



EA Engineering, P.C.
EA Science and Technology

6712 Brooklawn Parkway, Suite 104
Syracuse, New York 13211-2158
Telephone: 315-431-4610
Fax: 315-431-4280
www.eaest.com

29 December 2017

Ms. Sarah Saucier
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, NY 12233-7012

RE: Pre-Design Investigation Activities
Contract/WA No: D007624-39
Site/Spill No./Pin: Dzus Fastener Company Inc. Remedial Design (Site No. 152033)

Dear Ms. Saucier:

This letter work plan describes Task 3—Environmental Sampling and Implementation activities proposed for Operable Unit-3 (OU-3) of the Dzus Fastener Company Inc (Dzus) Site located in West Islip, New York. The proposed activities are part of a pre-design investigation (PDI) to inform the remedial design for sediment and soil removal from OU-3. An overview of the PDI is summarized below.

The objectives of the planned additional investigation are to:

- Delineate the extent of wetlands,
- Determine the extent of soil contamination behind the shopping plaza
- develop a high resolution topographic map, and
- evaluated stormwater flow to inform water management needs.

Field sampling activities will be conducted in accordance with EA's Generic Field Activities Plan¹, Quality Assurance Project Plan², and Health and Safety Plan³. The following PDI activities will be completed as part of the site investigation:

- Wetland delineation
- Soil sampling
- Site surveying
- Deployment of water level transducers

¹ EA. 2011a. Generic Field Activities Plan for Work Assignments under NYSDEC Contract D007624. April.

² EA. 2011c. Generic QAPP for Work Assignments under NYSDEC Contract D007624. October.

³ EA. 2011b. Generic HASP for Work Assignments under NYSDEC Contract D007624. October.

WETLAND DELINEATION

A field delineation of the OU-3 area and immediate surroundings will be conducted by an EA wetland scientist. The area of review (AOR) includes Willett's Creek from the shopping plaza off Union Blvd to Lake Capri (**Figure 1**). Wetlands and waters of the United States (WUS) will be delineated in accordance with the procedures outlined in the 1987 Corps of Engineers Wetland Delineation Manual (USACE 1987) and the 2012 Northcentral and Northeast Regional Supplement.

SOIL SAMPLING

During the 2016 Remedial Investigation (EA 2017⁴), a soil sample (SB-05) collected from behind the shopping plaza off of Union Blvd had cadmium concentrations (39 mg/kg) above the commercial soil cleanup objective (9.3 mg/kg). Additional soil samples are needed to define the extent of cadmium in soils in the vicinity of SB-05. Seven additional samples will be collected from the fill-sand interface (**Figure 2**). Due to the limited access behind the plaza, samples will be collected through the use of a hand auger.

Samples will be submitted for cadmium analysis by USEPA 6010. An independent third-party data validator will review the analytical data to ensure that data quality objectives have been met.

SITE SURVEY AND SEDIMENT THICKNESS EVALUATION

A site survey will be completed to generate a topographic base map at 1 foot elevations from Union Blvd to Lake Capri. The topographic survey will extend as needed up to 50 yards west and east of the centerline of the creek, including residential lots along the eastern banks of the creek (**Figure 3A-3E**). Vertical control will be established to the nearest +/-0.1 foot for all ground surface elevations. Elevations shall be determined relative to the North American Vertical Datum of 1988 (NAVD 88), with reference made to an existing monument in the vicinity of the site. Horizontal coordinates will be given in the State Plane East Zone (feet), North American Datum (NAD) of 1983, to an accuracy of +/-0.5 foot. It is anticipated that NYSDEC will contact residential property owners as to the purpose and for the survey.

During the survey, sediment stations along the edge of the creek will be established as the beginning of cross-stream transects. Sediment stations will be spaced 100-ft apart will be marked and labeled with wooden stakes (**Figure 3A-3E**). Subsequent to transect establishment, EA will complete a series of manual probes along each transect to identify and record sediment thickness to native sands throughout Willets Creek. This information will be used to refine volume estimates as part of the remedial design. EA will probe approximately every 10 ft along

⁴ EA. 2017. Remedial Investigation Report Dzus Fastener Company, Inc. (152033) West Islip, New York. Operable Unit 3 – Willets Creek Area. August.

the width of Willets Creek at each transect, with at least 3 probes per transect (center of creek channel and base of both eastern and western banks). At up to five (5) locations where probing identifies fine grained sediment thickness in excess of 6-in geotechnical samples will be collected and analyzed for Specific Gravity (ASTM D854), moisture, ash, and organic matter content (ASTM D2974), and particle-size distribution/gradation (ASTM D6913). The coordinates and depth to native sands at each probing and geotechnical sample location will be recorded. The site survey will capture coordinate data (X, Y, and Z) of the sediment probing locations.

Vertical control will be established to the nearest +/-0.1 foot for all ground surface elevations. Elevations shall be determined relative to the North American Vertical Datum of 1988 (NAVD 88), with reference made to an existing monument in the vicinity of the site. Horizontal coordinates will be given in the State Plane East Zone (feet), North American Datum (NAD) of 1983, to an accuracy of +/-0.5 foot.

Storm Water Flow Investigation

EA will deploy 5 water level transducers in select locations along Willets Creek (**Figure 4**). Data obtained from these transducers will be used to assess variations in water depths along Willets Creek for the development of necessary stormwater management requirements during implementation of the remedial design.

Transducers will be deployed at the following locations:

- Upstream of the wetland behind the shopping plaza
- Downstream of the wetland behind the shopping plaza
- Downstream of the footbridge at Beach Street Middle School (Burling Lane)
- Downstream of the footbridge at West Islip High School (Edmore Lane)
- Upstream of the discharge point to Lake Capri

FINAL REPORT

Upon completion of the PDI activities, a final report will be completed to identify necessary requirements to complete the remedial action, including any recommended changes or additions to the conceptual design as described in the ROD. The Report will include at a minimum:

- Summary of task activities with regard to pre-design investigation
- Necessary requirements to excavate/dredge, manage and properly dispose of contaminated sediment
- Summary tables of physical and analytical results
- Conclusions and recommendations for the RD.



If you have any questions, please do not hesitate to contact me at (315) 565-6554.

Sincerely yours,

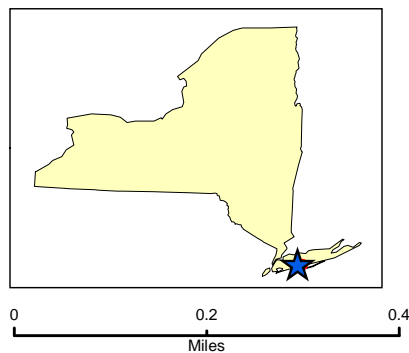
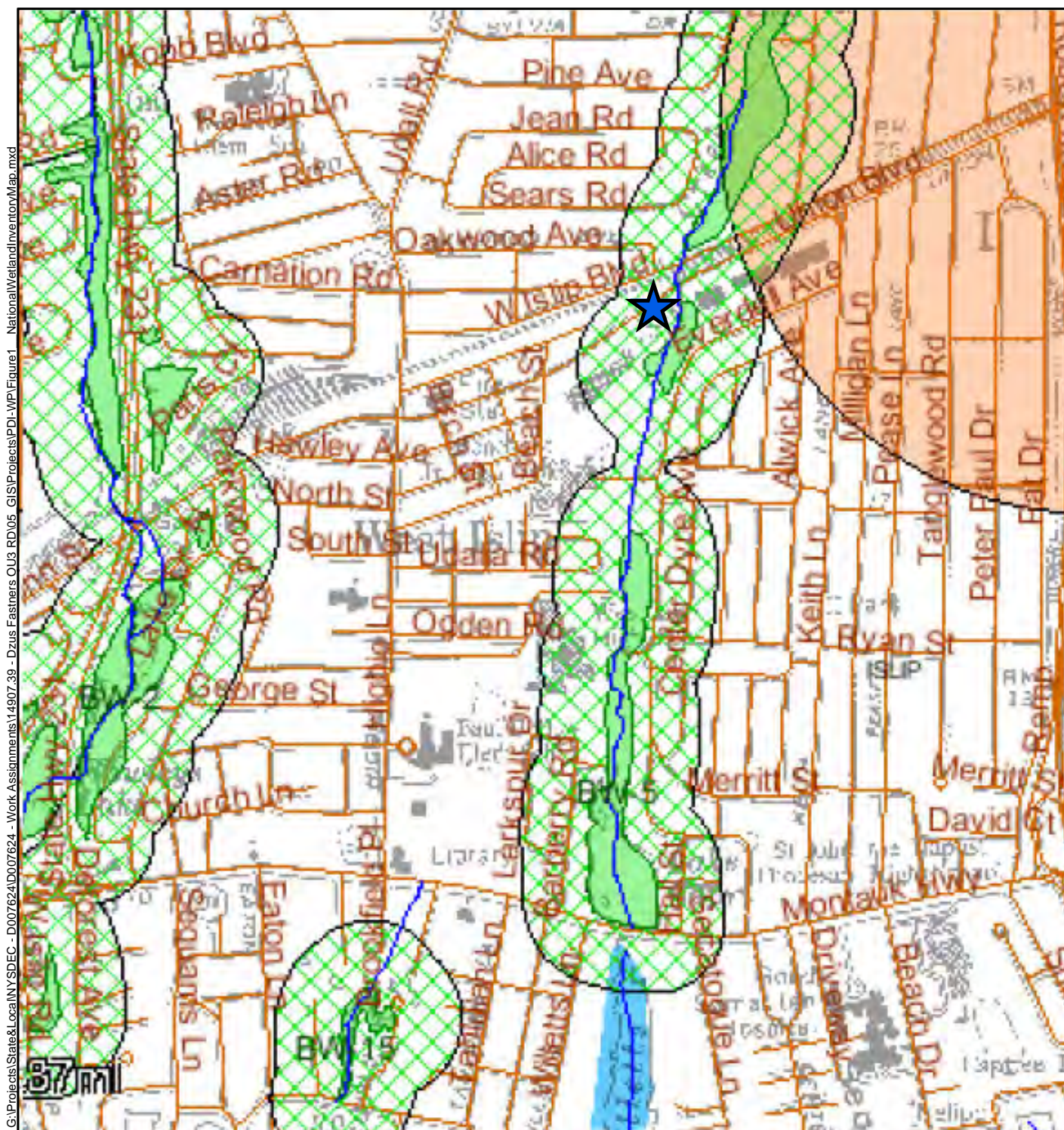
EA Engineering, P.C.

A handwritten signature in blue ink, reading 'Frank DeSantis Jr.', is written over a light blue rectangular background.

Frank DeSantis Jr.,
Project Manager

A handwritten signature in blue ink, reading 'Donall Conan', is written in a cursive style.

Don Conan, P.E.
President



1 inch = 0.2 miles

Legend



Dzus Site Location



Wetland Checkzone



State-Regulated Freshwater Wetlands



Classified Water Bodies

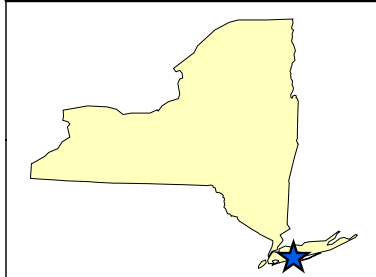


Rare Plants and Rare Animals

Figure 1
Potential Wetland Area
Dzus Fastener Company, Inc.
OU-3 Pre-Design Investigation
West Islip, NY

Map Date: 12/21/2017
Projection: NAD83 State Plane New York Long Island

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- RI Sample with Exceedance
- PDI Sample Location

0 50 100
Feet

1 inch = 0.009 miles



Figure 2

Soil Sampling Locations
Dzus Fastener Company, Inc.
OU-3 Pre-Design Investigation
West Islip, NY

Map Date: 12/21/2017
Projection: NAD83 State Plane New York Long Island

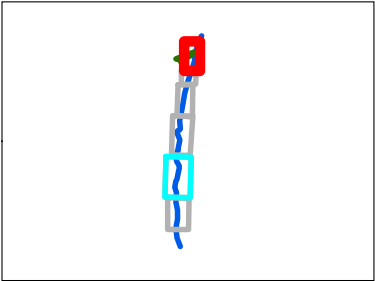


Department of
Environmental
Conservation





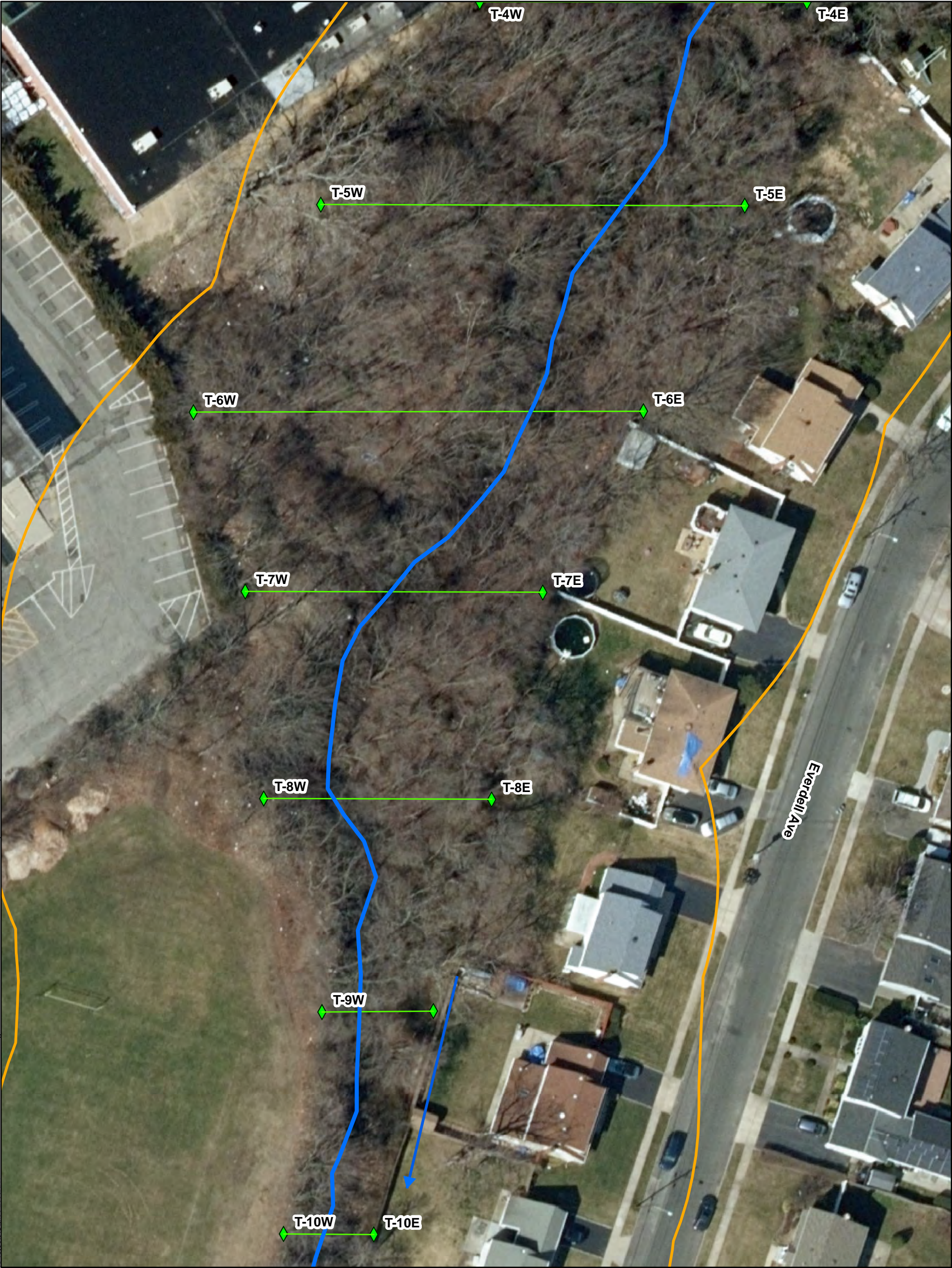
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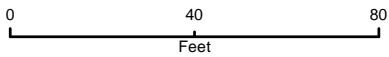
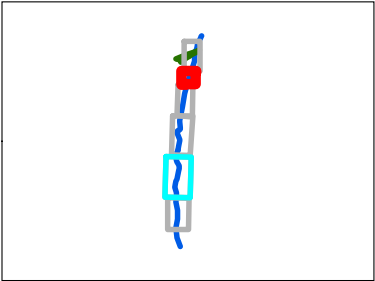
- Legend**
- ◆ Transect Ends
 - 50-yd Buffer from creek center
 - Approximate centerline of Willetts Creek

Figure 3A
Sediment Thickness Transects
Dzus Fastener Company, Inc.
OU-3 Pre-Design Investigation
West Islip, NY

Map Date: 12/28/2017
Projection: NAD83 UTM Zone 18N



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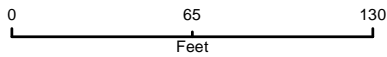
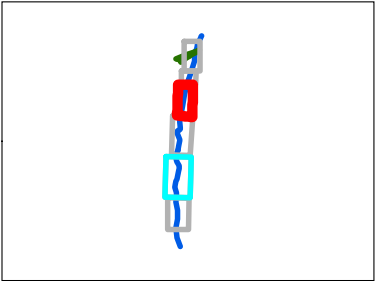
- ◆ Transect Ends
- 50-yd Buffer from creek center
- Approximate centerline of Willetts Creek

Figure 3B
Sediment Thickness Transects
Dzus Fastener Company, Inc.
OU-3 Pre-Design Investigation
West Islip, NY

Map Date: 12/28/2017
Projection: NAD83 UTM Zone 18N



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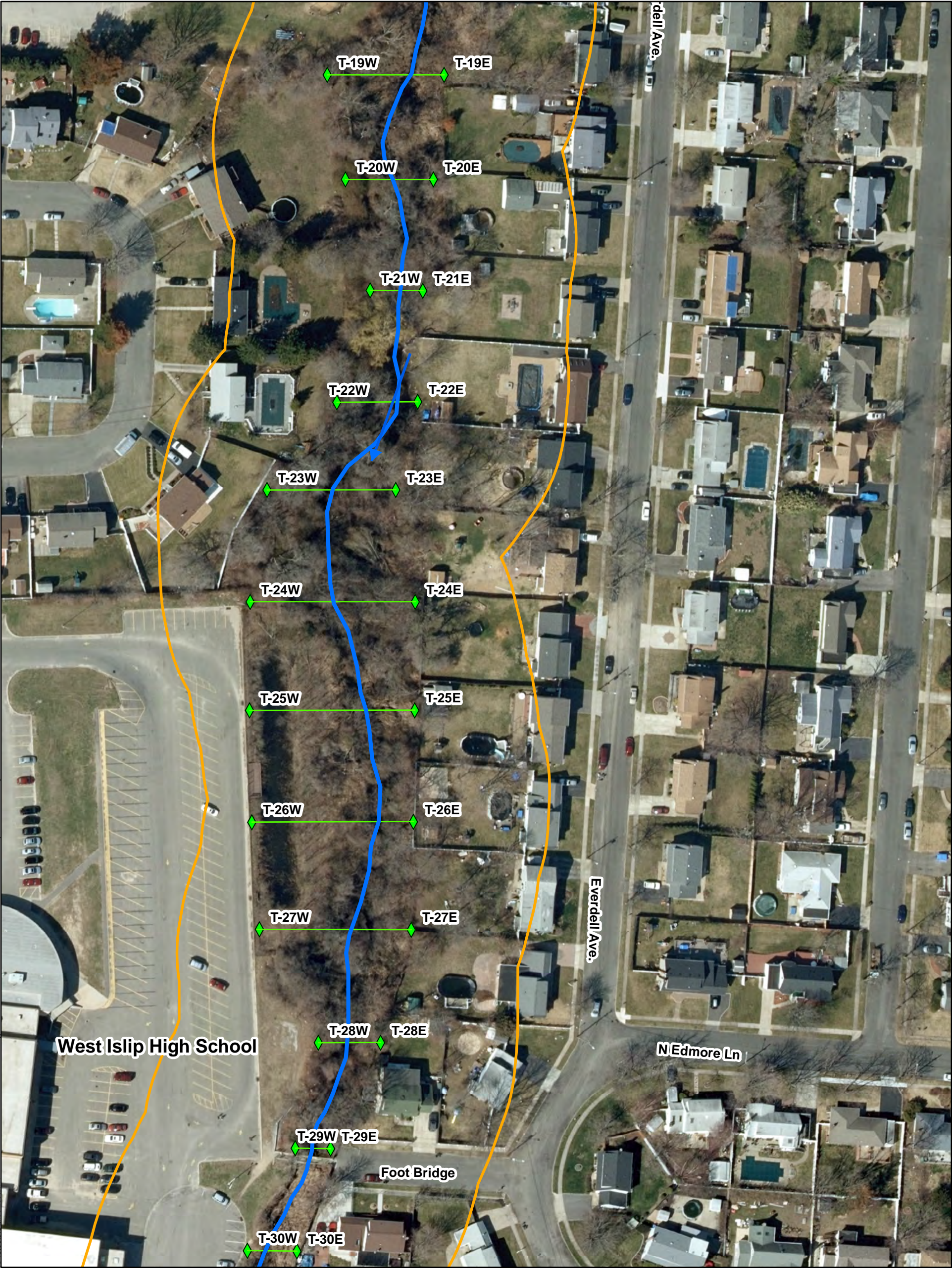


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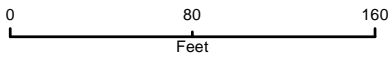
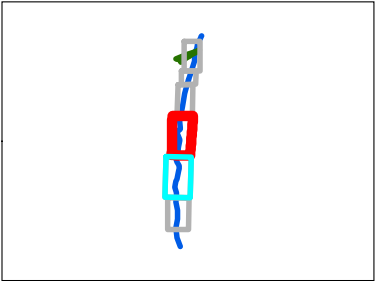
- ◆ Transect Ends
- 50-yd Buffer from creek center
- Approximate centerline of Willetts Creek

Figure 3C
Sediment Thickness Transects
Dzus Fastener Company, Inc.
OU-3 Pre-Design Investigation
West Islip, NY

Map Date: 12/28/2017
Projection: NAD83 UTM Zone 18N



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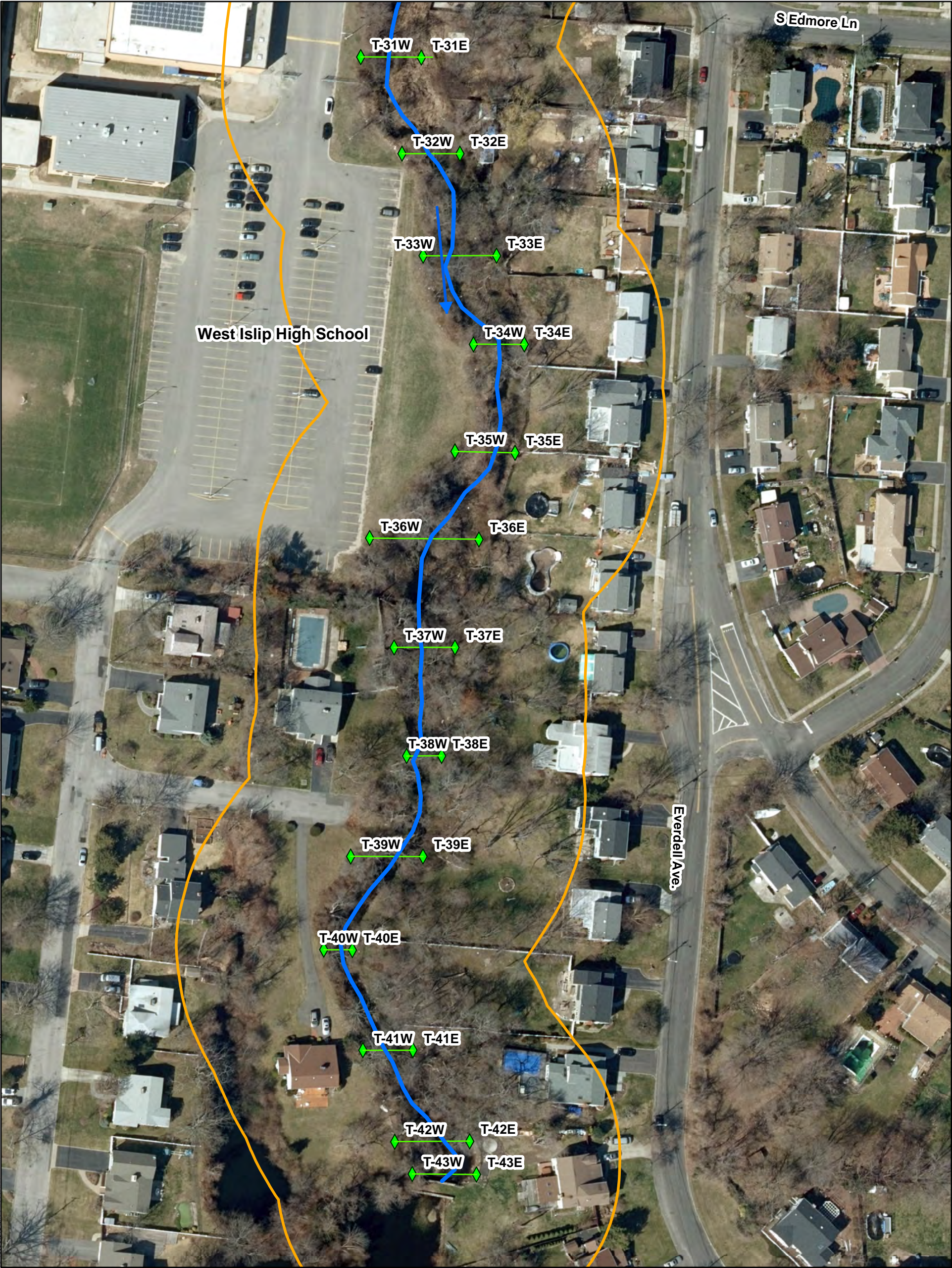


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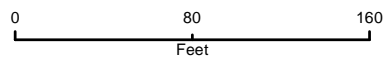
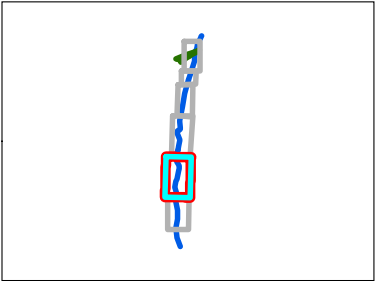
- ◆ Transect Ends
- 50-yd Buffer from creek center
- Approximate centerline of Willetts Creek

Figure 3D
Sediment Thickness Transects
Dzus Fastener Company, Inc.
OU-3 Pre-Design Investigation
West Islip, NY

Map Date: 12/28/2017
Projection: NAD83 UTM Zone 18N



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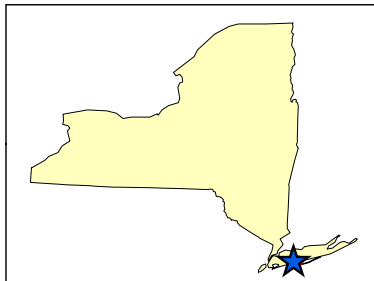
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- ◆ Transect Ends
- 50-yd Buffer from creek center
- Approximate centerline of Willetts Creek

Figure 3E
Sediment Thickness Transects
Dzus Fastener Company, Inc.
OU-3 Pre-Design Investigation
West Islip, NY

Map Date: 12/28/2017
Projection: NAD83 UTM Zone 18N

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 Transducer

Figure 4
Tranducer Locations
Dzus Fastener Company, Inc.
OU-3 Pre-Design Investigation
West Islip, NY

Map Date: 12/21/2017
Projection: NAD83 State Plane New York Long Island