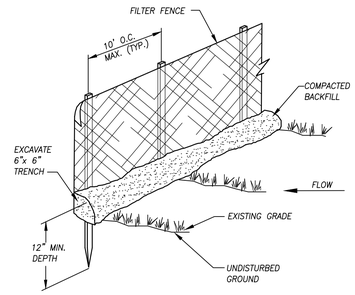
ANTI-TRACKING PAD

NOT TO SCALE



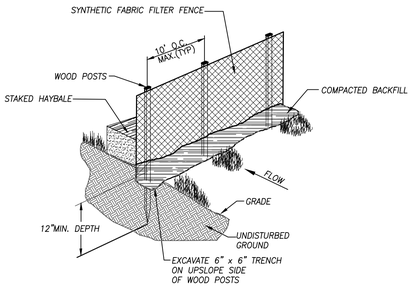
HAY BALE BARRIER DETAIL

NOT TO SCALE



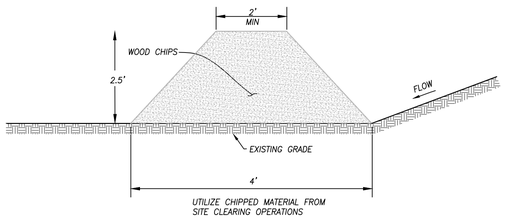
SEDIMENT FENCE DETAIL

NOT TO SCALE



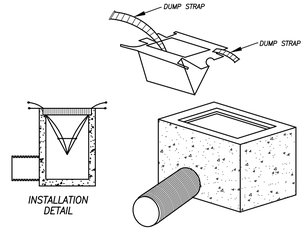
SEDIMENT FENCE BACKED BY HAY BALE BARRIER DETAIL

NOT TO SCALE



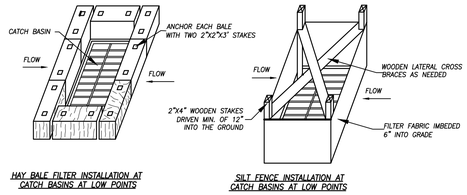
WOOD CHIP FILTER BARRIER

NOT TO SCALE



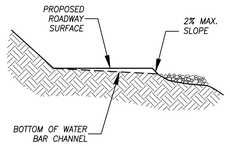
INLET SEDIMENT CONTROL DEVICE OPTION #1

NOT TO SCALE

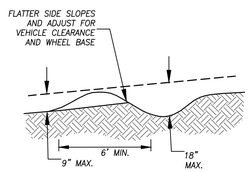


INLET SEDIMENT CONTROL DEVICE OPTIONS #2 & #3

NOT TO SCALE



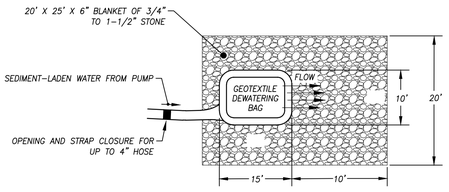
PERPENDICULAR SECTION



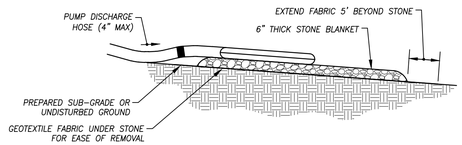
ROADWAY SECTION

WATER BAR DETAIL

NOT TO SCALE



PLAN VIEW



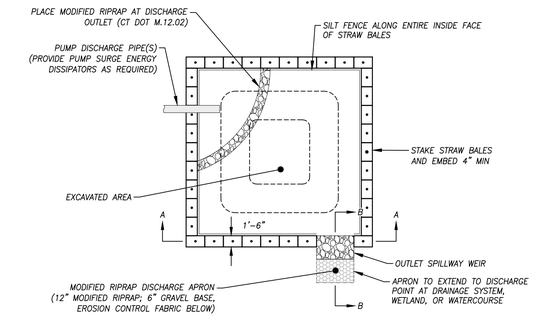
PROFILE VIEW

NOTES:

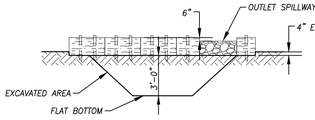
1. GEOTEXTILE BAG MATERIAL SHALL BE A NON-WOVEN MATERIAL.
2. DO NOT OVER PRESSURIZE BAG OR USE BEYOND CAPACITY.
3. LOCATE DISCHARGE SITE ON FLAT UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, AND OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
4. DOWNGRADIENT FROM RECEIVING AREA MUST BE WELL VEGETATED OR OTHERWISE STABLE FROM EROSION, E.G., FOREST FLOOR OR COARSE GRAVEL/STONE.

GEOTEXTILE DEWATERING BAG

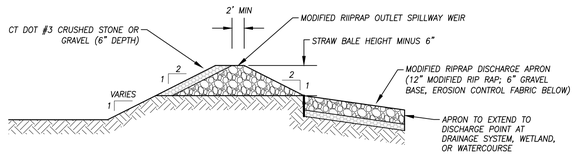
NOT TO SCALE



PLAN



SECTION A-A



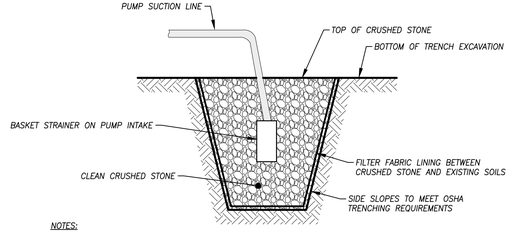
SECTION B-B

NOTES:

1. THE CONTRACTOR SHALL SIZE BASIN BASED ON THE SELECTED PUMP DISCHARGE FLOWS, AND ENLARGE AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER, TO ALLOW FOR PROPER FUNCTION OF THE BASIN.
2. ALTERNATE PUMPING SETTLING BASINS OR FRACTIONATION TANKS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

TYPICAL PUMP SETTLING BASIN

NOT TO SCALE

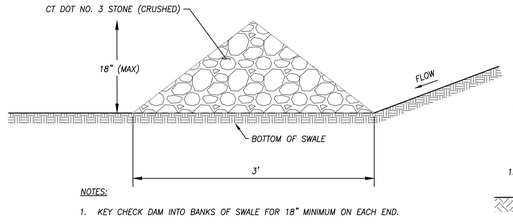


NOTES:

1. THE CONTRACTOR SHALL SIZE SUMP BASED ON THE SELECTED PUMP DISCHARGE FLOWS, AND ENLARGE AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER, TO ALLOW FOR PROPER FUNCTION OF THE SUMP.
2. MINIMUM SUMP DIMENSIONS ARE 2' DEEP (MEASURED FROM THE BOTTOM OF THE TRENCH EXCAVATION) AND 2' DIAMETER.
3. CRUSHED STONE SHALL BE NO SMALLER THAN CT DOT #67 SIZE NOR LARGER THAN CT DOT #3 SIZE.
4. SUMPS SHALL BE EXCAVATED AND RELOCATED AS REQUIRED TO MAINTAIN A DRY EXCAVATION.
5. ALTERNATE PUMP INTAKE PROTECTION AND DEWATERING METHODS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

TYPICAL PUMP INTAKE DETAIL

NOT TO SCALE

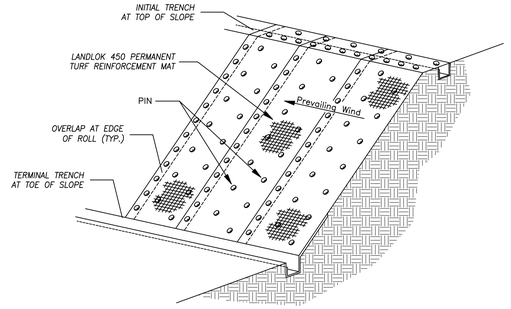


NOTES:

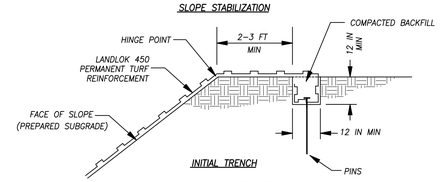
1. KEY CHECK DAM INTO BANKS OF SWALE FOR 18" MINIMUM ON EACH END.

STONE CHECK DAM SECTION

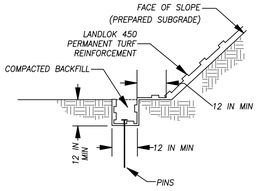
NOT TO SCALE



SLOPE STABILIZATION



INITIAL TRENCH

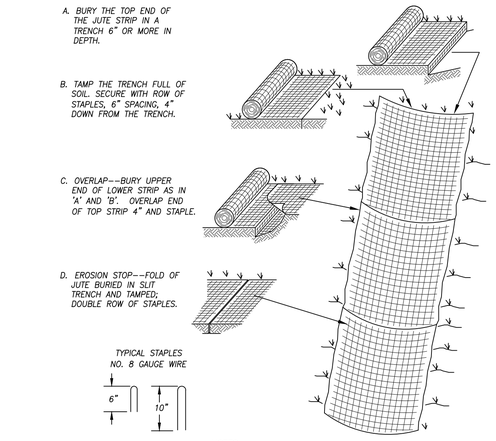


TERMINAL TRENCH

NOTE:
INSTALLATION TO BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

PERMANENT SLOPE AND SWALE STABILIZATION

NOT TO SCALE



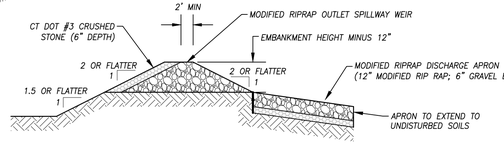
NOTES:

1. 4" OVERLAP OF JUTE STRIPS WHERE TWO OR MORE STRIP WIDTHS ARE REQUIRED. STAPLES ON 18" CENTERS.
2. STAPLE OUTSIDE ON 2' CENTERS.

GRASS SWALE STABILIZATION

JUTE NETTING TEMPORARY SLOPE AND SWALE STABILIZATION

NOT TO SCALE



SEDIMENT TRAP SPILLWAY DETAIL

NOT TO SCALE

BOUNDARIES ORIGINAL INK DRAWING

CIVIL ENGINEERING · LAND SURVEYING · LAND DEVELOPMENT PLANNING · SOILS SCIENCE
BOUNDARIES
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T 860.376.2006 | www.boundariesllc.net

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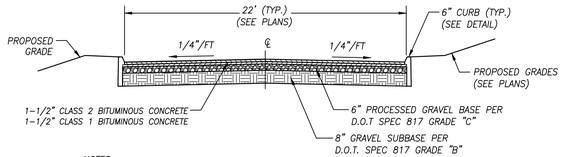
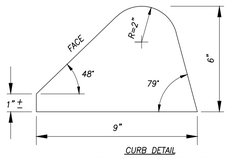
SHEET NO.
18
24



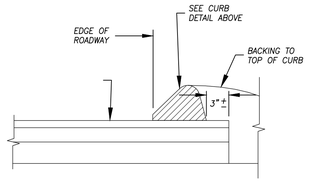
NOTES:
1. THE DRY DENSITY OF THE BASE & SUBBASE AFTER COMPACTION SHALL NOT BE LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL WHEN TESTED IN ACCORDANCE WITH AASHTO T180, METHOD D.
2. BITUMINOUS PAVEMENT SHALL BE PLACED IN ACCORDANCE WITH D.O.T. SPEC 817 SECTION 4.06.

ROADWAY CROSS SECTION
NOT TO SCALE

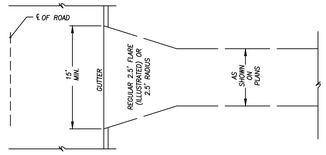


CURB DETAIL

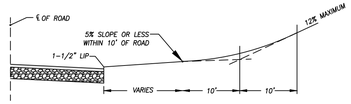
CURB TO MEET CTDOT STANDARDS
PAVEMENT AND ROAD BASE TO
EXTEND 3"± BEYOND BACK OF CURB



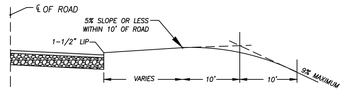
BITUMINOUS CONCRETE LIP CURB DETAIL
NOT TO SCALE



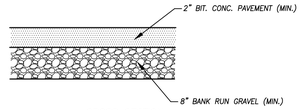
PLAN



SAG CURVE IN DRIVE

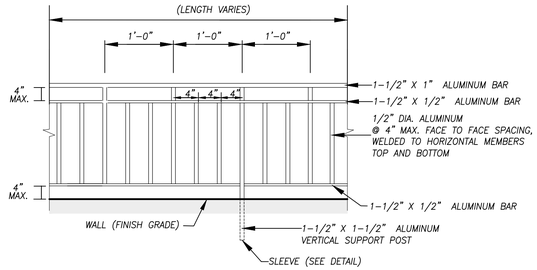


CREST CURVE IN DRIVE

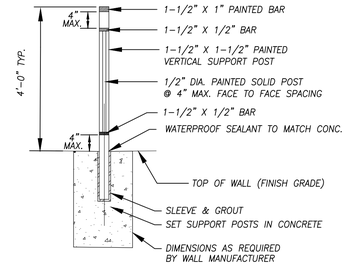


CROSS SECTION

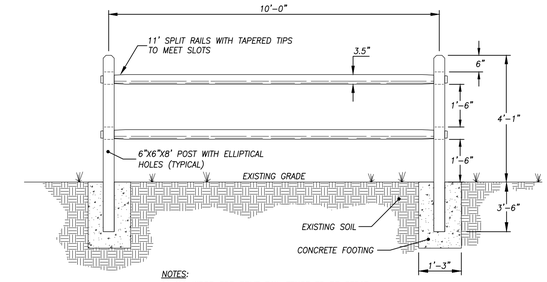
PAVED DRIVEWAY DETAIL
NOT TO SCALE



ALUMINUM FENCE DETAIL
NOT TO SCALE

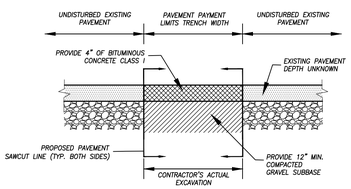


FENCE POST AND SLEEVE DETAIL
NOT TO SCALE



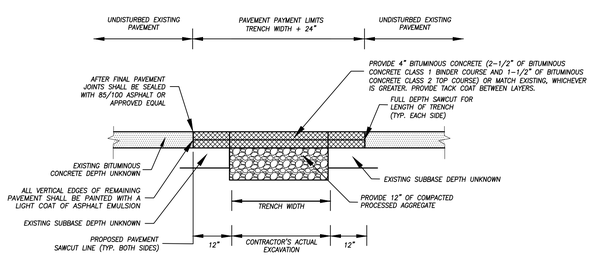
NOTES:
1) ALL WOOD FOR SPLIT RAIL FENCE TO BE CEDAR.

SPLIT RAIL FENCE DETAIL
NOT TO SCALE



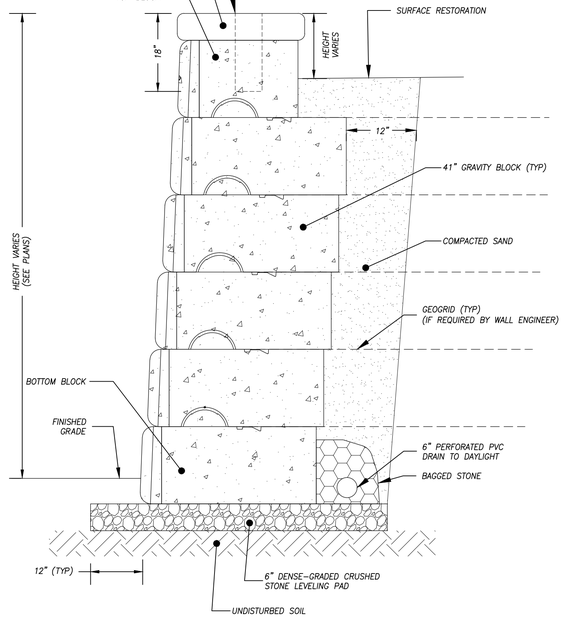
NOTE:
1. CONTRACTOR REQUIRED TO MAINTAIN TRENCH SURFACE THROUGHOUT THE PROJECT.
2. SEE UTILITY TRENCH DETAILS FOR LIMITS OF EXCAVATION AND PAYMENT.
3. SAW CUT PAVEMENT WITH POWER DRIVEN SAW AT TRENCH LIMITS PRIOR TO EXCAVATION. SAWCUT TO BE PERPENDICULAR TO THE EXISTING SURFACE.
4. REMOVE ENTIRE WIDTH OF PAVEMENT.
5. CLEAN JOINT WITH COMPRESSED AIR HAVING A MINIMUM RATED CAPACITY OF 90 PSI.
6. APPLY TACK COAT TO THE SAW CUT EDGE AND MATCH THIS EDGE WITH THE PROPOSED EDGE.

TYPICAL CROSS SECTION FOR TEMPORARY TRENCH PAVEMENT
NOT TO SCALE



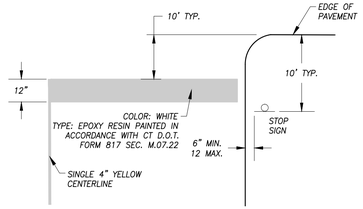
NOTE:
1. CONTRACTOR REQUIRED TO MAINTAIN TRENCH SURFACE THROUGHOUT THE PROJECT.
2. SEE UTILITY TRENCH DETAILS FOR LIMITS OF EXCAVATION AND PAYMENT.
3. SAW CUT PAVEMENT WITH POWER DRIVEN SAW 12" FROM THE EXISTING EDGE. SAWCUT TO BE PERPENDICULAR TO THE EXISTING SURFACE.
4. REMOVE ENTIRE WIDTH OF PAVEMENT.
5. CLEAN JOINT WITH COMPRESSED AIR HAVING A MINIMUM RATED CAPACITY OF 90 PSI.
6. APPLY TACK COAT TO THE SAW CUT EDGE AND MATCH THIS EDGE WITH THE PROPOSED EDGE.

TYPICAL CROSS SECTION FOR PERMANENT TRENCH PAVEMENT
NOT TO SCALE

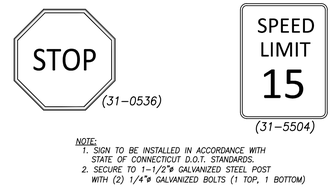


NOTES:
1. WALL TO BE REDI-ROCK OR APPROVED EQUAL AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS (REDI-ROCK INTERNATIONAL).
2. WALL DESIGN TO BE STAMPED BY AN ENGINEER LICENSED IN THE STATE OF CONNECTICUT.
3. PROVIDE GEO-GRID LAYERS AS REQUIRED BY WALL ENGINEER.
4. WALLS TO HAVE "LEDGESTONE" TEXTURE ON ALL VISIBLE SIDES.
5. BLOCK MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS BY CT LICENSED PE FOR RETAINING WALLS PRIOR TO CONSTRUCTION.
6. THE APPLICANT SHALL HIRE A CT LICENSED PE WHO SHALL MONITOR AND INSPECT THE CONSTRUCTION OF THE RETAINING WALL AND, UPON COMPLETION, CERTIFY TO THEIR ACCEPTABILITY AND CONFORMANCE WITH THE REQUIRED DESIGN.

MODULAR BLOCK WALL DETAIL
NOT TO SCALE

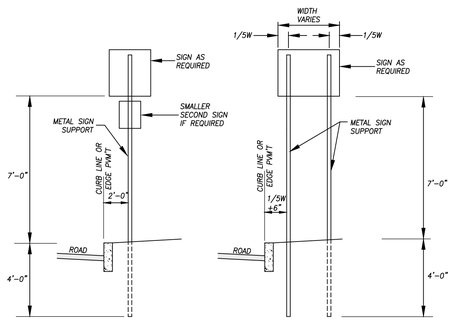


STOP BAR DETAIL
NOT TO SCALE



NOTE:
1. SIGN TO BE INSTALLED IN ACCORDANCE WITH STATE OF CONNECTICUT D.O.T. STANDARDS.
2. SECURE TO 1-1/2"ø GALVANIZED STEEL POST WITH (2) 1/4"ø GALVANIZED BOLTS (1 TOP, 1 BOTTOM)

TRAFFIC SIGNAGE DETAIL
NOT TO SCALE



SIGN SUPPORT TYPE 1

SIGN SUPPORT TYPE 2

TYPICAL SIGN SUPPORT PER CTDOT STANDARDS
NOT TO SCALE

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SHEET NO.
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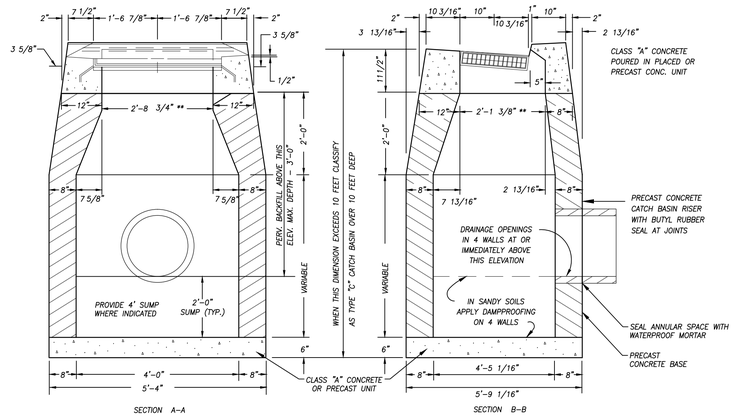
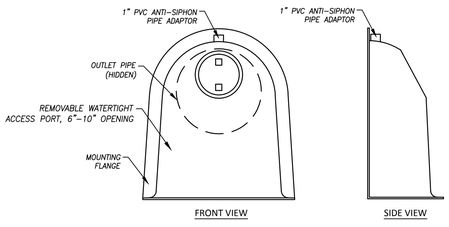
BOUNDARIES
ORIGINAL INK DRAWING



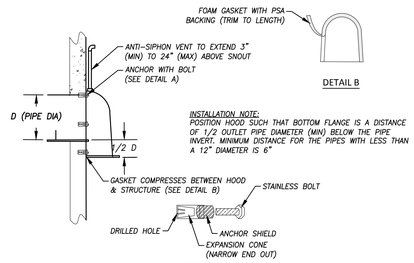
NOTES:
1. PROVIDE HOOD/SNOUT ON DOWNSTREAM INVERT OF CATCH BASINS WHERE NOTED.
2. CATCH BASIN TO BE CONSTRUCTED IN ACCORDANCE WITH CT DOT STANDARD DETAIL HW-507_01 AND TOPS TO BE PROVIDED IN ACCORDANCE WITH HW-507_07.
3. WHERE PRECAST CONC. UNIT IS USED FOR SUMP, THE TOP OF THE UNIT SHALL BE AT LEAST 6" BELOW THE BOTTOM OF THE PIPE OUTLETTING FROM THE CATCH BASIN.

TYPE "C", "C-L" OR "C-G" CATCH BASIN

NOT TO SCALE



SNOUT OIL-WATER DEBRIS SEPERATOR

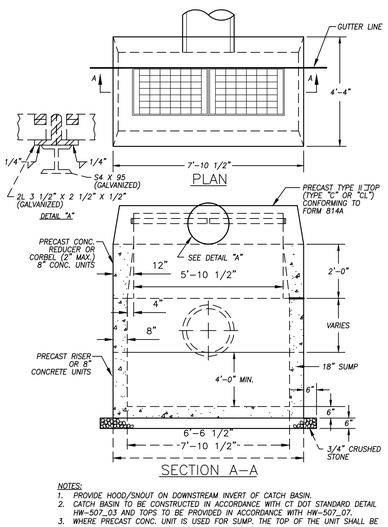


INSTALLATION NOTE:
POSITION HOOD SUCH THAT BOTTOM FLANGE IS A DISTANCE OF 1/2 OUTLET PIPE DIAMETER (MIN) BELOW THE PIPE INVERT. MINIMUM DISTANCE FOR THE PIPES WITH LESS THAN A 12" DIAMETER IS 6"

NOTES:
1. ALL HOODS AND TRAPS FOR CATCH BASINS AND OUTLET CONTROL STRUCTURES SHALL BE AS MANUFACTURED BY BEST MANAGEMENT PRODUCTS, INC., OR APPROVED EQUAL.
2. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AND THE MANUFACTURES'S RECOMMENDATIONS.
3. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL
4. THE HOOD SHALL BE SECURELY ATTACHED TO THE STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS PROVIDED BY THE MANUFACTURER SUPPLIED INSTALLATION KIT.

CATCH BASIN HOODED OUTLET

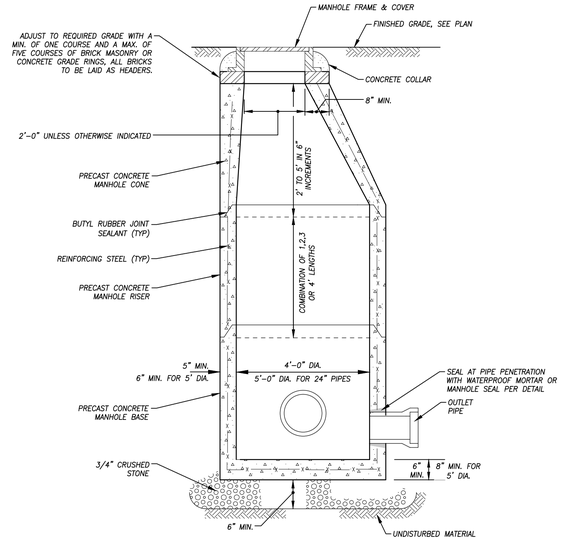
NOT TO SCALE



NOTES:
1. PROVIDE HOOD/SNOUT ON DOWNSTREAM INVERT OF CATCH BASIN.
2. CATCH BASIN TO BE CONSTRUCTED IN ACCORDANCE WITH CT DOT STANDARD DETAIL HW-507_03 AND TOPS TO BE PROVIDED IN ACCORDANCE WITH HW-507_07.
3. WHERE PRECAST CONC. UNIT IS USED FOR SUMP, THE TOP OF THE UNIT SHALL BE AT LEAST 6" BELOW THE BOTTOM OF THE PIPE OUTLETTING FROM THE CATCH BASIN.

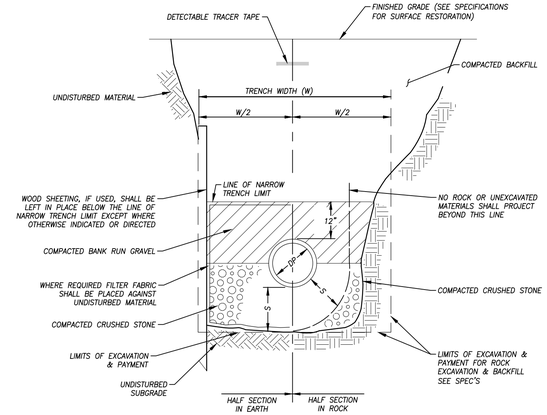
DOUBLE CATCH BASIN TYPE II DETAIL

NOT TO SCALE



PRECAST CONCRETE STORM DRAIN MANHOLE DETAIL

NOT TO SCALE



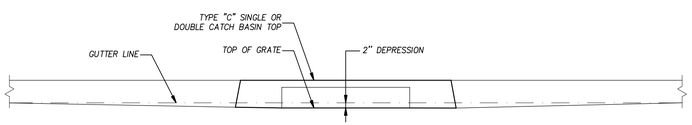
NOTES:
1. FOR W, DP, & S, SEE TABLE A.
2. THE TOP 12" OF TRENCH BACKFILL IN TRAVELED WAYS SHALL BE COMPACTED PROCESSED GRAVEL.

DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAXIMUM TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)	MINIMUM CLEARANCE (S)
0-12'	TO 18"	5'	6"
0-12'	21"-24"	5'	7-1/2"
OVER 12'	TO 18"	7'	6"
OVER 12'	21"-24"	7'	7-1/2"

TABLE A

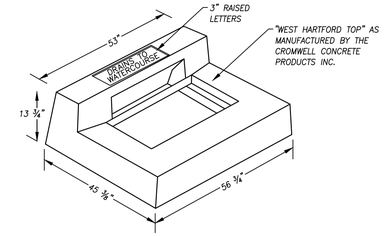
TRENCH DETAIL (STORM DRAINAGE)

NOT TO SCALE



TYPE "C" CATCH BASIN TOP IN A LINE OF 6" BITUMINOUS CURBING DETAIL

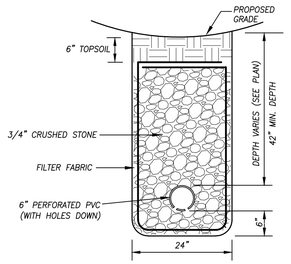
NOT TO SCALE



VIEW A-A

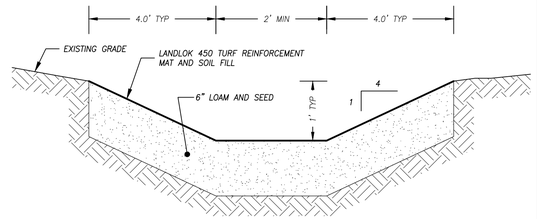
TYPE 'C' CATCH BASIN TOP DETAIL

NOT TO SCALE



CURTAIN DRAIN DETAIL

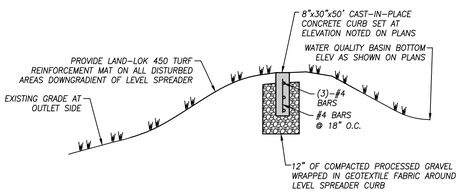
NOT TO SCALE



NOTES
1. SEE PLAN FOR LOCATION(S).
2. TURF REINFORCEMENT MAT TO BE INSTALLED AND ANCHORED PER MANUFACTURER'S SPECIFICATIONS.

TYPICAL GRASS SWALE SECTION

NOT TO SCALE



LEVEL SPREADER DETAIL

NOT TO SCALE

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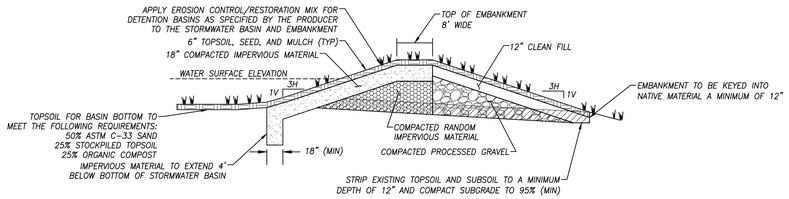


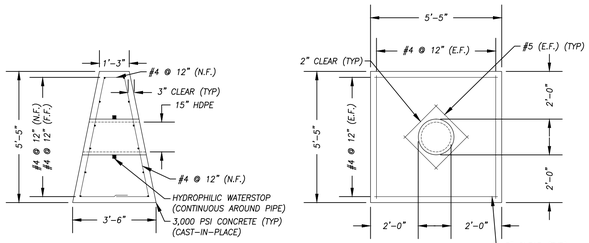
NOTES:

1. REMOVE VEGETATION, DEBRIS, ORGANIC MATERIALS, AND TOPSOIL TO A MINIMUM OF 12" BELOW EXISTING GRADE PRIOR TO EMBANKMENT CONSTRUCTION. COMPACTED EXPOSED SUBSOIL AND SCARIFY SURFACE.
2. FILL MATERIALS SHALL BE PLACED IN LIFTS NOT EXCEEDING 12". PRIOR TO COMPACTION EACH LIFT SHALL BE MOISTENED AS NECESSARY TO ACHIEVE THE OPTIMUM MOISTURE CONTENT. THE TOP 12" OF SUBGRADE AND EACH LIFT SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH ASTM D1557. FILL MATERIAL SHALL NOT BE PLACED ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAINING FROST, ICE, OR ORGANICS.
3. CLEAN FILL MATERIAL SHALL BE FREE OF ORGANICS AND NO STONES GREATER THAN 3".
4. PROCESSED GRAVEL SHALL MEET THE REQUIREMENTS OF CT DOT FORM 817 M.02.06 GRADATION A.
5. IMPERVIOUS MATERIAL SHALL BE DENSE GRADED AND HAVE A PERMEABILITY RATE OF 1 X 10-4 CM/SEC OR LESS, HAVE A PERCENTAGE OF MATERIALS PASSING THE NO. 200 SIEVE OF GREATER THAN 10%, AND AN EFFECTIVE GRAIN SIZE DIAMETER (D10) OF 0.05 mm OR LESS. IT SHALL BE FREE OF ORGANICS AND SHALL HAVE NO STONES GREATER 2".
6. RANDOM IMPERVIOUS MATERIAL SHALL BE DENSE GRADED AND FREE OF ORGANICS WITH NO STONES LARGER THAN 2". MATERIAL SHALL MEET ONE OF THE FOLLOWING GRADATIONS:

Sieve Size	Percent Passing	
	1-1/4" Processed Aggregate	2" Processed Aggregate
2-1/2"	100	100
2"	100	96
1-1/2"	99	91
1"	61	67
3/4"	51	58
1/4"	40	33
#40	16	15
#200	7	5

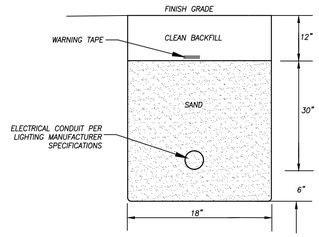
STORMWATER BASIN EMBANKMENT DETAIL

NOT TO SCALE



ANTI-SEEP COLLAR DETAIL

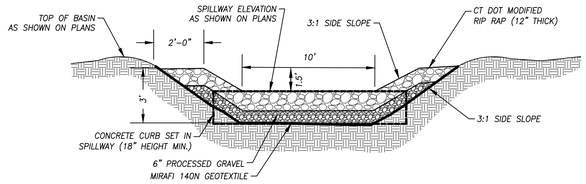
NOT TO SCALE



NOTE:
CONTRACTOR TO CONFIRM UTILITY CONDUIT REQUIREMENTS PRIOR TO CONSTRUCTION

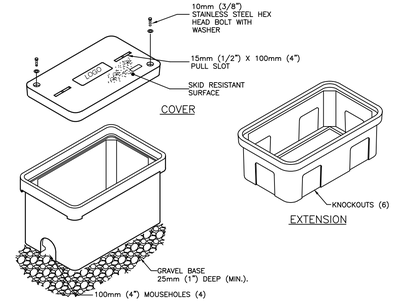
SITE LIGHTING CONDUIT TRENCH DETAIL

NOT TO SCALE



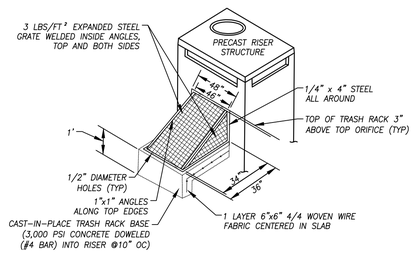
RIP RAP SPILLWAY DETAIL

NOT TO SCALE



HANDHOLE DETAIL

NOT TO SCALE

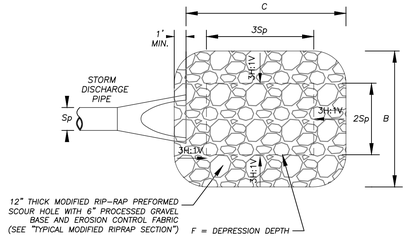


NOTES FOR TRASH RACK:

1. TRASH RACK TO BE CENTERED OVER OPENING.
2. STEEL TO CONFORM TO ASTM A-36.
3. ALL SURFACES TO BE COATED WITH ZRC COLD GALVANIZING COMPOUND AFTER WELDING.

TRASH RACK DETAILS

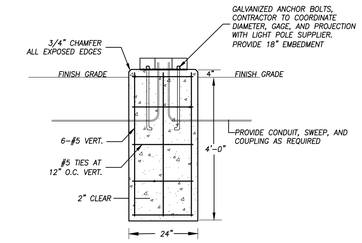
NOT TO SCALE



PIPE Sp	C	B	F	RIPRAP GRADATION
15"	7.5 FT	6.25 FT	0.63 FT	MODIFIED RIPRAP
18"	9 FT	7.5 FT	0.75 FT	MODIFIED RIPRAP
24"	12 FT	10 FT	1.0 FT	MODIFIED RIPRAP

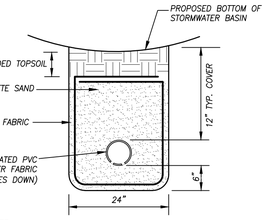
TYPE 1 RIP RAP SCOUR HOLE DETAIL

NOT TO SCALE



LIGHT POLE FOUNDATION DETAIL

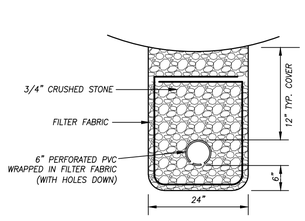
NOT TO SCALE



NOTES:
TOPSOIL FOR BASIN BOTTOM TO MEET THE FOLLOWING REQUIREMENTS:
50% ASTM C-33 SAND
25% STOCKPILED TOPSOIL
25% ORGANIC COMPOST

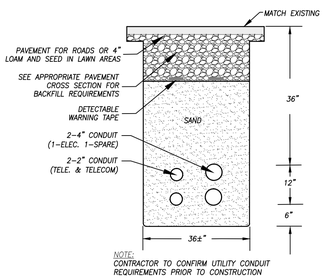
STORMWATER BASIN UNDERDRAIN DETAIL

NOT TO SCALE



WATER QUALITY BASIN UNDERDRAIN DETAIL

NOT TO SCALE



NOTE:
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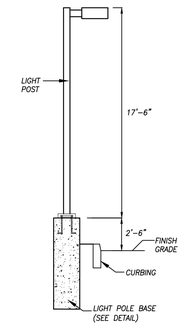
ELECTRIC , TELE. & TELECOM CONDUIT TRENCH DETAIL

NOT TO SCALE



LIGHT POLE DETAIL

NOT TO SCALE

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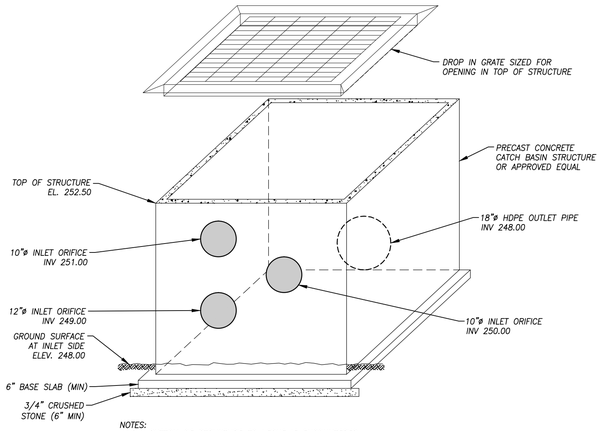
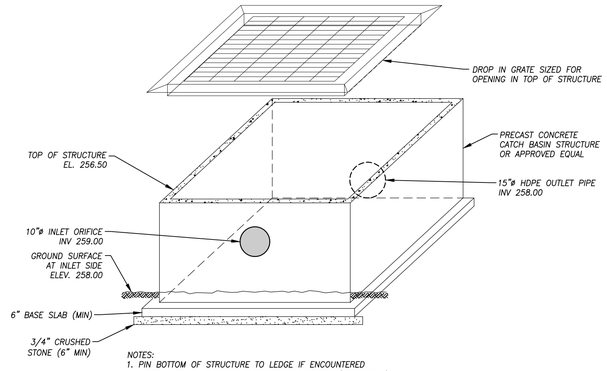


NOTES:
1. PIN BOTTOM OF STRUCTURE TO LEDGE IF ENCOUNTERED
2. INSTALL TRASH RACK TO PROTECT ALL ORIFICES (SEE DETAIL)

OUTLET CONTROL STRUCTURE #2 DETAIL

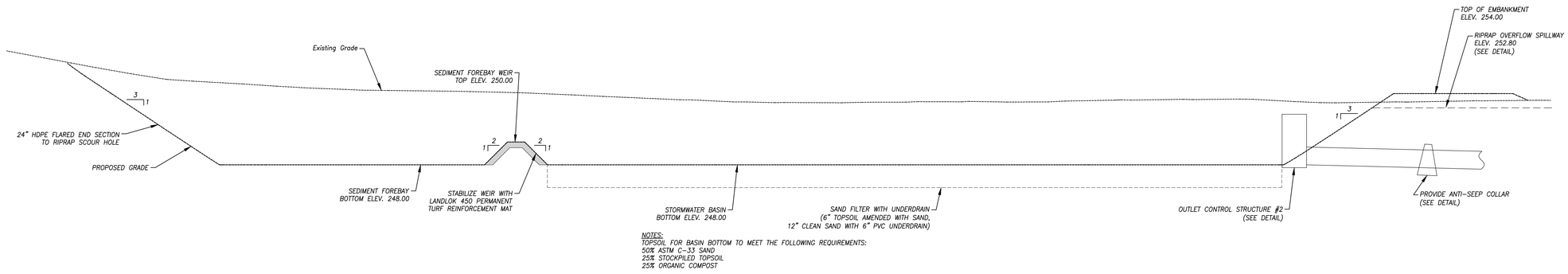
NOT TO SCALE



NOTES:
1. PIN BOTTOM OF STRUCTURE TO LEDGE IF ENCOUNTERED
2. INSTALL TRASH RACK TO PROTECT ALL ORIFICES (SEE DETAIL)

OUTLET CONTROL STRUCTURE #3 DETAIL

NOT TO SCALE



NOTES:
TOPSOIL FOR BASIN BOTTOM TO MEET THE FOLLOWING REQUIREMENTS:
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25% STOCKPILED TOPSOIL
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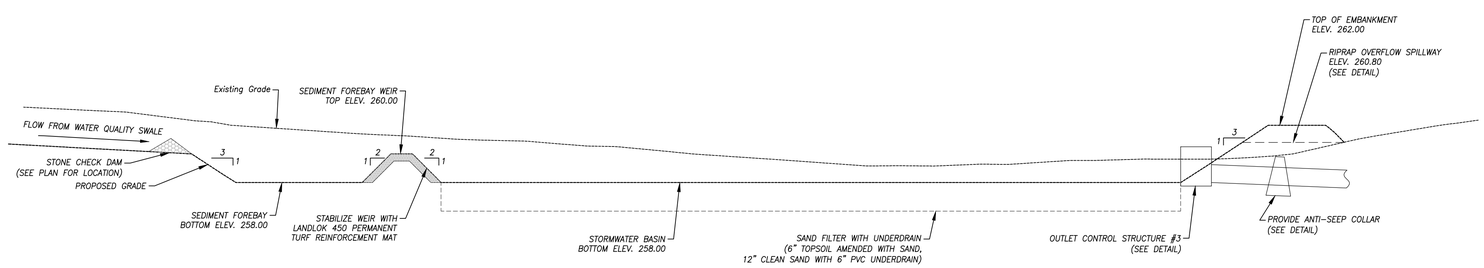
STORMWATER BASIN #2 DETAIL

NOT TO SCALE



NOTES:
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STORMWATER BASIN #3 DETAIL

NOT TO SCALE

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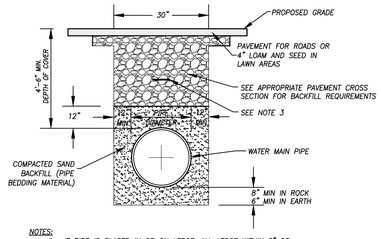
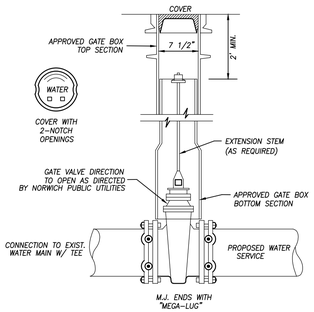
SHEET NO.
22
24



NOTES:
1. IF PIPE IS PLACED IN OR ON LEDGE, ALL LEDGE WITHIN 8" OF PIPE SHALL BE REMOVED AND REPLACED WITH PIPE BEDDING.
2. MINIMUM PIPE COVER SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS.
3. CONTRACTOR TO INSTALL AN UNDERGROUND FACILITY WARNING TAPE IN TRENCH WITH 24" MIN. SEPARATION ABOVE UTILITY.

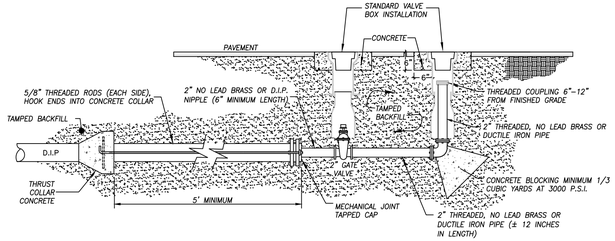
WATER MAIN TRENCH DETAIL

NOT TO SCALE



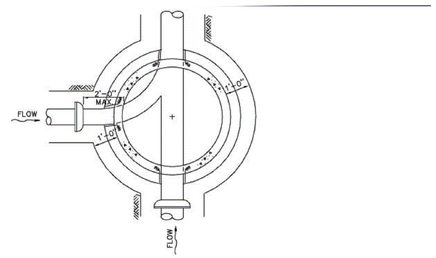
GATE VALVE AND GATE BOX DETAIL

NOT TO SCALE

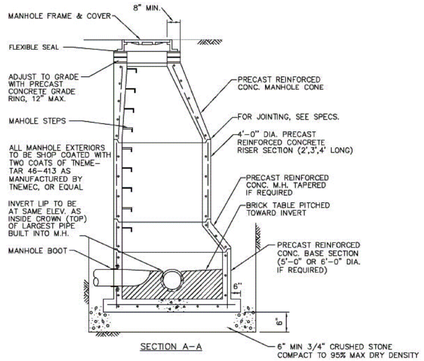


WATER MAIN BLOW-OFF ASSEMBLY DETAIL

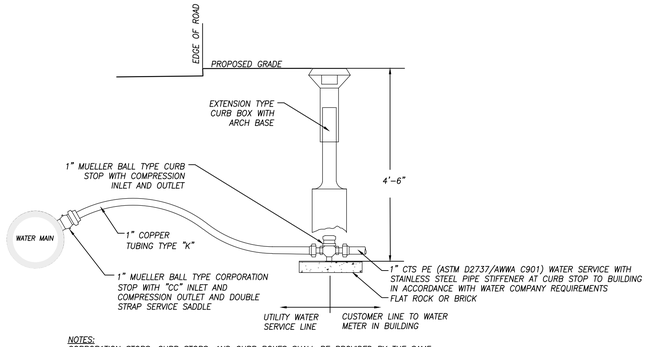
NOT TO SCALE



PLAN AT INVERT



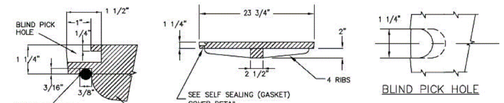
PRECAST SANITARY MANHOLE



NOTES:
CORPORATION STOPS, CURB STOPS, AND CURB BOXES SHALL BE PROVIDED BY THE SAME MANUFACTURER. ALL MATERIALS SHALL MEET THE REQUIREMENTS OF THE WATER COMPANY.

WATER SERVICE DETAIL

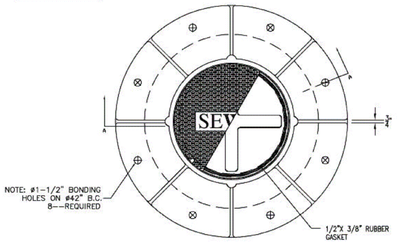
NOT TO SCALE

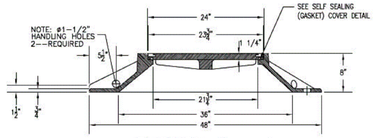


SELF SEALING (GASKET) COVER DETAIL

STANDARD MH COVER SECTION
COVER WEIGHT: 175 LBS ±3%
LeBARON FOUNDRY CO., (L24C36P)

BLIND PICK HOLE

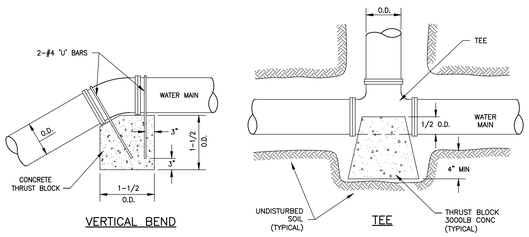




SECTION A - A
FRAME WEIGHT: 427 LBS ±3%
LeBARON FOUNDRY CO., (L1035-P)

NOTE:
FRAME AND COVER SHALL BE AS MANUFACTURED BY LeBARON FOUNDRY CO., CAMPBELL FOUNDRY CO., OR EQUIVALENT; WEIGHT OF 602 LBS. ±3%. COVER SHALL HAVE THE WORD "SEWER" CAST ON TOP.

FRAME & COVER DETAIL
(STANDARD FRAME AND COVER)



VERTICAL BEND

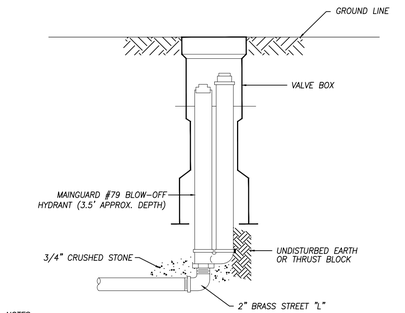
TEE

BEARING AREA OF BLOCK IN SQ. FT.					
FITTING SIZES	TEE & END	90°BEND	45°BEND	22 1/2° BEND	11 1/4° BEND
6"	2.3	3.3	1.8	0.9	0.5
8"	4.0	5.7	3.1	1.5	0.8
10"	6.0	8.6	4.6	2.4	1.2
12"	8.6	12.1	6.5	3.3	1.7

* RESTRAINED JOINT FITTINGS MAY BE USED IN LIEU OF THRUST BLOCKS

WATER MAIN THRUST BLOCK DETAIL

NOT TO SCALE



NOTES:
BLOW-OFF HYDRANTS SHALL BE NON-FREEZING, SELF DRAINING TYPE. SET UNDERGROUND IN A 5 1/4" VALVE BOX, THESE HYDRANTS WILL BE FURNISHED WITH A 2" FIP INLET, A NON-TURNING OPERATING ROD, AND SHALL OPEN TO THE LEFT. ALL OF THESE WORKING PARTS SHALL BE OF BRONZE-TO-BRONZE DESIGN, AND BE SERVICABLE FROM ABOVE GRADE WITH NO DIGGING. THE OUTLET SHALL BE A 2" FIP COUPLING WITH PLUG, AS MANUFACTURED BY KUPFERLE FOUNDRY CO., ST. LOUIS, MO, OR APPROVED EQUAL.

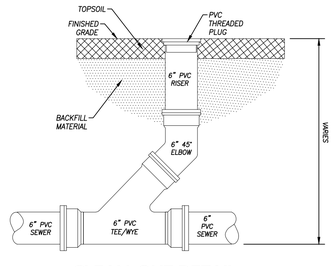
2" AIR RELEASE VALVE DETAIL

NOT TO SCALE

PIPE SIZE	90° BEND	45° BEND OR WYE BRANCH	22 1/2° BEND	11 1/4° BEND	PLUG, CAP OR IN-LINE VALVE	TEE (BRANCH)
6"	25 (30.5)	10.5 (12.5)	5 (6)	2.5 (3)	43 (64)	34 (51)
8"	33 (40)	13.5 (16.5)	6.5 (8)	3 (4)	55 (82)	47 (70)
10"	40 (48.5)	16.5 (20)	8 (9.5)	4 (5)	67 (100)	58 (87)
12"	47 (56.5)	19.5 (23.5)	9.5 (11.5)	4.5 (5.5)	79 (118)	70 (105)
16"	59.5 (72)	24.5 (30)	12 (14.5)	6 (7)	101 (152)	92 (139)
20"	72 (86.5)	30 (36)	14.5 (17)	7 (8.5)	123 (184)	114 (171)
24"	84 (100)	35 (41)	16.5 (20)	8 (10)	144 (216)	134 (202)
30"	100 (120)	41 (50)	20 (24)	10 (12)	174 (261)	165 (247)

NOTES:
1. RESTRAINED LENGTHS LISTED IN PARENTHESES ARE FOR PIPE WRAPPED IN POLYETHYLENE. THE OTHER ASSOCIATED LENGTHS ARE FOR PLAIN UNWRAPPED DUCTILE IRON PIPE.

REQUIRED LENGTH OF RESTRAINED JOINTS FROM FITTINGS (FEET)



CLEAN-OUT DETAIL

NOT TO SCALE

CIVIL ENGINEERING · LAND SURVEYING · LAND DEVELOPMENT · LAND PLANNING
BOUNDARIES
Boundaries LLC
179 Pachaug River Drive Griswold, CT 06351
T 860.376.2006 | www.boundariesllc.net

Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Water and Sanitary Sewer Details

SCALE: As Noted
DATE: November 2016
JOB I.D. NO. 14-2320-2

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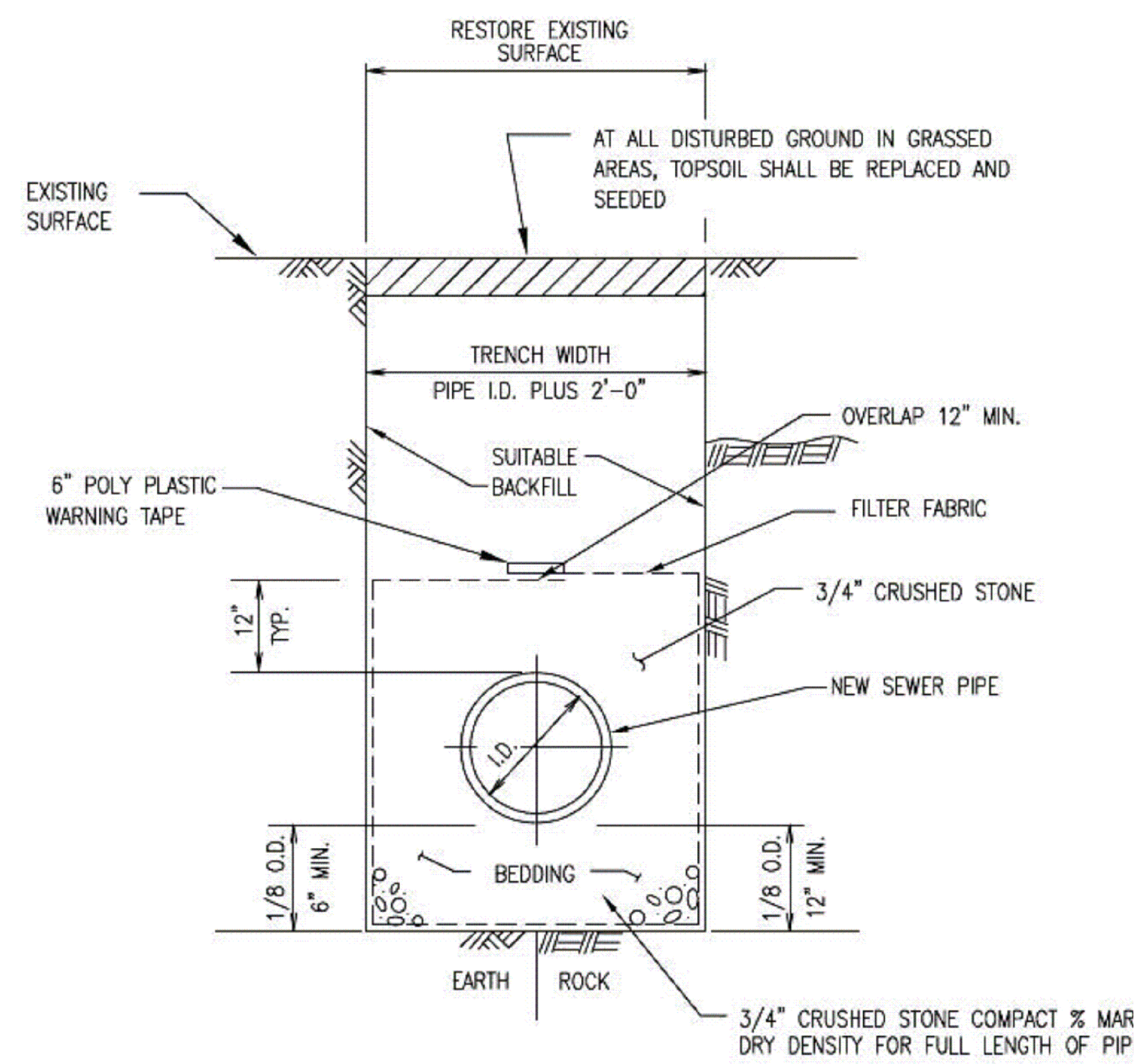
SHEET NO. 23 / 24

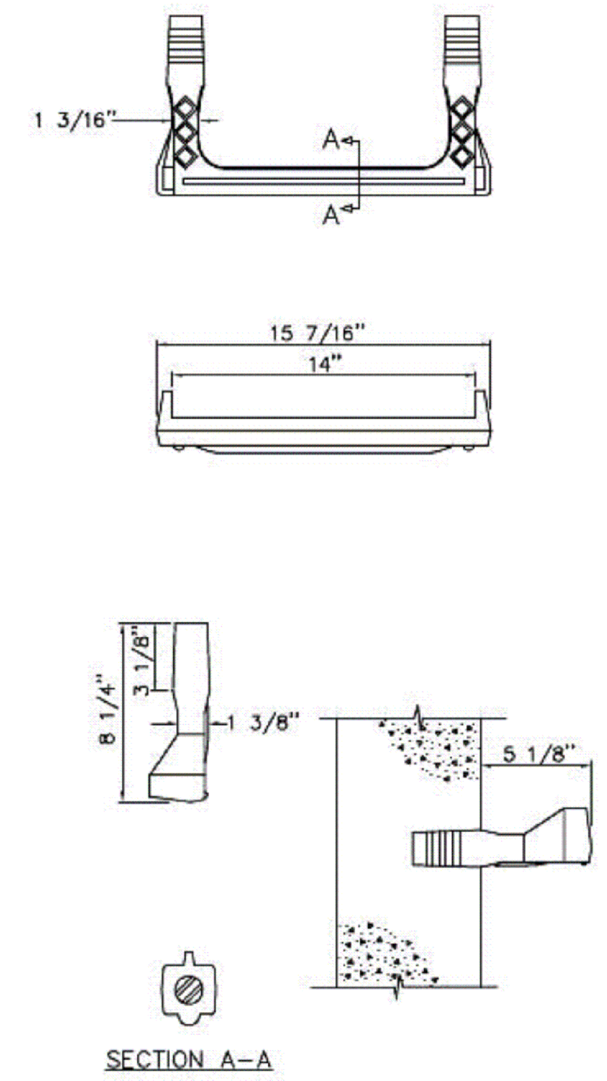
BOUNDARIES ORIGINAL INK DRAWING



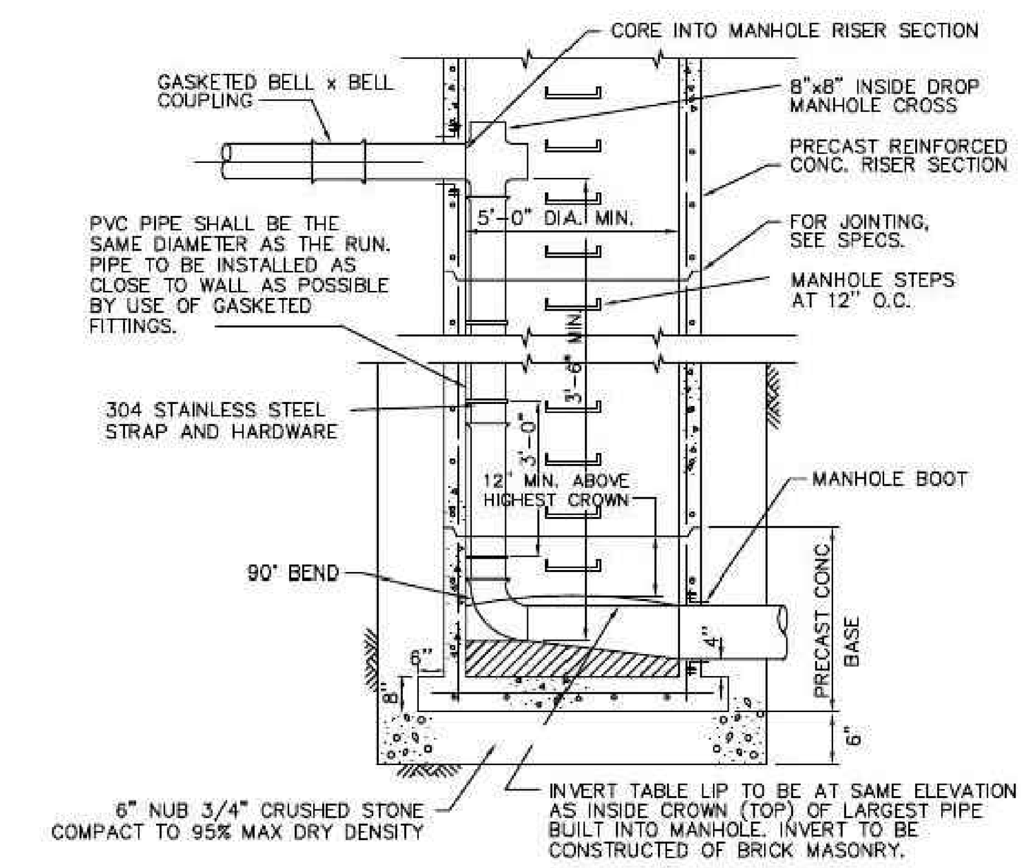
NOTE:

IF THE INSPECTOR DETERMINES THAT SUITABLE GRANULAR PIPE BEDDING MATERIAL IS AVAILABLE FROM ON-SITE EXCAVATIONS, IT MAY BE UTILIZED AS SELECT BACKFILL AND BEDDING.

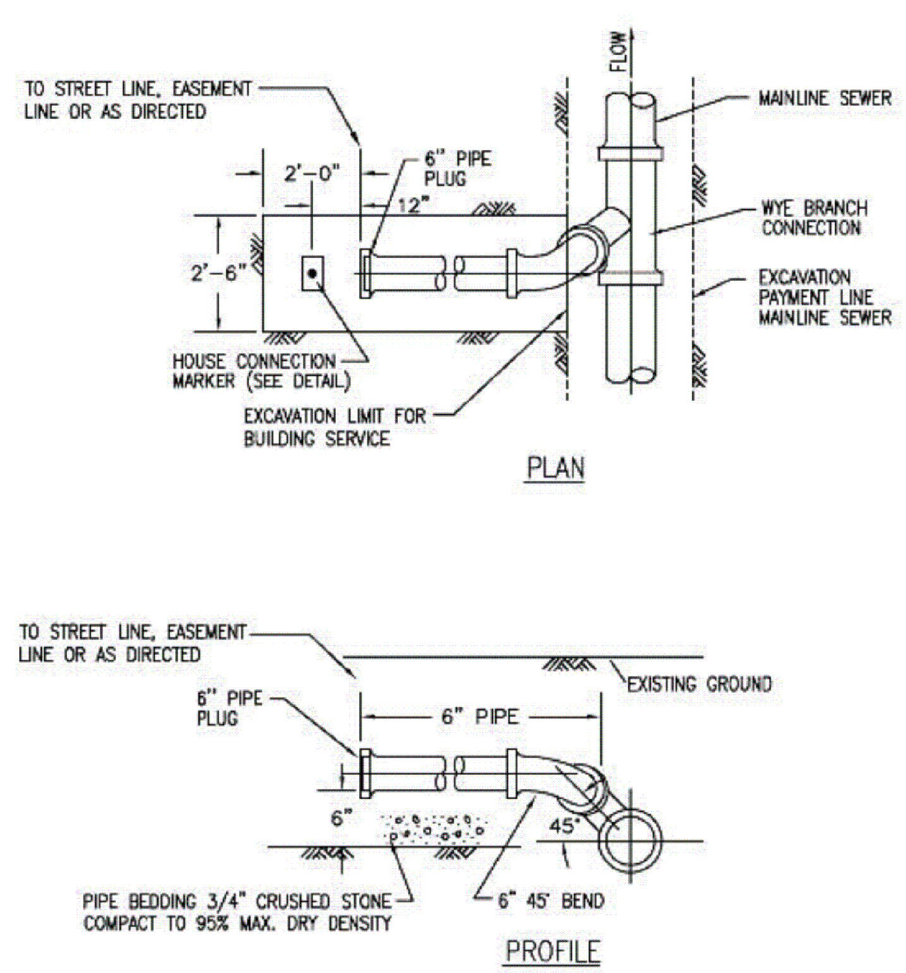
SEWER PIPE TRENCH DETAIL



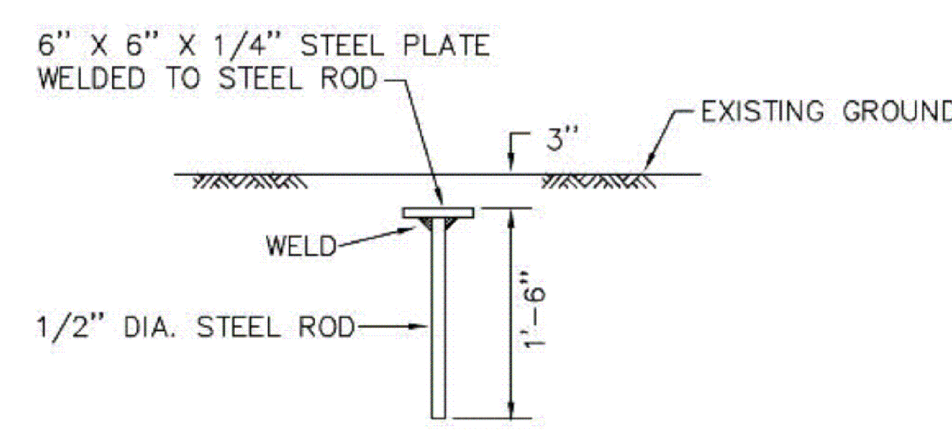
MANHOLE STEP



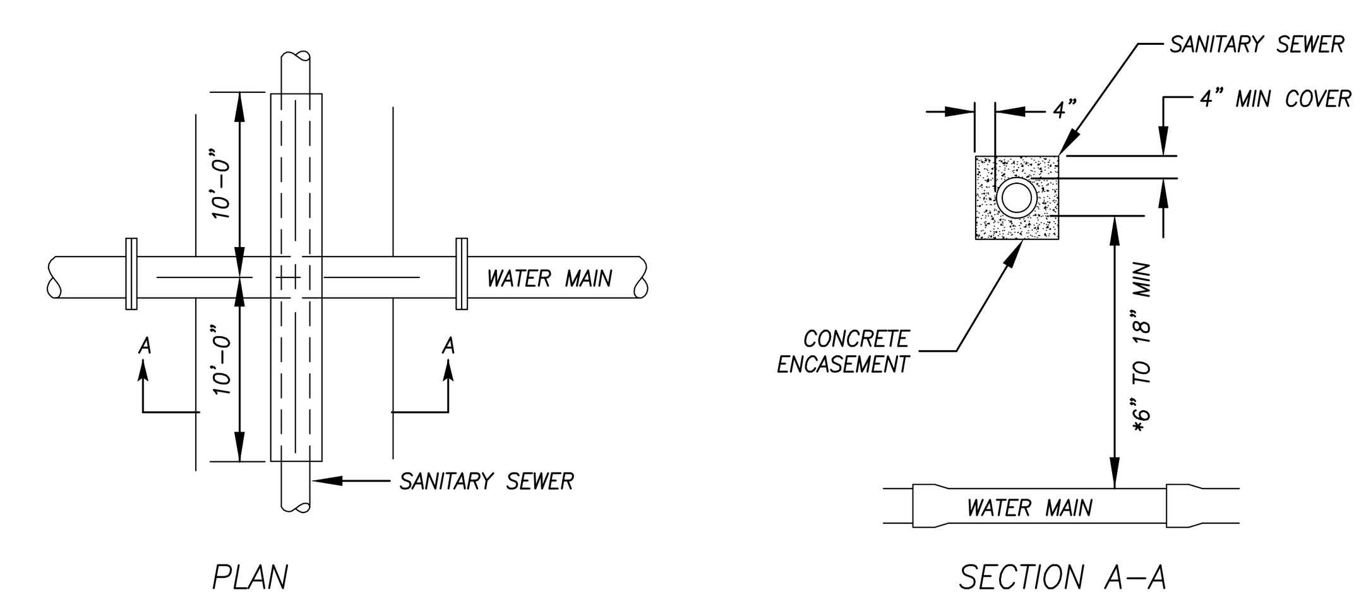
SANITARY INSIDE DROP MANHOLE



TYPICAL BUILDING SERVICE DETAIL



BUILDING CONNECTOR MARKER DETAIL



NOTES:
1. CONCRETE ENCASEMENT NOT REQUIRED IF VERTICAL SEPARATION IS 18" OR GREATER.
2. WATER MAIN SHALL CROSS ABOVE SEWER IF POSSIBLE.

WATER AND SEWER CROSSING DETAIL

NOT TO SCALE

BOUNDARIES
ORIGINAL INK DRAWING

BOUNDARIES
CIVIL ENGINEERING LAND SURVEYING LAND USE PLANNING SOIL SCIENCE
Boundaries LLC
179 Pachaug River Drive, Griswold, CT 06351
T 860.376.2006 | www.boundariesllc.net

Millwood at Old Colchester Road
Site Development Plan
Prepared For Jensen's, Inc.
416 Old Colchester Road, Uncasville, Connecticut
Water and Sanitary Sewer Details

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SHEET NO.

24 / 24

APPENDIX C

COPY OF CONSTRUCTION GENERAL PERMIT

Connecticut Department of
Energy & Environmental Protection
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division

General Permit Registration Form for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective 10/1/13 (electronic form)

Prior to completing this form, you **must** read the instructions for the subject general permit at **DEEP-WPED-INST-015**.
This form must be filled out electronically before being printed.
You must submit the registration fee along with this form.

The status of your registration can be checked on the DEEP's ezFile. Portal. Please note that DEEP will no longer mail certificates of registration.

CPPU USE ONLY

App #: _____

Doc #: _____

Check #: _____

Program: **Stormwater**

Part I: Registration Type

Select the appropriate boxes identifying the registration type and registration deadline.

	Registration Type			Registration Timeline
☐	**Re-registration** **Existing Permit No. GSN** _____			**On or before February 1, 2014*** *Note: Failure to renew a permit by this date will require submission of new registration. Re-registrants must only complete Parts I, II, III, IV - Question 1, VII and submit Attachment A.
☑	**New Registration** (Refer to Section 2 of the permit for definitions of Locally Exempt and Locally Approvable Projects)	☑ **Locally Approvable** **Size of soil disturbance:** 16.00		**New registration - Sixty (60) days prior to the initiation of the construction activity for:** For sites with a total soil disturbance area of 5 or more acres
		☐ **Locally Exempt** **Size of soil disturbance:** _____	☐	**New registration - Sixty (60) days prior to the initiation of the construction activity for:** Sites with a total disturbance area of one (1) to twenty (20) acres except those with discharges to impaired waters or tidal wetlands
			☐	**New registration - Ninety (90) days prior to the initiation of the construction activity for:** (i) Sites with a total soil disturbance area greater than twenty (20) acres, or (ii) Sites discharging to a tidal wetland (that is not fresh-tidal and is located within 500 feet), or (iii) Sites discharging to the impaired water listed in the "Impaired Waters Table for Construction Stormwater Discharges"

Part II: Fee Information

1. New Registrations

   a. Locally approvable projects (registration only):

☑ $625

   b. Locally exempt projects (registration and Plan):

☐ $3,000 total soil disturbance area ≥ one (1) and < twenty (20) acres.

☐ $4,000 total soil disturbance ≥ twenty (20) acres and < fifty (50) acres.

☐ $5,000 total soil disturbance ≥ fifty (50) acres.

2. Re-Registrations

☐ $625 (sites previously registered prior to September 1, 2012)

☐ $0 (sites previously registered between to September 1, 2012 and effective date of this permit)

Total Fee: $625.00

The fees for municipalities shall be half of those indicated in subsections (a), (b) and (c) above pursuant to Section 22a-6(b) of the Connecticut General Statutes. State and Federal agencies shall pay the full fees specified in this subsection. The registration will not be processed without the fee. The fee shall be non-refundable and shall be paid by certified check or money order payable to the Department of Energy and Environmental Protection.

Part III: Registrant Information

- If a registrant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of the State. If applicable, the registrant's name shall be stated **exactly** as it is registered with the Secretary of the State. This information can be accessed at **CONCORD**
- If a registrant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

1. Registrant /Client Name: JENSEN'S, INC.

   Registrant Type: Business Entity

   Secretary of the State business ID #: 0085745

   Mailing Address: 246 REDSTONE ST

   City/Town: SOUTHINGTON State: CT Zip Code: 06489

   Business Phone: (860) 793-0281 ext.:

   Example:(xxx) xxx-xxxx

   Contact Person: Keith E. Jensen Title :

   E-Mail: kejensen@jensencommunities.com

2. List billing contact:

   Name: JENSEN'S, INC.

   Mailing Address: 246 REDSTONE ST

   City/Town: SOUTHINGTON State: CT Zip Code: 06489

   Business Phone: (860) 793-0281 ext.:

   Contact Person: Keith E. Jensen Title :

3. List primary contact for departmental correspondence and inquiries:
   Name: JENSEN'S, INC.
   Mailing Address: 246 REDSTONE ST
   City/Town: SOUTHINGTON State: CT Zip Code: 06489
   Business Phone: (860) 793-0281 ext.
   Contact Person: Keith E. Jensen Title:

4. List owner of the property on which the activity will take place:
   Name: JENSEN'S, INC.
   Mailing Address: 246 REDSTONE ST
   City/Town: SOUTHINGTON State: CT Zip Code: 06489
   Business Phone: (860) 793-0281 ext.
   Contact Person: Keith E. Jensen
5. List preparer:
   Name: Boundaries, LLC
   Mailing Address: 179 Pachaug River Dr
   City/Town: Griswold State: CT Zip Code: 06351
   Business Phone: (860) 376-2006 ext.
   Contact Person: James McNally, Jr. Title:
6. List design professional:
   Name: Boundaries, LLC
   Mailing Address: 179 Pachaug River Dr
   City/Town: Griswold State: CT Zip Code: 06351
   Business Phone: (860) 376-2006 ext. 14
   Contact Person: DAVID McKAY Title:
7. List Reviewing Qualified Professional (for locally approvable projects only):
   Name: CLA ENGINEERS, INC.
   Mailing Address: 317 MAIN ST
   City/Town: NORWICH State: CT Zip Code: 06360
   Business Phone: (860) 866-1966 ext.
   Contact Person: ELLEN BARTLETT Title: PROJ ENG

Part IV: Site Information

1. Site Name: Millwood at Old Colchester Road
   Street Address or Description of Location: 416 Old Colchester Rd
   City/Town: Uncasville State: CT Zip Code: 06382
   Brief Description of construction activity:
   2,150' Private Road with underground utilities and storm water system. 46 Individual residences.
   Project Start Date: 9 Oct 2017 Anticipated Completion Date: 31 Oct 2019
   Normal working hours: 7AM to 6PM

2. **MINING** : Is the activity on the site in question part of mining operations (i.e. sand and gravel)? ☐Yes ☑No

If yes, mining is not authorized by this general permit. You must submit the Registration Form for the General Permit for the Discharge of Stormwater Associated with Industrial Activity.

3. **COMBINED OR SANITARY SEWER:** Does all of the stormwater from the proposed activity discharge to a combined or sanitary sewer (i.e. a sewage treatment plant)? ☐ Yes ☑No

If yes, this activity is not regulated by this permit. Contact the Water Permitting & Enforcement Division at 860-424-3018.

4. **INDIAN LANDS:** Is or will the facility be located on federally recognized Indian lands? ☐ Yes ☑No

5. **COASTAL BOUNDARY:** Is the activity which is the subject of this registration located within the coastal boundary as delineated on DEEP approved coastal boundary maps? ☐ Yes ☑No

The coastal boundaries fall within the following towns: Branford, Bridgeport, Chester, Clinton, Darien, Deep River, East Haven, East Lyme, Essex, Fairfield, Greenwich, Groton (City and Town), Old Lyme, Guilford, Hamden, Ledyard, Lyme, Madison, Milford, Montville, New London, New Haven, North Haven, Norwalk, Norwich, Old Saybrook, Orange, Preston, Shelton, Stamford, Stonington (Borough and Town), Stratford, Waterford, West Haven, Westbrook and Westport.

If "yes", and this registration is for a new authorization or a modification of an existing authorization where the physical footprint of the subject activity is modified, you must provide documentation to the DEEP Office of Long Island Sound Programs or the local governing authority has issued a coastal site plan approval or determined the project is exempt from coastal site plan review. Provide this documentation with your registration as Attachment B. See guidance in Appendix D of the general permit. Information on the coastal boundary is available at the local town hall or on the **Connecticut Coastal Resources Map** . Additional DEEP Maps and Publications are available by contacting DEEP Staff at 860-424-3555.

6. **ENDANGERED OR THREATENED SPECIES:**

In order to be eligible to register for this General permit, each registrant must either perform a self-assessment, obtain a limited one-year determination, or obtain a safe-harbor determination regarding threatened and endangered species. This may include the need to develop and implement a mitigation plan. While each alternative has different limitations, the alternatives are not mutually exclusive; a registrant may register for this General Permit using more than one alternative, See Appendix A of the general Permit. Each registrant must complete this AND Attachment C to this Registration form and a registrant who does not or cannot do so is not eligible to register under this General Permit.

Each registration must perform a review of the Department's Natural Diversity Database maps to determine if the site of the construction activity is located within or in proximity (within ¼ mile) to a shaded area.

a. Provide the date of the NDDB maps were reviewed: 30 Aug 2017 (Print a copy of the NDDB map you viewed since it must be submitted with this registration as part of Attachment C.)

b. For a registrant using a limited one-year determination or safe harbor determination to register for this General Permit, provide the Department's Wildlife Division NDDB identification number for any such determination:

_____ (The number is on the determination issued by the Department's Wildlife Division).

For more information on threatened and endangered species requirements, refer to Appendix A and section 3(b)(2) of this General Permit, Visit the DEEP website at **Natural Diversity Data Base** or call the NDDB at 860-424-3011.

c. I verify that I have completed Attachment C to this Registration Form. ☐ Yes

7. **WILD AND SCENIC RIVERS:** Is the proposed project within the watershed of a designated Wild and Scenic River? (See Appendix H for guidance) ☐ Yes ☑ No

8. **AQUIFER PROTECTION AREAS:** Is the site located within a mapped **Aquifer Protection Area** , as defined in Section 22a-354h of the CT General Statutes? (For additional guidance, please refer to Appendix C of the General Permit) ☐ Yes ☑ No

9. **Connecticut Guidelines for Soil Erosion and Sediment Control Guidelines:** Is the activity in accordance with Connecticut Guidelines for Soil Erosion and Sediment Control Guidelines and local erosion & sediment control ordinances, where applicable? ☑ Yes ☐ No

10. **HISTORIC AND/OR ARCHAEOLOGICAL RESOURCES:**

Has the site of the proposed activity been reviewed (using the process outlined in Appendix G of this permit) for historic and/or archaeological resources? ☑ Yes ☐ No

a. The review indicates the proposed site does not have the potential for historic/ archaeological resources, OR ☑ Yes ☐ No

b. The review indicated historic and/ or archaeological resource potential exists and the proposed activity is being or has been reviewed by the Offices of Culture and Tourism, OR ☐ NA ☐ Yes ☑ No

c. The proposed activity has been reviewed and authorized under an Army Corps of Engineers Section 404 wetland permit. ☐ NA ☐ Yes ☑ No

11. **CONSERVATION OR PRESERVATION RESTRICTION:**

Is the property subject to a conservation or preservation restriction? ☐ Yes ☑ No

If Yes, proof of written notice of this registration to the holder of such restriction or a letter from the holder of such restriction verifying this registration is in compliance with the terms of the restriction, must be submitted as Attachment D.

Part V: Stormwater Discharge Information

Table 1

Outfall #	a) Type	b) Pipe Material	c) Pipe Size	d) Note: To find lat/long, go to: CT ECO . A decimal format is required here. Directions on how to use CT ECO to find lat. /long. and conversions can be found in in Part V, section d of the DEEP-WPED-INST-015 .		e) What method was used to obtain your latitude/longitude information?
				Longitude *(Format: -xx.xxxxx)*	Latitude *(Format: xx.xxxxx)*	
1	Other(Please fill in below) torm Water Basin Spillwa			-72.142965	41.435903	GPS
2	Other(Please fill in below) torm Water Basin Spillwa			-72.146076	41.434761	GPS
3	Other(Please fill in below) torm Water Basin Spillwa			-72.146110	41.434861	GPS

Part V: Stormwater Discharge Information Continued

Table 2

2. Provide the following information about the receiving water(s)/wetland(s) that receive stormwater runoff from your site, either directly or through the storm sewer system:							
Outfall #	**Dates when this outfall will be active:**	**a) To what system or receiving water does your stormwater runoff discharge? either "storm sewer or wetlands" or "waterbody" (If you select storm sewer or wetlands, columns c.1&2 of this table are not required to be completed)**	**b) What is your watershed ID (freshwater) or 305b ID (estuary)? (Section 3.b, of the DEP-GP-INST-015 explains how to find this information)**	**c.1) Is your receiving water identified as an impaired water in the "Impaired Waters Table for Construction Stormwater Discharges"?**	***If you answered yes to question c.1, then answer the question below*** **c.2) Has any Total Maximum Daily Load (TMDL) been approved for your receiving waterbody?**	**For the drainage area associated with each outfall: Effective Impervious Area Before Construction (sq ft)**	**For the drainage area associated with each outfall: Effective Impervious Area After Construction (sq ft)**
1	Start: 9 Oct 2017 End: 31 Oct 2019	Storm Sewer or Wetlands		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	0	25470
2	Start: 9 Oct 2017 End: 31 Oct 2019	Storm Sewer or Wetlands		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	0	103770
3	Start: 9 Oct 2017 End: 31 Oct 2019	Storm Sewer or Wetlands		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	0	28670
	Start: End:	Select One		☐ Y ☐ N ☐ NA	☐ Y ☐ N ☐ NA		
	Start: End:	Select One		☐ Y ☐ N ☐ NA	☐ Y ☐ N ☐ NA		
Provide the total effective impervious area for the entire site(sq ft):						0	157910

Part V: Stormwater Discharge Information (continued)

Impaired waters: If you answered "yes" to Table 2, question 2.c.1, **verify** that the project's Pollution Control Plan (Plan) addresses the control measures below in Question 1 or 2, as appropriate.

1. **If the impaired water does not have a TMDL,** confirm compliance by selecting 1.a. or 2.b. below:

a. No more than 3 acres is disturbed at any time; ☐ Yes

OR

b. Stormwater runoff from a 2 yr, 24 rain event is **retained.** ☐ Yes

2. **If the impaired water has a TMDL,** confirm compliance by selecting 2.a. and 2.b. below and either question 2.c.1. or 2.c.2. below:

a. The Plan documents there is sufficient remaining Waste Load Allocations (WLA) in the TMDL for the proposed discharge, ☐ Yes

AND

b. Control measures shall be implemented to assure the WLA will not be exceeded, ☐ Yes

AND

c. 1. Stormwater discharges will be monitored for the indicator pollutant identified in the TMDL, ☐ Yes

OR

2. The Plan documents specific requirements for stormwater discharges specified in the TMDL. ☐ Yes

Part VI: Pollution Control Plan Availability (check one of the following four categories)

☐ I am registering a Locally Exempt project and submitting the required electronic Plan (in Adobe™ PDF or similarly publically available format) pursuant to Section 3(c)(2)(E) of this permit.

- ☐ Plan is attached to this registration form
- ☐ Plan is available at the following Internet Address (URL): _____

☐ I am registering a Locally Approvable project and have chosen not to submit the Plan with this registration pursuant to Section 3(c)(1) of this permit.

☑ I am registering a Locally Approvable project and have chosen to make my Plan electronically available pursuant to Section 4(c)(2)(N) of this permit.

- ☑ Plan is attached to this registration form
- ☐ Plan is available at the following Internet Address (URL): _____

☐ I am registering a Locally exempt project and do not have the capability to submit the Plan electronically. Therefore, I am submitting a paper copy with this registration as Attachment E.

Part VII: Registrant Certification

The registrant *and* the individual(s) responsible for actually preparing the registration must sign this part. A registration will be considered incomplete unless all required signatures are provided.

For New Registrants:

"I hereby certify that I am making this certification in connection with a registration under such general permit, submitted to the commissioner by JENSEN'S, INC. for an activity located at 416 Old Colchester Rd, Uncasville, CT 06382 and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(b) (8) (B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

For Re-registrants:

"I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner by _____ for an activity located at _____ and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that all designs and plans for such activity meet the current terms and conditions of the general permit in accordance with Section 5(b)(5)(C) of such general permit and that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I verify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this verification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and an other applicable law."

Signature of Registrant	
Keith E. Jensen	
Name of Registrant (print or type)	Title (if applicable)
Signature of Preparer and Date (if different than above)	
James McNally, Jr.	
Name of Preparer (print or type)	Title (if applicable)

Part VIII: Professional Engineer (or Landscape Architect, where appropriate) Design Certification (for publically approvable and exempt projects)

The following certification must be signed by a Professional Engineer, or Landscape Architect where appropriate.

"I hereby certify that I am a licensed in the State of Connecticut.

I am making this certification in connection with a registration under such general permit, submitted to the commissioner by JENSEN'S, INC. for an activity located at 416 Old Colchester Rd, Uncasville, CT 06382 .

I certify that I have thoroughly and completely reviewed the Stormwater Pollution Control Plan for the project or activity covered by this certification. I further certify, based on such review and on the standard of care for such projects, that the Stormwater Pollution Control Plan has been prepared in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, the Stormwater Quality Manual, as amended, and the conditions of the general permit, and that the controls required for such Plan are appropriate for the site. I further certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement in this certification may subject me to sanction by the Department and/or be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Design Professional and Date	
DAVID McKAY	29102
Name of Professional (print or type)	License Number

Affix P.E/L.A Stamp Here

Part IX: Reviewing Qualified Professional Certification

The following certification must be signed by a) a Conservation District reviewer OR, b) a qualified soil erosion and sediment control and/ or professional engineer

☐ **Review Certification by Conservation District:**

1.) District: _____

Date of Affirmative Determination: _____

" I am making this certification in connection with a registration under General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner by _____ for an activity located at _____.

I have personally examined and am familiar with the information that provides the basis for this certification, and I affirm, based on the review described in Section 3(b)(11)(C) of this general permit and on the standard of care for such projects, that the Stormwater Pollution Control Plan is adequate to assure that the activity authorized under this general permit will comply with the terms and conditions of such general permit and that all stormwater management systems: (i) have been designed to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable and that conform to those in the Guidelines and the Stormwater Quality Manual; (ii) will function properly as designed; (iii) are adequate to ensure compliance with the terms and conditions of this general permit; and (iv) will protect the waters of the state from pollution."

_____

Signature of District Professional and Date

_____ _____

Name of District Professional License Number (if applicable)

Or

☑ **Review Certification by Qualified Professional:**

Company Name: CLA ENGINEERS, INC.

Name: ELLEN BARTLETT

License #: _____

Level of independency of professional:

Required for all projects disturbing over 1 acre:

1. I verify I am not an employee of the registrant. ☑ Yes
2. I verify I have no ownership interest of any kind in the project for which the registration is being submitted. ☑ Yes

Required for projects with 15 or more acres of site disturbance (in addition to questions 1&2):

3. I verify I did not engage in any activities associated with the preparation, planning, designing or engineering of the soil erosion and sediment control plan or stormwater management systems plan for this registrant. ☑ Yes
4. I verify I am not under the same employ as any person associated with the preparation, planning, designing or engineering of the soil erosion and sediment control plan or stormwater management systems plan for this registrant. ☑ Yes

Part IX: Reviewing Qualified Professional Certification (continued)

"I hereby certify that I am a qualified professional engineer or qualified soil erosion and sediment control professional, or both, as defined in the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and as further specified in Sections 3(b)(11)(A) and (B) of such general permit. I am making this certification in connection with a registration under such general permit, submitted to the commissioner by JENSEN'S, INC. for an activity located at 416 Old Colchester Rd, Uncasville, CT 06382 .
I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(11)(C) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify, based on my review of all information described in Section 3(b)(11)(C) of such general permit and on the standard of care for such projects, that I have made an affirmative determination in accordance with Sections 3(b)(11)(D)(i) and (ii) of this general permit. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172, and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Reviewing Qualified Professional

CLA ENGINEERS, INC.

Name of Reviewing Qualified Professional

License No.

Affix P.E./ L.A. Stamp Here

Note: Please submit the fee along with a completed, printed and signed Registration Form and all additional supporting documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

APPENDIX D

INSPECTION REPORTS

APPENDIX D

Stormwater Construction Site Inspection Report

General Information			
Project Name	Millwood at Old Colchester Road - Montville, CT		
NPDES Tracking No.		**Location**	
Date of Inspection		**Start/End Time**	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications			
Describe present phase of construction			
Type of Inspection: ❑ Regular ❑ Pre-storm event ❑ During storm event ❑ Post-storm event			
Weather Information			
Has there been a storm event since the last inspection? ❑Yes ❑No **If yes, provide:** Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):			
Weather at time of this inspection? ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds ❑ Other: Temperature:			
Have any discharges occurred since the last inspection? ❑Yes ❑No **If yes, describe:**			
Are there any discharges at the time of inspection? ❑Yes ❑No **If yes, describe:**			

Site-specific BMPs

- *Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required BMPs at your site.*
- *Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.*

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1		❑Yes ❑No	❑Yes ❑No	
2		❑Yes ❑No	❑Yes ❑No	
3		❑Yes ❑No	❑Yes ❑No	
4		❑Yes ❑No	❑Yes ❑No	
5		❑Yes ❑No	❑Yes ❑No	
6		❑Yes ❑No	❑Yes ❑No	
7		❑Yes ❑No	❑Yes ❑No	
8		❑Yes ❑No	❑Yes ❑No	
9		❑Yes ❑No	❑Yes ❑No	
10		❑Yes ❑No	❑Yes ❑No	
11		❑Yes ❑No	❑Yes ❑No	
12		❑Yes ❑No	❑Yes ❑No	
13		❑Yes ❑No	❑Yes ❑No	
14		❑Yes ❑No	❑Yes ❑No	
15		❑Yes ❑No	❑Yes ❑No	
16		❑Yes ❑No	❑Yes ❑No	
17		❑Yes ❑No	❑Yes ❑No	
18		❑Yes ❑No	❑Yes ❑No	
19		❑Yes ❑No	❑Yes ❑No	
20		❑Yes ❑No	❑Yes ❑No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No	❑Yes ❑No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	❑Yes ❑No	❑Yes ❑No	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	❑Yes ❑No	❑Yes ❑No	
4	Are discharge points and receiving waters free of any sediment deposits?	❑Yes ❑No	❑Yes ❑No	
5	Are storm drain inlets properly protected?	❑Yes ❑No	❑Yes ❑No	
6	Is the construction exit preventing sediment from being tracked into the street?	❑Yes ❑No	❑Yes ❑No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No	❑Yes ❑No	
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	❑Yes ❑No	❑Yes ❑No	
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	❑Yes ❑No	❑Yes ❑No	
10	Are materials that are potential stormwater contaminants stored	❑Yes ❑No	❑Yes ❑No	

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
	inside or under cover?			
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No	❑Yes ❑No	
12	(Other)	❑Yes ❑No	❑Yes ❑No	

Non-Compliance

Describe any incidents of non-compliance not described above:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title:

_____

Signature:_____

Date:_____

APPENDIX E

CORRECTIVE ACTION PLAN

APPENDIX E

Corrective Action Log

Project Name: **Millwood at Old Colchester Road - Montville, CT**
SWPPP Contact:

Inspection Date	Inspector Name(s)	Description of BMP Deficiency	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible Person

APPENDIX F

LOG OF CHANGES AND UPDATES TO SWPPP

APPENDIX F

SWPPP Amendment Log

Project Name: **Millwood at Old Colchester Road - Montville, CT**
SWPPP Contact:

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

APPENDIX G

SUBCONTRACTOR CERTIFICATIONS/AGREEMENTS

APPENDIX G

Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION

STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: Millwood at Old Colchester Road – Montville, CT

Operator(s): Jensen's, Inc.

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advice each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

APPENDIX H

GRADING AND STABILIZATIN ACTIVITIES LOG

APPENDIX H

Grading and Stabilization Activities Log

Project Name: **Millwood at Old Colchester Road – Montville, CT**
SWPPP Contact:

Date Grading Activity Initiated	Description of Grading Activity	Date Grading Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures are Initiated	Description of Stabilization Measure and Location

APPENDIX I

SWPPP TRAINING LOG

Stormwater Pollution Prevention Plan Training Log

APPENDIX I

Stormwater Pollution Prevention Training Log

Project Name: _____

Project Location: _____

Instructor's Name(s): _____

Instructor's Title(s): _____

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ❑ **Erosion Control BMPs**
- ❑ **Sediment Control BMPs**
- ❑ **Non-Stormwater BMPs**
- ❑ **Emergency Procedures**
- ❑ **Good Housekeeping BMPs**

Specific Training objective: _____

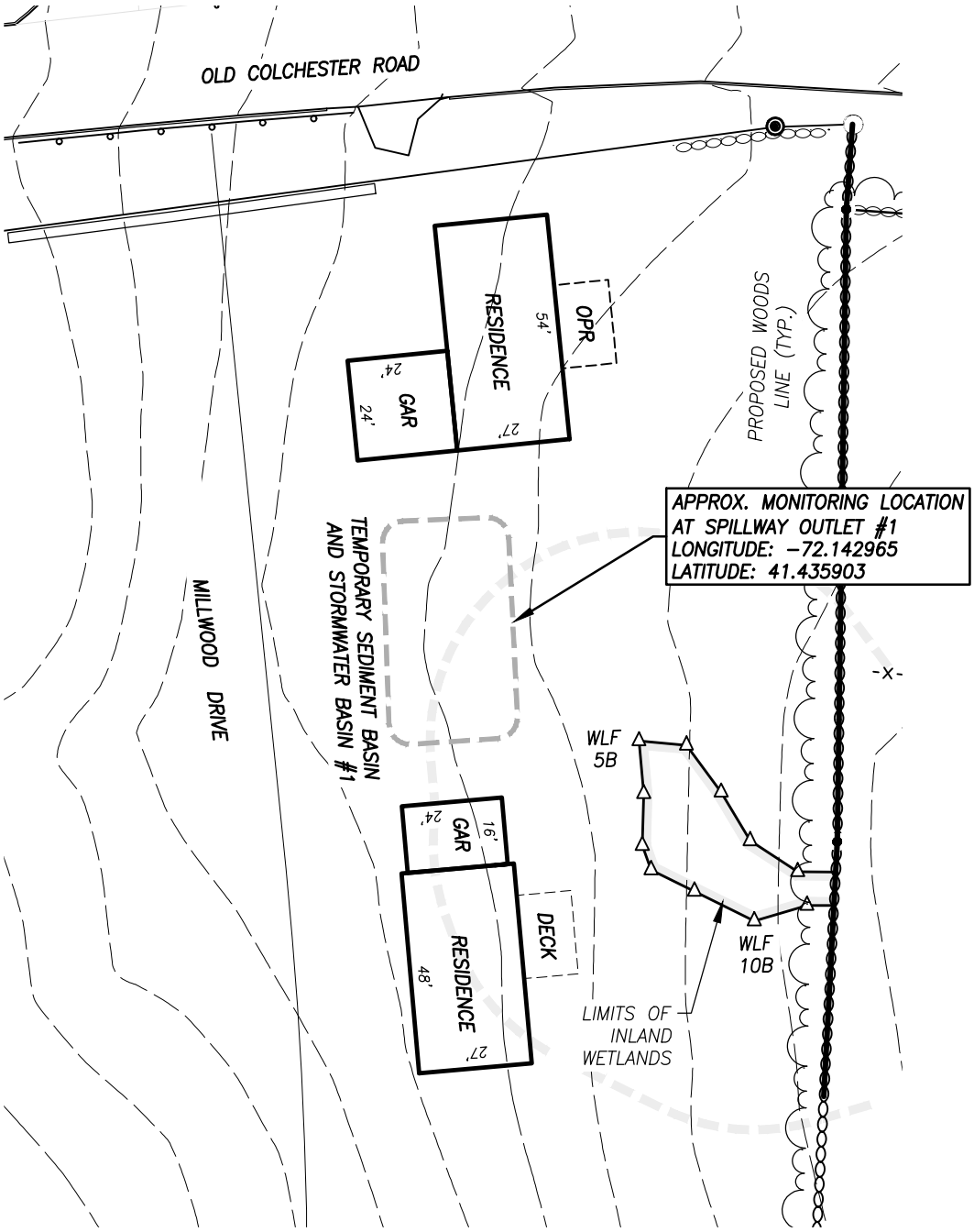
_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

APPENDIX J

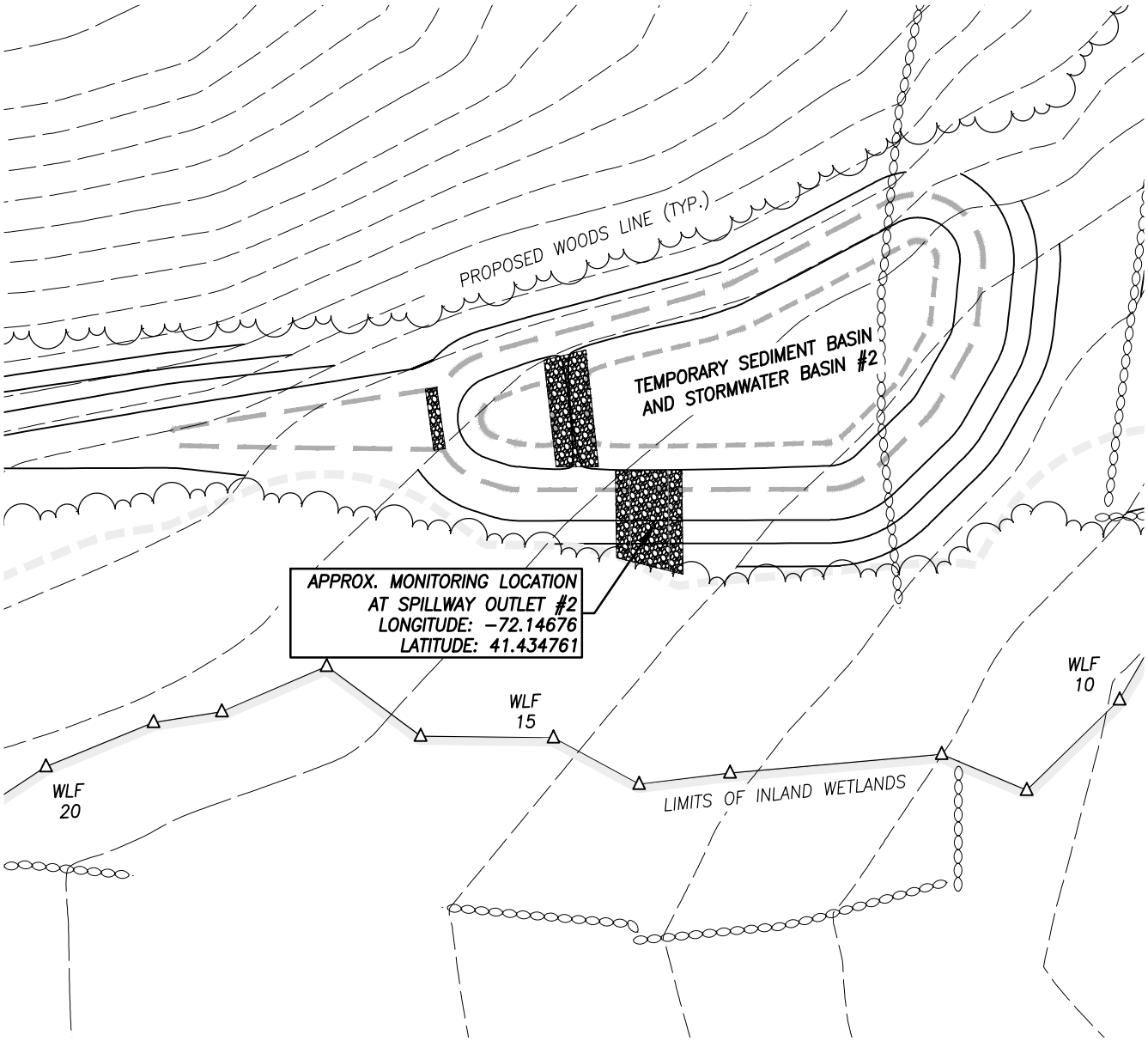
STORMWATER MONITORING OUTLET LOCATIONS AND REPORT DOCCUMENT



BOUNDARIES
CIVIL ENGINEERING LAND SURVEYING LAND USE PLANNING SOIL SCIENCE
Boundaries LLC
179 Pachaug River Drive, Griswold, CT 06351
T 860.376.2006 | www.boundariesllc.net

Millwood at Old Colchester Road
Stormwater Basin Outlet #1
416 Old Colchester Road, Uncasville, CT

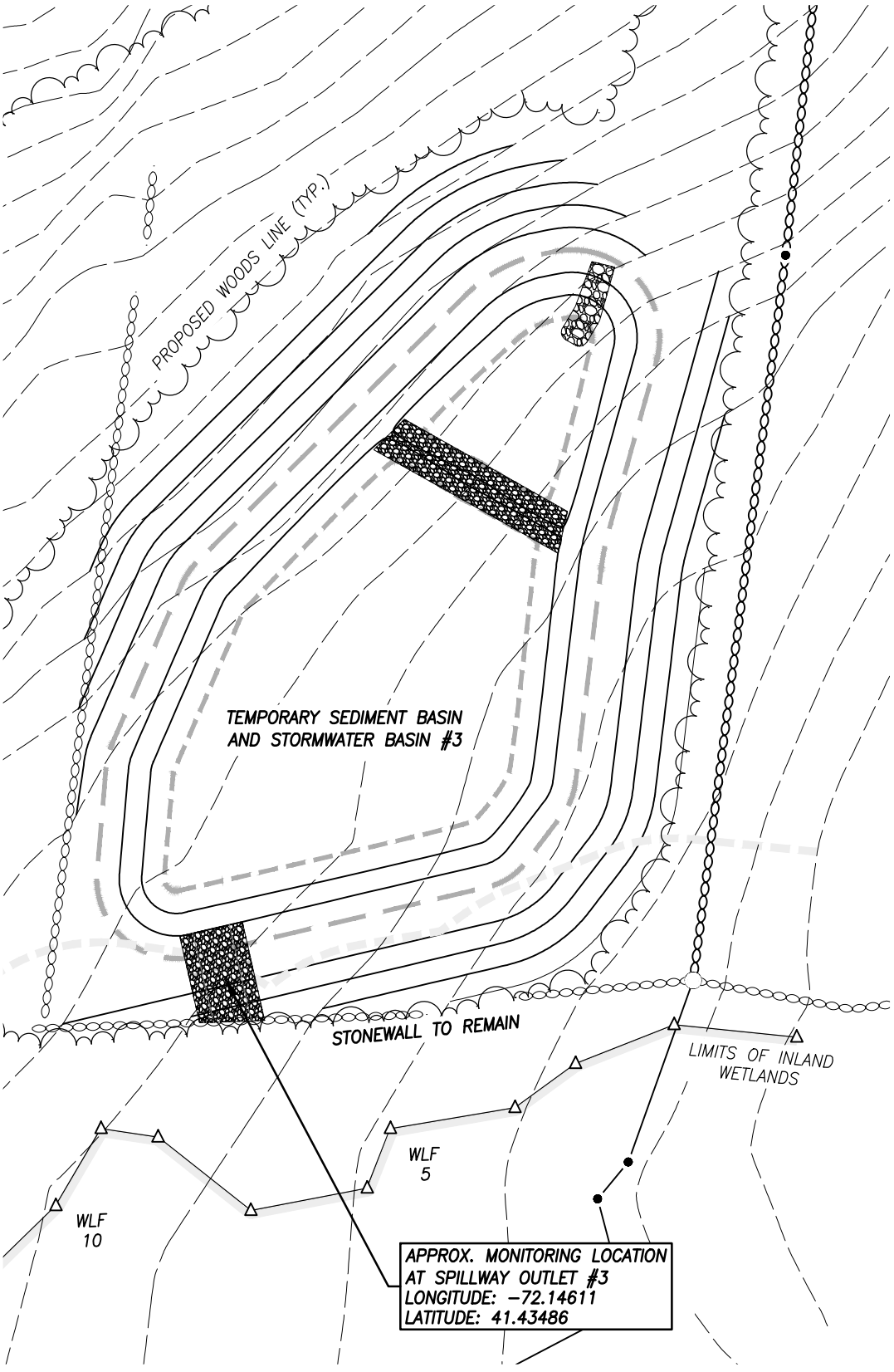
SCALE: 1"= 40'
DATE: July 10, 2017
JOB NO. 14-2320-2
SHEET 1 of 3



BOUNDARIES
CIVIL ENGINEERING LAND SURVEYING LAND USE PLANNING SOIL SCIENCE
Boundaries LLC
179 Pachaug River Drive, Griswold, CT 06351
T 860.376.2006 | www.boundariesllc.net

Millwood at Old Colchester Road
Stormwater Basin Outlet #2
416 Old Colchester Road, Uncasville, CT

SCALE: 1"= 40'
DATE: July 10, 2017
JOB NO. 14-2320-2
SHEET 2 of 3



BOUNDARIES
CIVIL ENGINEERING LAND SURVEYING LAND USE PLANNING SOIL SCIENCE
Boundaries LLC
179 Pachaug River Drive, Griswold, CT 06351
T 860.376.2006 | www.boundariesllc.net

Millwood at Old Colchester Road
Stormwater Basin Outlet #3
416 Old Colchester Road, Uncasville, CT

SCALE: 1"= 40'
DATE: July 10, 2017
JOB NO. 14-2320-2
SHEET 3 of 3

APPENDIX K

DELEGATION OF AUTHORITY FORM

APPENDIX K

Delegation of Authority Form

Delegation of Authority

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with requirements of the Construction General Permit, at the **Millwood at Old Colchester Road** construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

Name of person _____

Position _____

Company _____

Address _____

City, State, Zip _____

Phone _____

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix G, Subsection 11.A of EPA's Construction General Permit (CGP), and that the designee above meets the definition of a "duly authorized representative" as set forth in Appendix G, Subsection 11.B (1-3).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____