James R. Morrissey
Attorney

July 15, 2016

VIA HAND DELIVERY AND ELECTRONIC

Robert Stein
Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Docket No. 465 - The United Illuminating Company application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a 115/13.8-kilovolt (kV) replacement substation facility located on an approximately 1.5 acre portion of two adjoining UI-owned parcels directly adjacent to UI's existing Baird Substation, 1770 Stratford Avenue, Stratford, Connecticut, and related transmission structure and interconnection improvements.

Dear Chairman Stein:

In response to the Council's conditions of approval for Docket No. 465 I have enclosed 16 copies of the Development and Management Plan for Docket No. 465, in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies, on behalf of The United Illuminating Company. A courtesy copy of the D&M Plan will be sent, via FedEx, to the Town of Stratford and all parties as listed in the service list.

Please do not hesitate to contact me should you have any questions concerning this filing.

Very truly yours,

James R. Morrissey
Attorney
UIL Holdings Corporation
Counsel for The United Illuminating Company

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The United Illuminating Company

Development and Management Plan

For the Construction of the

Baird Substation Replacement Project

Town of Stratford, Connecticut

Docket No. 465

July 15, 2016

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CSC Decision and Order

The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Stratford for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:

Requirement	Location
a) A final site plan showing the placement of all substation equipment, structures, and buildings within the substation perimeter, temporary and permanent tap structures, landscape plantings, access, fencing, and substation lighting;	Appendices A and K
b) Erosion and sediment controls consistent with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Controls*;	Appendix B
c) Wetland fill plans and US Army Corps of Engineers (ACOE) Category I Certification Form;	Appendices A and F
d) Updated Connecticut Department of Energy and Environmental Protection Natural Diversity Database determination letter;	Appendix J
e) Provisions for storm water management and associated Stormwater Pollution Control Plan;	Appendices A and B
f) Transformer oil containment;	Section 4.8 and Appendix A
g) Details of transmission interconnection design including transmission structures; and	Section 2 and Appendix A
h) A deactivation plan for the existing Baird Substation.	Section 3.16 and Appendix A

1. INTRODUCTION

The United Illuminating Company ("UI") provides this Development and Management ("D&M") Plan for the construction of the Baird Substation Replacement Project in the Town of Stratford, Fairfield County, Connecticut. A new 115/13.8-kV distribution substation will be constructed next to UI's existing Baird substation. The Baird Substation was certificated by the Connecticut Siting Council ("CSC" or "Siting Council") in Docket 465 on April 28, 2016. UI's Baird Substation Replacement Project ("Project") will consist of two basic components:

1) Construction of the new 115/13.8-kV bulk distribution substation; and
2) Reconfiguration of two of the existing 115-kV transmission lines to sectionalize the lines through the substation.

This D&M Plan was prepared in accordance with the requirements contained within the Regulations of Connecticut State Agencies ("RCSA"), Sections 16-50j-60 through 16-50j-62, as they pertain to construction of a new substation project and in accordance with the Decision and Order received from the CSC for the Project in Docket 465.

2. PROJECT DESCRIPTION

The Project will be built on a portion of two adjoining UI-owned properties totaling 3.5 acres at 1770 Stratford Avenue, in the Town of Stratford. The westernmost portion of these two combined parcels is presently occupied by the existing Baird substation, which is to be removed from service upon completion of the Project. The Site is bounded to the west by the Savings Auto Center, to the south by Stratford Avenue (State Route 130), to the east by the Two Roads Brewing Company ("TRBC") and to the north by the Metro-North Railroad ("MNR") corridor. Two UI-owned 115-kV transmission circuits occupy the MNR corridor, serving the existing Baird substation as well as nearby UI substations in Bridgeport and Stratford.

The site has minimal slope toward the south (Stratford Avenue). The abandoned railroad bed within the project site will be removed as part of the earthwork activities and promote flow of stormwater runoff to the south. Immediately west of the proposed substation is the existing Baird substation. The northern boundary is the Metro North Commuter Rail. Neighboring to the east, west and south are commercial businesses.

The Project will consist of an outdoor, air-insulated, low profile 115-kV substation with the following equipment:

- Two 30/40/50 MVA 115/13.8-kV power transformers with load tap changers
- 13.8-kV non-segregated phase bus system connected to the power transformers and the power distribution center ("PDC") enclosures.
- Low profile 115-kV aluminum tubular bus work supported by station post insulators
- Two 115-kV SF6 gas insulated circuit breakers
- Eight 115-kV vertical break disconnect switches
- Instrument transformers
- Miscellaneous steel structures for equipment and bus work support to be installed on concrete spread footing foundations

- Six shielding masts for lightning protection
- One control enclosure with two attached PDC enclosures.
- Chain link fence with new 14 feet tall fabric with opaque winged slats and 1 foot of barbed wire fence system.
- Four steel monopole structures, with an additional three steel monopoles approved under Petition 1176, for a total of seven.

UI will erect a single-story control enclosure/PDC on the southern side of the Project site. The protection, control and metering equipment and Alternating Current ("AC") and Direct Current ("DC") power equipment will be located in the control enclosure. The PDCs will be attached to the control enclosure and will contain the 13.8-kV metalclad switchgear and associated protection equipment as depicted on the Substation Plan (25253-402) included in Appendix A. The enclosure will be approximately 13 feet tall and set on an approximately one and a half foot tall foundation for a total roof peak height of 14 ½ foot above grade. The control enclosure, PDC enclosures, transformers, circuit breakers, and station post insulators will be specified with an American National Standards Institute ("ANSI") light gray color finish.

The lightning shielding masts will extend approximately 70 feet above grade. The switchyard high bus will be approximately 26 feet above grade.

The distribution circuit get-away from the site will be two new PV underground duct lines from the substation property; both will exit onto Stratford Avenue in front of the new substation.

Construction of seven new monopole structures, 825ANN, 825BNN, 825AS, 825ANS, 825BNS, 825BS and 826S, in the MNR corridor and UI property will be required to reroute the two existing 115-kV transmission circuits through the proposed substation. Three structures, 825ANN, 825ANS and 825AS are currently identified within the UI's Petition 1176. UI has filed a separate D&M Plan for this Petition which was approved June 23, 2016. The location of these new monopoles are detailed on the Site Plan (25253-401) included in Appendix A. The two segmented transmission lines entering the substation will transition from a vertical configuration to a horizontal configuration as the lines approach the substation disconnect switch takeoff structures.

2.1. **PROJECT CHANGES**

Several design changes have occurred since Docket No. 465 was approved. A number of changes were a result of collaboration with abutters and stakeholders including the Town of Stratford, Two Roads Brewing Company and the Metro-North Railroad. The goal of these design changes was to improve the aesthetic characteristics of the substation, coordinate with planned MNR construction projects and outages, and minimize construction in residential areas north of the railroad corridor. The changes include lowering of the substation lighting, incorporation of security planters for physical security of the southern perimeter, and revisions to the access road to reach the northern transmission monopoles. Each design change is detailed below.

2.1.1. SUBSTATION LIGHTING

To enhance the physical security of the substation while minimizing light dissipation outside the secure perimeter, the lighting plan for the substation was revised. UI consulted with both the Town of Stratford and TRBC in revising the lighting plan to ensure agreement on the final design. The resulting revised lighting plan focuses on targeted task specific lighting, allowing for a reduction in the number of fixtures used for general area lighting. Additionally, the lighting fixtures are shifted from the 70 foot lightning mast structures at a

maximum mounting height of 30 feet, to the perimeter fence posts and structural support steel with a reduced maximum mounting height of 17 feet. Where general area lighting remains, it is mounted predominantly on the substation perimeter fence and directed inward. By reducing the height and directing the fixtures inward from the perimeter, the potential for light dissipation outside of the opaque fenced perimeter is greatly reduced while maintaining a secure physical perimeter. The remaining task lighting will be mounted on structural support steel at a height of approximately 6 feet.

In agreement with the original plan, the revised lighting plan calls for low-level illumination of access doors during normal operating conditions. Additional general area lighting and task lighting would be used only for work at night under abnormal or emergency conditions. The revised lighting plan can be seen on the Illumination Plan drawing (25253-415) included in Appendix A.

2.1.2. PHYSICAL SECURITY

UI investigated several alternatives to protect the substation perimeter from accidental intrusion of vehicles passing through the proposed roundabout on the south side of the site. Any alternative would need to physically secure the fenced perimeter of the site while blending with the aesthetic characteristics of the proposed streetscaping in the proximity of the proposed roundabout. After discussions with the Town of Stratford and TRBC, it was agreed that the best solution would be the use of security planters. The security planters consist of modular concrete reinforced barriers encapsulated within a decorative exterior planter. The interior of the planter is filled with soil and various types of vegetation to further improve their aesthetics. From the exterior, they appear only as a decorative planter with vegetation, but will act as a barrier to secure the substation perimeter from accidental vehicle intrusion. A conceptual detail of the security planters is shown on the Guardrail and Bollard Detail drawing (25253-008A) included in Appendix A. A conceptual layout of the planters and vegetation is depicted on the Preliminary Planting Plan, included in Appendix K. UI will continue to work with the Town of Stratford and TRBC to finalize the layout of these security planters as the design of the proposed roundabout is finalized.

In addition to the security planters, UI will be constructing a standard Connecticut Department of Transportation ("CDOT") guardrail along the eastern fence line of the proposed substation after discussions with the TRBC. UI plans to permit the TRBC to continue to utilize this 110 foot wide buffer area for overflow parking. Similar to the security planters, the guardrail will secure the substation perimeter from accidental vehicle intrusion.

2.1.3. ACCESS ROADS & MONOPOLES

UI had planned to access the new northern transmission monopoles via an access road from Hollister Street. However, after further investigation into the access road design and discussions with MNR, UI has revised the location of the northern monopoles. The new locations of the transmission monopoles are depicted on the Site Plan drawing (25253-401) included in Appendix A.

The two northern transmission monopoles, 825ANN and 825BNN have been shifted approximately 50 feet to the east and minor structural modifications planned to the B826N catenary. There are five primary reasons for this design modification that are listed below:

- Enables the eastern most transmission monopole on the north side of the tracks, 825N, to be eliminated thereby reducing the visual impact to the surrounding area. To achieve the increased span distance, 825BNN will need to increase in height between five and 10 feet.
- Significantly reduces the size of the northern transmission access road from approximately 500 feet in the original plan to 90 feet. Access would be achieved from the end of Jackson Avenue.
- Minimizes construction in the northern residential area associated with the access road and required retaining walls.
- Reduces construction risk to the MNR tracks due to extensive drilling and excavation in rock in close proximity to the railroad corridor.
- Permits coordination with planned MNR track outages.

The revised access road would enter the MNR corridor from the end of Jackson Avenue, with a soldier pile retaining wall constructed to stabilize the work pad for construction equipment. Drilling and pouring of concrete would be completed from the edge of the work pad to the foundation locations below. Sediment and debris will be contained through the use of a chain link reinforced silt fencing system depicted on the Erosion Control Site Plan (25253-006A) and Erosion Control Details drawing (25252-007) included in Appendix A.

3. DEVELOPMENT AND MANAGEMENT PLAN DETAILS

This section provides details for the Project.

3.1. KEY MAP

A key map of the Project site is included in Appendix A of this D&M plan. The key map is a reproduction, at scale of 1inch = 2,000 feet, of the most recent U.S. Geological Survey topographic map showing the site location.

3.2. AERIAL PHOTOGRAPH

The aerial photograph (Figure 1) includes an overlay of the new addition (shown in red) as well as the existing adjacent Baird substation.

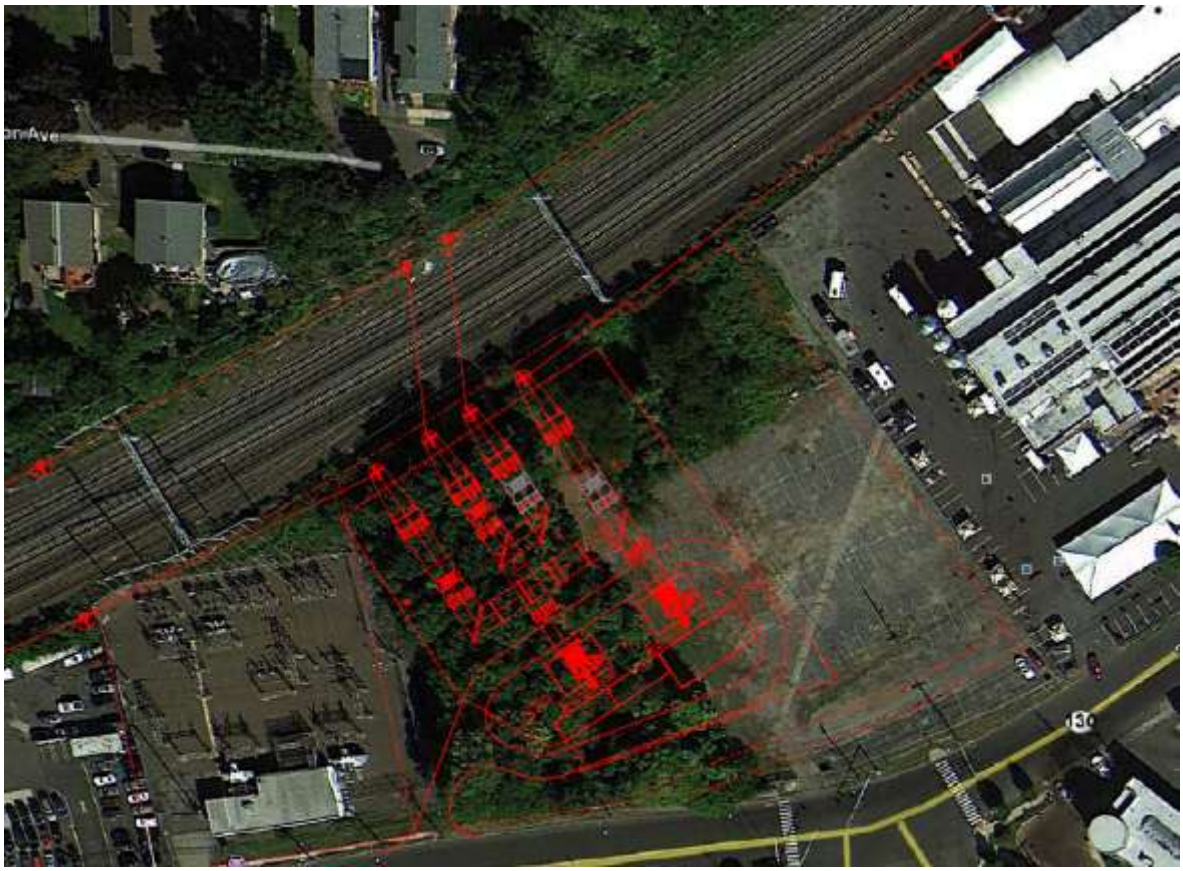


Figure 1 Aerial Photograph of the Baird Substation Site

3.3. **PLAN DRAWINGS**

The D&M Plan includes several drawings that identify the location of all substation equipment, enclosures, fence, access points, and existing vegetation that must be removed, see Appendix A.

3.4. **LAND OWNERSHIP**

UI owns the land that will be occupied by the proposed substation equipment and materials installed for the Project. No additional land acquisition will be required for this Project. However, under Petition 1176 additional ROW will be required. The north and south transmission line poles will occupy the ROWs maintained by UI and MNR. Petition No. 1176 may be referred to for more information on the transmission lines west of the Project.

3.5. **PUBLIC ROADS AND LANDS**

The Project site is located north of State Route 130. All streets are paved with curb and gutter and are in good condition. The intersection of Honeyspot Road, South Avenue and Stratford is scheduled for reconstruction by the Connecticut Department of Transportation to incorporate a roundabout. UI has worked with the Town of Stratford to modify the design to accommodate this proposed roundabout and will continue to coordinate as the roundabout design is finalized. Commercial properties are situated near the Project site on the south, east and west sides. The MNR line is the northern boundary of the substation. Residential areas are located further to the north and south.

3.6. **GRADING PLAN**

The Project site is located at an approximate elevation of 14 feet (The North American Vertical Datum of 1988 "NAVD 88 datum") above sea level. Contour variation across the entire site is minimal. The abandoned railroad bed within the property boundary will be removed during earthwork activities. Cut and fill across the site should be fairly balanced though some material may need to be brought on site. The Grading and Drainage Site Plan drawings (25243-004 and 25243-004B) included in Appendix A show the existing and new contours on the site in 1-foot contour intervals. The Grading Plan drawings will be used in conjunction with the site's Erosion Control Site Plan drawings (25243-006 and 25243-006A) included in Appendix A.

3.7. **STRUCTURE AND FOUNDATION LOCATIONS**

The location and type of support structures and their corresponding foundations at the Project site are shown on the drawings included in Appendix A. These drawings depict the site plans and cross-sections of the new substation.

3.8. **ACCESS POINTS FOR CONSTRUCTION**

Construction, maintenance, and operation access to the substation site is shown on the Construction Facilities Plan (25253-805) located in Appendix A. Access to the transmission line construction areas are shown on the Grading and Drainage Plan (25253-004B) included in Appendix A.

3.9. **MATERIAL LAYDOWN AREAS**

The area of UI's property is large enough to accommodate the required construction activities and provide suitable space for laydown of all equipment and material required for the substation construction.

UI intends to locate construction trailers, small material storage trailers, construction equipment, and substation equipment at the actual site during the construction of the Project. Material and office trailer laydown area is included in Construction Facilities Plan drawing (25243-805) in Appendix A. These areas will be secured with a temporary construction fence.

3.10. **VEGETATION**

3.10.1. LIMITS OF CLEARING

The development of the Baird substation will involve the removal of all existing vegetation in and around the footprint of the proposed substation facilities (25253-809), the northern portion of the 110-foot buffer area and as shown on the Erosion Control Site Plan (25253-006A) included in Appendix A for the 115-kV transmission line work.

Clearing will be accomplished by conventional methods, using a combination of chain saws, hand labor and mechanized equipment. All cut vegetative materials will be removed from the site and disposed of properly.

3.10.2. VEGETATIVE SCREENING

The Preliminary Planting ("Landscape") Plan has been prepared by William Kenny and Associates, LLC in consultation with UI, The Town of Stratford and Two Roads Brewing Company. The Plan incorporates concrete planters, street trees and evergreens. The plan assumes that the Town of Stratford will construct a roundabout at the intersection of Stratford Avenue, Honeyspot Road and South Avenue. There will be seven Lincoln Lindens, 45 American Arborvitae, and five Green Giant Arborvitaes planted between the proposed substation fence and Stratford Avenue. UI will continue to work with the Town of Stratford and their consultant for the roundabout on the aesthetics of the concrete planters and tree species so there is consistency between the projects. If needed, UI will swap tree species to match what the roundabout project proposes.

3.11. **EXISTING UNDERGROUND UTILITIES**

Currently there is an abandoned gas line that traverses the site as well as stormwater and sanitary easements along the southern edge of the site. There are no underground water supply lines, or 13.8-kV electric distribution circuits currently located on the site.

The surrounding public streets contain several underground utilities that provide water, sanitary sewer, stormwater and gas service to nearby areas. These utilities will not be disrupted by construction of the Project. The sanitary sewer, storm water and water will be interconnected to the new substation facilities as part of this Project.

3.12. EROSION AND SEDIMENT CONTROLS

Based on the construction activities associated with the Baird Substation Project exceeding one acre of land area disturbance, UI has developed a Stormwater Pollution Control Plan ("SWPCP") and registered with the Connecticut Department of Energy and Environmental Protection ("CT DEEP") under the General Permit for the Discharge of Stormwater and Dewatering Wastewater From Construction Activities. The registration and approval of the SWPCP was received by UI on April 20, 2016 under permit number GSN003011.

Outlined in the SWPCP is detailed information on the type and design of certain erosion and sediment control measures that UI will employ during each phase of construction. In addition to these techniques, which CT DEEP has indicated can be used at the discretion of UI's needs throughout the phases of construction, is a site plan which depicts the specific locations of the erosion and sediment controls which will be installed during the initial phases of construction. Some of the techniques which will be used during construction are, anti-tracking vehicle pads at each entrance/exit, compost filter socks, erosion control blankets, hay-bales, and silt fencing. These techniques will be used to manage the potential for the offsite migration of sediment to abutting properties or storm drains.

In order to ensure the compliance obligations pursuant to UI's SWPCP, UI has hired a third party Environmental Inspector ("EI") on the project. The EI will be responsible for the following activities pertaining to stormwater compliance:

- An initial plan implementation inspection of the construction activities at least once and no more than three times during the first 90 days to confirm compliance with the General Permit and to confirm proper initial implementation of all control measures designated in the SWPCP for the site during the initial phase of construction.
- Inspection of the construction activities at least once every seven calendar days for compliance with the SWPCP.
- Inspect the construction activities after a qualifying storm which produces 0.5 inches or greater within a 24 hour period. For storms that end on a weekend, holiday or other time after which normal working hours will not commence within 24 hours but the following working day.
- When the construction site has been stabilized, inspections shall be conducted once every month for three months to confirm compliance with the General Permit.

In addition to performing the required construction and restoration inspections, UI will also perform the following activities pursuant to its approved SWPCP:

- Perform turbidity monitoring on a monthly basis, during storm events that generate a discharge of stormwater from the site while construction activity is ongoing and until final stabilization of the drainage areas associated with each outfall is achieved. Outfall locations can be seen in Appendix B.

- When applicable, the netDMR's forms for the turbidity monitoring will be provided to the CSC

Any sediment deposits generated during construction which are identified either during inspections by the EI or by the contractor during the day-to-day construction activities will be removed at the earliest extent practical. The excess sediment will be managed in accordance with UI's Soil &

Groundwater Management Plan (Appendix I). If necessary, new or additional erosion and sediment controls will be installed to mitigate the issue where sediment has built up.

Once construction has been completed, all areas affected will be inspected by UI, the EI and the restoration contractor to identify and review the necessary stabilization techniques for that area. All affected areas will be restored as close to its original state as possible. During initial phase of restoration all erosion and sediment controls will either remain in place or be replaced with new more efficient controls until the site has been restored, stabilized and signed off on by both UI and the EI. During the final phase of restoration, which is the three months after the areas identified for restoration have been stabilized and signed off on or unless specified differently by UI, the EI or any of the abutting property owners, all erosion and sediment controls will be removed. Once UI and the EI have signed off on the final phase of restoration, a "Notice of Termination Form" will be submitted to CT DEEP removing UI from any further obligations under the CT DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, permit number GSN03011. UI will provide a copy of this form to the CSC for its records.

3.13. WETLANDS, WATERCOURSES, VERNAL POOLS AND OTHER REGULATED AREAS

Due to the shift of the substation approximately 110 feet to the west, UI will be permanently filling an entire wetland (approximately 654 square feet) located on the property. Based the need to permanently fill the wetland, UI has obtained approval from the Army Corp of Engineers under a Category I Permit (NAE-2016-01375) for the dredge and fill of a regulated area. The approved permit can be viewed in Appendix F.

To protect additional offsite resource areas from any secondary impacts generated during the construction activities UI will install silt sacks, filter fabric or other mechanisms to mitigate the migration of sediment offsite through storm drains or catch basins which abut the Project.

3.14. ENDANGERED, THREATENED AND SPECIAL CONCERN SPECIES

Based on the most recent correspondence received by UI from CT DEEP - Wildlife Division on April 22, 2016 there are no known listed species directly within or within a ¼ mile of the project area. The correspondence between CT DEEP and UI can be viewed in Appendix J.

3.15. LIGHTING

UI has revised the illumination plan drawing through discussions with the Town of Stratford and the Two Roads Brewing Company. The revised lighting plan utilizes lights mounted on the fence posts and structural support steel at lower elevations than previously proposed. The new fence mounted lights will be directed in towards the substation equipment and be mounted at a maximum height of 17 feet as opposed to the 30 feet previously proposed. The revised lighting plan can be found on the Illumination Plan drawing (25253-415) included in Appendix A. In agreement with the original plan, the revised Illumination plan calls for low-level illumination of access doors during normal conditions. Additional general area lighting and task lighting would be used only for work at night under abnormal or emergency conditions.

3.16. EXISTING BAIRD DECOMMISIONING PLAN

Upon completion of the Project, the existing Baird substation will no longer be required to deliver electricity to customers in Bridgeport and Stratford and will be removed from service. The existing facility will be maintained as a training facility, enabling personnel to become familiar with the operation and maintenance of equipment while it is safely deenergized. Approximately half of the existing transmission yard equipment will be removed as well as equipment within the control enclosure. The foundations supporting the equipment and associated conduit and trench will not be removed. Specific pieces of equipment to be removed are listed below and depicted on the Baird Decommissioning Plan drawing (SK-091012-1) in Appendix A:

- One 115/13.8-kV power transformer
- Four 115-kV disconnect switches
- 115-kV strain bus (wire)
- One 115-kV SF6 gas insulated circuit breaker
- Two 115-kV transmission take-off structures on the north and south side of the MNR corridor
- Three 13.8-kV aerial cables exiting the rear of the substation on the railroad catenary structure
- One 13.8-kV capacitor bank assembly
- Four instrument transformers
- Six 115-kV surge arrestors
- Miscellaneous steel structures for support of the aforementioned equipment and strain bus
- One 13.8-kV switchgear line-up

To increase the range of training possibilities within the facility, one 13.8/4-kV transformer will be transferred from one of UI's recently decommissioned facilities and placed in the transmission yard. All oil will be drained from the remaining 115/13.8-kV transformer and the transferred 13.8/4-kV transformer. Modifications will be made to the facility as well as continual maintenance to maintain it in good working order. The existing perimeter fence will be maintained and replaced when required to ensure a secure perimeter. The facility will continue to be maintained and monitored as an active substation with regular patrol by UI personnel and surveillance through existing security equipment. The facility will be used for training approximately every two months. The removal of equipment at the existing Baird substation will commence immediately following final commissioning of the new substation, pending coordination with MNR for work within the railroad corridor.

4. CONSTRUCTION AND REHABILITATION

Construction procedures are summarized below for the Project.

4.1. **RAZING**

All debris and rubbish will be promptly removed from the site by UI's construction contractor. The majority of debris will be removed from the site and disposed of at an out-of-state landfill or a state-approved area landfill as applicable; other materials will be properly re-used or otherwise disposed of.

Possible items for razing and disposal from the project site could include the following:

- Chain link fencing.
- Concrete or asphalt.
- Rock.
- Miscellaneous conduit and cable.
- Vegetation.
- Soil.

During demolition work, dust will be controlled by means of water spray, vacuum cleaners or other industry-accepted measures.

4.2. **EARTHWORK**

Earthwork will occur at the Project site, with some cut, fill, trenching, and foundation excavation required.

4.2.1. SITE PREPARATION

Ground surfaces within the construction areas will be cleared of all debris, vegetation and paving. Material will be removed from the site and disposed of at an out-of-state or a state-approved area landfill as applicable. There are some locations on the site where large above grade rocks are present that must be removed as part of site preparation. Rock will be removed using backhoe mounted jackhammers and hauled off site.

4.2.2. EXCAVATION AND BACKFILLING

Excavation will be required for grounding, conduit, equipment foundations, and cable trenches. Mechanical equipment and hand digging will be used for excavating. Stability will be provided by sheeting, shoring and bracing techniques. All excavations will be kept dry through the use of appropriate dewatering equipment and temporary surface diversions to prevent surface water and runoff from entering excavations.

Earth fill will be required as backfill for foundations and trenches. Materials from site excavations will be used as fill when such materials meet fill requirements. Earth fill will be mechanically compacted.

Compacted sand embedment will be used as fill in excavated trenches for conduit and pipe. Sand is typically spread on the trench bottom, compacted by vibration and after conduit or pipe

installation, deposited and compacted under and around each side of the conduit or pipe. Deposition and compaction will be performed in a manner to prevent lateral displacement of the pipe or conduit. Backfill will consist of excavated materials from the site or be furnished by the construction contractor.

Blasting will not be used for removing rock from excavations on the substation site.

4.2.3. FINAL GRADING

All ground surface areas disturbed by construction activities will be graded after all construction work has been completed. Final grading will leave the surface matching the contours and elevations as shown on the Grading and Drainage-Site Plan drawings (25253-004 and 25253-004B) in Appendix A. The graded surface will be smooth and uniform and have effective drainage. The soldier pile retaining wall created at the end of Jackson Avenue will remain to stabilize the slope and prevent erosion of material onto the MNR railroad tracks.

4.2.4. SITE DRAINAGE

The drainage plan for the substation will be a combination of infiltration via the trap rock surfacing of the substation and a new onsite stormwater system. The onsite stormwater system is made up of a system of catch basins, stormwater piping, a stormwater treatment chamber and an underground detention chamber system. The gradual slope of the substation grade combined with the trap rock surfacing allows for storm water infiltration to the subsurface soil and minimizes the runoff across the site.

This stormwater system will intercept runoff that is not infiltrated within the substation and convey the water to the underground detention chamber. The detention chamber is designed to permit infiltration and to control the post development construction flows to match the pre development flows before the stormwater is conveyed to the Connecticut Department of Transportation stormwater system.

After construction, all disturbed areas will be revegetated, paved, or stabilized with aggregate. These stabilization methods will reduce the potential for erosion. After the slopes are considered stabilized (70% uniform cover) with vegetation, the vegetation will reduce the velocity of stormwater runoff and will provide soil interlock to prevent erosion of the slope.

4.2.5. SOIL AND GROUNDWATER MANAGEMENT

Based on the analysis received by UI from the soil and groundwater pre-characterization event on May 4, 2015 through May 11, 2015, UI has developed a project specific Soil and Groundwater Management Plan. This plan outlines the project team's roles and responsibilities pertaining to the management of both soil and groundwater. All regulated waste (contaminated soil and groundwater) generated during the construction of the Baird Substation will be managed in accordance with both State and Federal requirements. The Soil & Groundwater Management Plan can be viewed in Appendix I.

4.2.6. DUST CONTROL

Control of fugitive dust during construction will be the responsibility of UI's construction contractors. On-site movement of equipment and vehicles will be restricted to predetermined areas where possible. Dust suppression may include water or temporary crushed stone cover.

Dust control of earthen stockpiles will include water spray or a material covering, whichever is most feasible and effective given the size and location of the stockpile.

4.2.7. EROSION AND SEDIMENT CONTROL

In order to manage any onsite erosion or the offsite migration of sediment, UI and its contractor will employ the necessary erosion and sediment controls as outlined in the approved SWPCP, Appendix B. All erosion and sediment controls will be maintained throughout the project and replaced as necessary per either direction by UI, the EI or the onsite construction personnel. Weekly inspections of the erosion and sediment controls will be performed pursuant to UI's SWPCP to maintain a net zero discharge of sediment and compliance with the General Permit conditions.

4.3. **FOUNDATIONS**

Foundations will be spread footing type foundations. Sheeting and shoring will be used to stabilize the sides of the foundation trench where required. Forms will be constructed on-site, incorporating rebar, followed by concrete installation.

For the foundations, concrete will be poured once all the forms and rebar for that foundation have been installed. The concrete will be delivered to the Project site by truck, with numerous deliveries being required for these foundations.

4.4. **BELOW GRADE FACILITIES**

Below grade facilities will consist of the grounding grid (grounding conductors and rods), Polyvinyl chloride ("PVC") conduit and cable trench. Methods used for excavation, embedment and backfill for such below grade facilities have been previously described in this section.

4.5. **CRUSHED ROCK SURFACING**

The proposed substation area will be covered with a 6-inch layer of crushed rock surfacing.

The surfacing will consist of crushed rock uniformly graded having a total compacted thickness of 6 inches. Compaction will be accomplished by at least two passes of road type vibratory compactor or pneumatic-tired roller.

After subgrade preparation, but prior to application of the crushed rock, the entire area to be surfaced will be treated with a weed eradicator and soil fumigant. A licensed herbicide applicator will complete this task. Inhibitors will be approved by UI and application will be restricted to times when conditions will not cause drifting to areas that are not to be treated or are off-site.

4.6. **FENCING**

During construction, a temporary 9-foot-tall chain-link fence will be installed to secure the site. This temporary construction fence will include gates that will be locked to secure the site. Details of this temporary fence can be found on the Construction Facilities Plan drawing (25253-805) included in Appendix A.

For permanent security, a chain-link fence will be constructed around the proposed substation area. The permanent fence will be 14 foot tall chain link with 1 foot extension of three strands of barbed wire. Two, 16 foot wide swing gates and one 24 foot slide gate will be installed to provide secure

access to authorized personnel. The fencing will be equipped with green opaque winged slats to provide increased physical security and visual screening.

4.7. **SWITCHYARD STRUCTURES, BUS AND EQUIPMENT**

After the below grade facilities have been installed, the Project equipment will be set on the foundations. Insulators, bus, jumpers, and hardware will be installed to interconnect the equipment. Control wiring will be installed between the control enclosure, PDCs and yard equipment. Cameras and motion detectors will be installed in the substation to provide physical security.

4.8. **TRANSFORMER OIL CONTAINMENT**

The two 115/13.8-kV transformers to be installed will be surrounded by oil containment basins. The purpose of these basins will be to collect and contain transformer oil that may weep, discharge or spill as a result of equipment failure. Each basin will be designed to contain all of the oil for the transformer installed within that basin, plus a 10 percent safety margin. Once the transformers are operational UI personnel will perform monthly inspections of each containment basin to determine the presence of oil. If oil is present within the basin, all liquids will be extracted by an approved environmental contractor and disposed of in accordance with Connecticut regulations. The location and construction of each oil containment basin is shown on the Transformer and Oil Containment Foundation Plan drawings (25253-407E and 25253-407F) included in Appendix A.

4.9. **ENCLOSURES**

A new control enclosure with two attached PDC enclosures will be constructed at the proposed project site. The control enclosure will be a structure with a footprint of approximately 28 feet by 60 feet as depicted on the Substation Plan drawing (25253-402) in Appendix A. The two attached PDCs will each have a foot print of approximately 14 foot 6 inches by 41 feet 6 inches as depicted in the Substation Plan (25253-402) in Appendix A.

The control enclosure and PDC enclosures will consist of a pre-manufactured, skid mounted assemblies that will be set on the concrete foundation and bolted together in sections. The enclosures will be windowless, and have access doors at each end of the enclosure. Enclosure exterior walls will be painted light gray to match the color of the other substation equipment.

4.10. **115K-KV OVERHEAD TRANSMISSION LINE**

4.10.1. ACCESS ROADS AND WORK PADS

For new monopole locations, access roads are required for construction and ongoing maintenance. The locations of access roads which UI is proposing to use during construction are illustrated in the Grading and Drainage drawing (25253-004B) in Appendix A.

Work pads will be required at each transmission line structure site, as well as at conductor and optical groundwire ("OPGW") pulling sites. Work pads will be used to stage structure components for final on-site assembly, provide a safe, level base for the construction equipment used to install foundations and to erect the structure(s).

The northern transmission monopoles will be constructed via an access road extending from the end of Jackson Avenue. A soldier pile retaining wall will be constructed to enable construction equipment to position over the foundation locations below, with a chain link reinforced silt

fence installed downslope to trap soil and debris from entering the tracks. A Temporary License and Access Agreement is being pursued for the northeast corner of 45 Jackson Avenue to enable construction of the western portion of the access road and retaining wall. The area of this easement is shown on drawing 25253-004B in Appendix A.

Any excess spoils generated from the construction of access roads and work pads will be managed in accordance with UI's Baird Substation Soil & Groundwater Management Plan (Appendix I). Additionally, any rock generated from the development of access roads or work pads will also be removed offsite and brought to an approved facility to be managed.

Prior to the construction of both access roads and work pads UI will install sediment and erosion controls in order to mitigate any erosion or sediment runoff. The areas where erosion and sediment controls will be installed can be viewed in Appendix A.

4.10.2. STEEL POLE AND CONCRETE FOUNDATION INSTALLATION METHODS

Foundation locations will be staked. Auger drilling will be used to perform the excavation for pier foundations as well as rock coring bits where conditions warrant. The size of the excavation will be six feet in diameter and vary from 12 to 28 feet deep. Temporary casings may be used in locations where the soil will not stand without support or where, because of ground water conditions, sloughing of the sides of piers may seriously delay or endanger the satisfactory completion of excavation and placement of concrete. The temporary casing will be removed from piers as concrete is placed or soon thereafter.

Once the excavation is complete, steel reinforcing bars and anchor bolt cages will be placed in the excavation encased in concrete. The concrete will be conveyed from the mixer to the place of the final deposit by methods that will prevent the separation or loss of material.

Field tests of concrete being placed will be conducted regularly. In general, as an indication of other physical properties the quality of the concrete being produced will be judged by the compressive strength developed within a given period.

Once a foundation is in place and cured, the steel structure will be assembled and erected. Structures will not be erected on the concrete piers for a minimum of seven calendar days after the concrete has been poured and the compressive strength of the concrete has reached 3,000 psi.

The structures may be assembled on the ground and erected as a complete unit or assembled in pieces with a crane. Once the structure is erected and framed with the support insulators and hardware, it will be ready for installation of the overhead lines.

4.11. WORKSITE HEALTH AND SAFETY PLAN

UI's contractors will develop a worksite Health and Safety Plan that will be strictly adhered to by the contractors. UI Employees and each construction contractor will be responsible for the safety and protection of all workers on-site and the public. During construction, UI employees and each contractor will protect all existing structures, features, utilities, and equipment designated to remain in place within or adjacent to the substation area.

The local streets adjacent to the substation site will remain open during construction.

4.12. MAINTENANCE

After construction, UI will implement its standard Operations/Maintenance Program for substations. The site will be periodically inspected for weed control and rodent damage to equipment. Snow will be removed from driveways as needed. Debris will be removed from the substation yard during inspections.

Areas surrounding the fenced substation will be maintained as appropriate.

4.13. CONSTRUCTION TRAFFIC

Traffic during construction will generally enter and exit the site from Stratford Avenue. Equipment and material deliveries will be made by truck from Stratford Avenue. Construction traffic will be at its peak prior to 7 AM and just after 3 PM when the construction crews are entering and leaving the site. Throughout the day, traffic will be sporadic as equipment and materials are received.

During the site clearing and grading phase of the Project, dump trucks, bulldozers, and other large vehicles will be prevalent.

4.14. HOURS OF CONSTRUCTION

Construction hours when active construction activities will typically take place are between 7 AM and 5 PM, Monday through Friday. In certain situations, such as during outages, the hours of construction could be increased to up to 24 hours a day, 7 days a week in order to minimize the total outage duration. However, it is anticipated this will only be needed during the outage to cut-in the proposed substation scheduled in Fall 2017.

4.15. SITE SECURITY

During construction work hours, all gates will remain unlocked to allow authorized personnel to enter and exit the substation. The gates will be locked at night and on weekends when work is not taking place. UI and its construction contractors will have the only keys to the gates. The construction contractor will be responsible for site security until the contractor turns the completed facility over to UI. The Project site will have a temporary 8 foot chain link fence with 1 foot of barbed wire extension totally enclosing the construction laydown area and soil stockpile area as shown in the Construction Facilities Plan drawing (25253-805) in Appendix A.

4.16. SNOW AND ICE REMOVAL

The removal of snow and ice from construction sites is critical to maintain a safe work environment. Snow and ice removal procedures shall be conducted in accordance with the CT DEEP's Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots included in Appendix D.

5. REGULATORY APPROVALS, PERMITS AND CONSULTATIONS

5.1. REGULATORY APPROVALS AND REQUIREMENTS

As described in Section 1.0, this D&M Plan (i) conforms to the specifications of RCSA Sections 16-50j-60 through 16-50j-62 (Requirements for a D&M Plan, Elements of a D&M Plan, Reporting Requirements); and (ii) reflects adherence to the conditions of the CSC's ruling for the Project and other relevant regulatory approvals. In addition to approval by the CSC, UI's Project team has consulted, worked with and gained approval from multiple other regulatory agencies.

5.2. CONSULTATIONS

The Project has received regulatory approvals or clearances from the following State and Federal agencies:

United States Army Corps of Engineers ("USACE" or "the Corps")

Connecticut Department of Energy and Environmental Protection ("CT DEEP")

CT DEEP Natural Diversity Database ("NDDB")

State Historic Preservation Office ("SHPO")

UI has consulted with municipal officials in the Town of Stratford during the preparation of this D&M Plan. As outlined in Section 4.17, UI in collaboration with its onsite construction contractor will submit applications for local permits. In addition UI is coordinating with CDOT and MNR regarding the approval for the construction of the overhead transmission piece to the Baird Substation Project along the railroad corridor. Project construction in locations requiring specific permits will not start until these permit approvals are received.

In addition to this D&M Plan and municipal requirements, UI will comply with the terms and conditions in the registrations and permit approvals summarized in the table below. UI will monitor the compliance to these terms and conditions during construction through inspections by UI's Environmental Analyst and EI.

Other Approvals / Consultations for the Project

Issuing Agency	Approval/Consultation	Permit or Registration Number
Federal		
USACE	Section 404 Project Notification Form (Included in Appendix E)	NAE – 2016-01375
State of Connecticut		
CT DEEP	Natural Diversity Data Base Review (for Species of Special Concern, Threatened Species and Endangered Species)	201605069
	Stormwater and Dewatering Wastewaters from Construction Activities Registration (see Appendix G)	GSN003011
SHPO	Project Review Form	Appendix G
CT DOT	Curb Cutting Permit	

	CT DOT Permit to Perform Work within the Right of Way	
Municipal		
Town of Stratford (as applicable)	Sanitary Sewer Interconnect Permit (Stratford WPCA)	
	Stormwater Sewer Interconnect Permit (Stratford WPCA)	

In the event where undocumented and/or non-permitted situations occur during construction activities, all work at that location will be stopped immediately. UI's project team will work to determine on how the situation needs to be addressed and which agency or agencies need to be contacted. Work will not begin at this location until the project team has developed a resolution and received approval from all applicable agencies and/or stakeholders to move forward.

Additional permits required for the construction of the Project may include:

- FAA Notification
- Aquarion Interconnect Permit

5.3. PROCEDURES FOR NOTICES AND REPORTS

The procedure governing notices of the beginning and completion of construction activities, and of any changes in the D&M Plan during construction activities, will be as follows:

Advance Notice on Construction Activities – UI will provide the CSC, in writing, with a minimum of two weeks advance notice of the beginning of construction activities and the beginning of the installation of storm water management and oil containment devices at the Project site.

Municipal Notification – UI is in the process of consulting with the Chief Elected Officials (CEOs), or their designee, in the Town of Stratford. UI is providing a courtesy copy of the D&M Plan to the CEO of Stratford. UI will provide the Town of Stratford, in writing, with a minimum of one week advance notice of the beginning of construction activities at the Project site.

Landowner Notification – UI will notify each adjoining landowner, in writing, with a minimum of one week advance notice of the beginning of construction activities at the Project site. UI will provide notice to the property owners of record prior to construction.

Notice of Completion – UI will provide the CSC with written notice of completion of construction activities once the work is completed.

Modifications to D&M Plan – Pursuant to RCSA Section 16-50j-62(b)(2), the CSC must pre-approve any significant changes to this D&M Plan. UI will identify, track, and submit all

significant changes. No significant changes to this D&M Plan will be implemented without such documented approvals.

UI will provide the CSC with advance written notice whenever a significant change of the approved D&M Plan is necessary. If advance written notice is impractical, UI will provide immediate verbal notice to the CSC, followed by written notice no later than 48 hours after the verbal notice.

CSA Section 16-50j-62(b)(2) defines a "significant" change to the approved D&M Plan as including, but not limited to:

- The location of a wetland or watercourse crossing;
- The location of an access way or structure in a regulated wetland or watercourse area;
- The construction or placement of any temporary structures or equipment;
- A change in structure type, or location including, but not limited to, towers, guy wires, associated equipment or other facility structures; or
- Use of additional mitigation measures or elimination of mitigation measures.

In addition to the above criteria, UI proposes to define a "significant" Project change as one that would substantially reduce the amount of protection to the environment, substantially increase potential public concern, or would otherwise potentially result in a meaningful effect on the environment, the public, or other Project permits and approvals.

Final Report – UI will provide the CSC with a final report for UI's substation construction phase of the project within 3 months after the conclusion of one year of operation, not later than 180 days after completion of all site construction. The final report will include, among other things, any significant changes to the D&M Plan that were required during the course of construction, drawings depicting the location of all buildings, structures, and conduits; and will provide the final cost of substation construction for the Project.

6. PROJECT SCHEDULE

The project schedule is presented in the following table.

Activity	Estimated Start Date	Estimated Finish Date
Mobilization of Construction Contractors	Sep 2016	Sep 2016
Site Clearing and Grading	Sep 2016	Nov 2016
Installation of T-line Access Roads, work pads and foundations (work performed under Petition 1167)	Aug 2016	Nov 2016
Foundation Installation	Feb 2017	Apr 2017
Substation Equipment Construction	Mar 2017	May 2017
Testing and Commissioning	May 2017	Jul 2017
Outage to Connect Expansion to Substation	Aug 2017	Sep 2017
Substation Energized	Oct 2016	Oct 2016
Construction Complete	Mar 2018	Mar 2018
Existing Substation Decommissioning	Mar 2018	May 2018

APPENDICES

APPENDIX A

SUBSTATION DRAWINGS

DRAWING NUMBER	DRAWING TITLE
25253-004	BAIRD SUBSTATION GRADING AND DRAINAGE SITE PLAN
25253-004B	BAIRD SUBSTATION GRADING AND DRAINAGE SITE PLAN
25253-005	BAIRD SUBSTATION CULVERT AND RIP RAP DETAILS
25253-006	BAIRD SUBSTATION EROSION CONTROL SITE PLAN
25253-006A	BAIRD SUBSTATION EROSION CONTROL SITE PLAN BAIRD TO CONGRESS
25253-007	BAIRD SUBSTATION EROSION CONTROL DETAILS
25253-008	BAIRD SUBSTATION SURFACING AND FENCING PLAN
25253-008A	BAIRD SUBSTATION GUARDRAIL AND BOLLARD DETAILS
25253-009B	BAIRD SUBSTATION ROADS PLAN
25253-014A	BAIRD SUBSTATION 15 FT SUBSTATION FENCE SECTION AND DETAILS
25253-014B	BAIRD SUBSTATION 32 FT DOUBLE LEAF SWING BARRIER GATE
25253-401	BAIRD SUBSTATION SITE PLAN
25253-402	BAIRD SUBSTATION SUBSTATION PLAN
25253-403	BAIRD SUBSTATION SECTIONS 1 AND 2
25253-403A	BAIRD SUBSTATION SECTIONS 3 AND 4
25253-403B	BAIRD SUBSTATION SECTIONS 5 AND 6
25253-407	BAIRD SUBSTATION FOUNDATION PLAN AND LIST
25253-407C	BAIRD SUBSTATION FOUNDATION PLANS SECTIONS AND DETAILS
25253-407E	TRANSFORMER A AND OIL CONTAINMENT FOUNDATION PLAN
25253-407F	TRANSFORMER B AND OIL CONTAINMENT FOUNDATION PLAN

DRAWING NUMBER	DRAWING TITLE
25253-415	BAIRD SUBSTATION LIGHTING PLAN
25253-805	BAIRD SUBSTATION CONSTRUCTION FACILITIES PLAN
25253-809	BAIRD SUBSTATION CONSTRUCTION FACILITIES SITE CLEARING PLAN

APPENDIX B

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION STORMWATER POLLUTION CONTROL PLAN AND APPROVAL LETTER

APPENDIX C

D&M PLAN CHECKLIST FOR BAIRD SUBSTATION
(Regulations of Connecticut State Agencies Sections 16-50j-60, -61 and -62)

R.C.S.A SECTION	DESCRIPTION	LOCATION ADDRESSED IN D&M PLAN (SECTION NO.)
16-50j-60	**Requirements for a D&M Plan**	
(a)	**Purpose.** The Council may require the preparation of full or partial D&M Plans for proposed energy facilities, modifications to existing energy facilities, or where the preparation of such a plan would help significantly in balancing the need for adequate and reliable utility services at the lowest reasonable cost to consumers with the need to protect the environment and the ecology of the state.	**Section 1**
(b)	**When required.** A partial or full D&M plan shall be prepared in accordance with this regulation and shall include the information described in Sections 16-50j-61 to 16-50j-62, inclusive, of the Regulations of Connecticut State Agencies, for any proposed energy facility for which the Council issues a certificate of environmental compatibility and public need, except where the Council provides otherwise at the time it issues the certificate. Relevant information in the Council's record may be referenced.	**Section 1**
(c)	**Procedure for preparation**. The D&M plan shall be prepared by the certificate holder or the owner or operator of the proposed facility or modification to an existing facility. The preparer may consult with the staff of the Council to prepare the D&M plan.	**Section 1**
(d)	**Timing of plan.** The D&M plan shall be submitted to the Council in one or more sections, and the Council shall approve, modify, or disapprove each section of the plan not later than 60 days after receipt of it. If the Council does not act to approve, modify or disapprove the plan or a section thereof within 60 days after receipt of it, the plan shall be deemed approved. Except as otherwise authorized by the Council, no clearing or construction shall begin prior to approval of applicable sections of the D&M plan by the Council.	**Section 1**
16-50j-61	**Elements of D&M Plan**	
(a)	**Key map.** The D&M plan shall include a key map for the entire line that is a reproduction at a scale of 1" in = 2,000 ft of the most recent USGS topographic maps for its route	**Section 3; Appendix A**
(a)	**Plan Drawings**, 1"=100' or larger, and supporting documents, which shall contain the following information:	**Section 3; Appendix A**

R.C.S.A SECTION	DESCRIPTION	LOCATION ADDRESSED IN D&M PLAN (SECTION NO.)
1.	Edges of the proposed site and any existing site contiguous to or crossing the site, portions of the site owned by the company in fee, and the identity of property owners of record of the portions of the site not owned by the company in fee	**Section 3**
2.	Public roads and public land crossings or adjoining the site	**Section 3**
3.	Location of 50' contours along the site	**Section 3; Appendix A**
4.	Probable location, type, and height of the proposed facility and components (including each new transmission structure, position of guys, description of foundations, and locations of any utility or other structures to remain on the site or to be removed	**Sections 2 and 3; Appendix A**
5.	Probable points of access to the site, and the route and likely nature of accessways, including alternatives	**Sections 2, 3 and 4; Appendix A**
6.	Edges of existing and proposed clearing areas, the type of proposed clearing along each part of the site, and the location and species identification of vegetation that would remain for aesthetic and wildlife value	**Section 3; Appendix A**
7.	Identification of sensitive areas and conditions within and adjoining the site, including but not limited to:	**Section 3; Appendix C**
	A. Wetland and watercourse areas regulated under C.G.S. Chapter 440 and any locations where construction may create drainage problems	**Section 3**
	B. Areas of high erosion potential	**N/A (refer to Section 3)**
	C. Critical habitats or areas identified as having rare, endangered, or threatened, or special concern plant or animal species listed by the state or federal government	**N/A (refer to Section 3); Appendix J**
	D. Location of known underground utilities or resources to be crossed (electric lines, fuel lines, drainage systems and natural or artificial public or private water resources)	**Section 3**
	E. Significant environmental, historic and ecological features (significantly large or old trees, buildings, monuments, stone walls or features of local interest)	**N.A (refer to Section 3)**
(c)	**Supplemental Information**	
1.	Plans (if any) to salvage marketable timber, restore habitat and maintain snag trees within or adjoining the site	**N/A**
2.	All construction and rehabilitation procedures with reasonable mitigation that shall be taken to protect areas and conditions identified in 7(b), above, including but not limited to: A. Construction techniques at wetland and watercourse crossings	**Section 3** **N/A**

R.C.S.A SECTION	DESCRIPTION	LOCATION ADDRESSED IN D&M PLAN (SECTION NO.)
	B. S & E control and rehabilitation procedures, consistent with the CT Guidelines for Soil Erosion and Sediment Control, as updated and amended for areas of high erosion potential	**Appendix B**
	C. Precautions and all reasonable mitigation measures to be taken in areas within or adjoining the site to minimize any adverse impacts of such actions or modifications on E, T, or special concern plant or animal species listed by federal or state agencies and critical habitats that are in compliance with federal and state recommended standards and guidelines, as amended	**Appendix A & B**
	D. Plans for modification and rehabilitation of surface, drainage, and other hydrologic features	**Appendix A**
	E. Plans for watercourse bank restoration in accordance with Chapter 440 of the C.G.S.	**N/A**
	F. Plans for the protection of historic and archaeological resources with review and comment from a state historic preservation officer of the CT DECD or its successor agency	**N/A**
3.	Plans for the method and type of vegetation clearing and maintenance to be used within or adjacent to the site	**Section 3**
4.	Location of public recreation areas or activities known to exist or being proposed in or adjacent to the site, together with copies of agreements between the company and public agencies authorizing the public recreation use of the site to the extent of the company's rights thereto	**N/A**
5.	Plans for ultimate disposal of excess excavated material, stump removal, and periodic maintenance of the site	**Section 3**
6.	Locations of areas where blasting is anticipated	**N/A**
7.	Rehabilitation plans, including but not limited to reseeding and topsoil restoration	**Section 3**
8.	Contact information for the personnel of the contractor assigned to the project	**Section 3**
9.	Such site-specific information as the CSC may require	**Section 3**
(d)	**Notice** A copy, or notice of the filing, of the D&M Plan, or a copy, or notice of the filing of any changes to the D&M Plan, or any section thereof, shall be provided to the service list and the property owner of record, if applicable, at the same time the plan, or any section thereof, is submitted to the CSC	**N/A**
(e)	**Changes to the Plan** The CSC may order changes to the D&M plan, including but not limited to vegetative screening, paint color, or fence design at any time during the preparation of the plan	**N/A**

R.C.S.A SECTION	DESCRIPTION	LOCATION ADDRESSED IN D&M PLAN (SECTION NO.)
16-50j-62	**Supplemental Reporting Requirements**	
(a)	**Site Testing and Staging Areas** The certificate holder, or facility owner or operator, shall provide the CSC with written notice of the location and size of all areas to be accessed or used for site testing or staging areas. If such an area is to be used prior to approval of the D&M plan, the CSC may approve such use on terms as it deems appropriate.	**Section 3**
(b)	**Notice**	**Section 5**
1.	The certificate holder, or facility owner or operator, shall provide the CSC, in writing with a minimum of two weeks advance notice of the beginning of:	
	A. Clearing and access work in each successive portion of the site, and	
	B. Facility construction in that same portion	
2.	The certificate holder, or facility owner or operator, shall provide the CSC with advance written notice whenever a significant change of the approved D&M plan is necessary. If advance written notice is impractical, verbal notice shall be provided to the CSC immediately and shall be followed by written notice not later than 48 hours after the verbal notice. Significant changes to the approved D&M plan shall include, but not be limited to, the following:	
	A. The location of wetland or watercourse crossing	
	B. The location of an accessway or structure in a regulated wetland or watercourse area	
	C. The construction or placement of any temporary structures or equipment	
	D. A change in structure type or location including, but not limited to, towers, guy wires, associated equipment or other facility structures	
	E. Utilization of additional mitigation measure, or elimination of mitigation measures. The CSC or its designee shall promptly review the changes and shall approve, modify, or disapprove the changes in accordance with subsection (d) of Section 16-50j-60 of the RCSA	
	F. Residences or businesses within or adjoining the site that may be disrupted during construction	
3.	The certificate holder, or facility owner or operator, shall provide the CSC with a monthly construction progress report or a	

R.C.S.A SECTION	DESCRIPTION	LOCATION ADDRESSED IN D&M PLAN (SECTION NO.)
	construction progress report at intervals determined by the CSC or its designee, indicating changes and deviations from the approved D&M Plan. The CSC may approve changes and deviations, request corrections, or require mitigation measures.	
4.	The certificate holder, or facility owner or operator, shall provide the CSC with written notice of completion of construction and site rehabilitation.	
(c)	**Final Report** The certificate holder, or facility owner or operator, shall provide the CSC with a final report for the facility not later than 180 days after completion of all site construction and site rehabilitation. The report shall identify:	
1.	All agreements with abutters or other property owners regarding special maintenance precautions	
2.	Significant changes of the D&M plan that were required because of property rights of underlying and adjoining owners for other reasons	
3.	The location of construction materials which have been left in place including, but not limited to, culverts, erosion control structures along watercourses and steep slopes, and corduroy roads in regulated wetlands	
4.	The location of areas where special planting and reseeding have been done	
5.	The actual construction cost of the facility, including but not limited to the following costs:	
	A. Clearing and access	
	B. Construction of the facility and associated equipment	
	C. Rehabilitation; and	
	D. Property acquisition for the site or access to the site	
(d)	**Protective Order** The certificate holder, or facility owner or operator, may file a motion for protective order pertaining to commercial or financial information related to the site or access to the site.	**N/A**

APPENDIX D

CT DEEP BEST MANAGEMENT PRACTICES FOR DISPOSAL OF SNOW ACCUMULATIONS FROM ROADWAYS AND PARKING LOTS

APPENDIX E

PROJECT TEAM CONTACT INFORMATION

APPENDIX F

SECTION 404 ACOE CATEGORY I PERMIT

APPENDIX G

CULTURAL RESOURCES REVIEW

APPENDIX H

CONNECTICUT STATE HISTORICAL PRESERVATION OFFICE – PROJECT REVIEW FORM

APPENDIX I

SOIL & GROUNDWATER MANAGEMENT PLAN

APPENDIX J

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION: WILDLIFE DIVISION – NATURAL DIVERSITY DATABASE CORRESPONDENCE

APPENDIX K

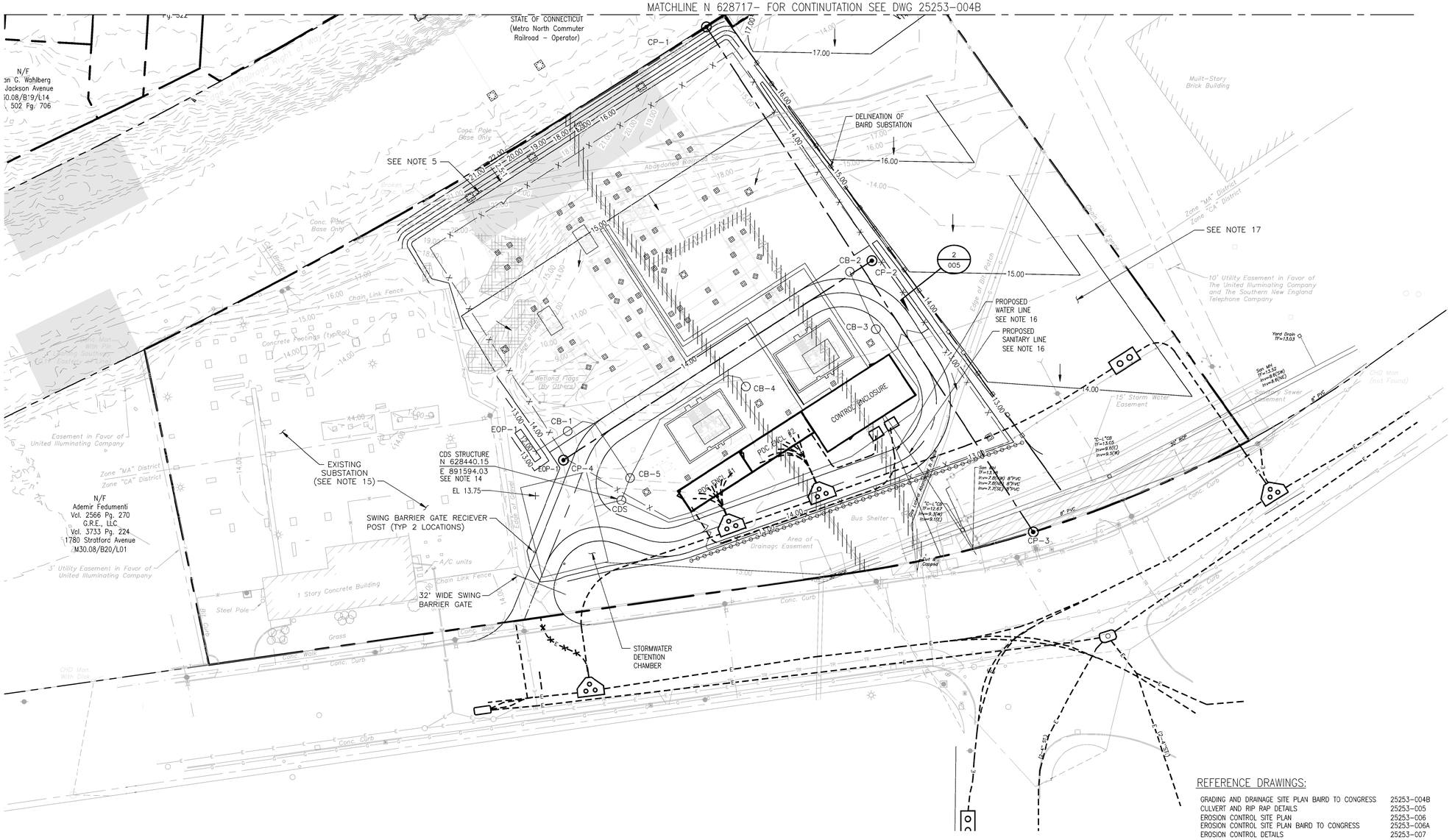
PRELIMINARY PLANTING PLAN

APPENDIX A

SUBSTATION DRAWINGS

DRAWING NUMBER	DRAWING TITLE
25253-004	BAIRD SUBSTATION GRADING AND DRAINAGE SITE PLAN
25253-004B	BAIRD SUBSTATION GRADING AND DRAINAGE SITE PLAN
25253-005	BAIRD SUBSTATION CULVERT AND RIP RAP DETAILS
25253-006	BAIRD SUBSTATION EROSION CONTROL SITE PLAN
25253-006A	BAIRD SUBSTATION EROSION CONTROL SITE PLAN BAIRD TO CONGRESS
25253-007	BAIRD SUBSTATION EROSION CONTROL DETAILS
25253-008	BAIRD SUBSTATION SURFACING AND FENCING PLAN
25253-008A	BAIRD SUBSTATION GUARDRAIL AND BOLLARD DETAILS
25253-009B	BAIRD SUBSTATION ROADS PLAN
25253-014A	BAIRD SUBSTATION 15 FT SUBSTATION FENCE SECTION AND DETAILS
25253-014B	BAIRD SUBSTATION 32 FT DOUBLE LEAF SWING BARRIER GATE
25253-300	BAIRD SUBSTATION P.D.C CONTROL ENCLOSURE LAYOUT
25253-300D	BAIRD SUBSTATION 13.8-kV SWITCHGEAR P.D.C BUS # 1 THRU #4 PLAN VIEW
25253-401	BAIRD SUBSTATION SITE PLAN
25253-402	BAIRD SUBSTATION SUBSTATION PLAN
25253-403	BAIRD SUBSTATION SECTIONS 1 AND 2
25253-403A	BAIRD SUBSTATION SECTIONS 3 AND 4
25253-403B	BAIRD SUBSTATION SECTIONS 5 AND 6
25253-407	BAIRD SUBSTATION FOUNDATION PLAN AND LIST
25253-407E	TRANSFORMER A AND OIL CONTAINMENT FOUNDATION PLAN

DRAWING NUMBER	DRAWING TITLE
25253-407F	TRANSFORMER B AND OIL CONTAINMENT FOUNDATION PLAN
25253-415	BAIRD SUBSTATION LIGHTING PLAN
25253-416	BAIRD SUBSTATION YARD SECURITY PLAN
25253-805	BAIRD SUBSTATION CONSTRUCTION FACILITIES PLAN
25253-809	BAIRD SUBSTATION CONSTRUCTION FACILITIES SITE CLEARING PLAN



GENERAL NOTES:

1. REMOVE EXISTING FENCE AS SHOWN ON DRAWING.
2. REMOVE EXISTING BITUMINOUS PAVEMENT. DISPOSAL OF PAVEMENT SHALL BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
3. SEE DRAWING 25253–005 FOR CATCH BASIN AND CULVERT DETAILS AND INFORMATION.
4. GRADING PLAN INCLUDES GRADING FOR THE 100 FEET PAVED BUFFER AREA. PAVEMENT DETAILS SHALL BE PROVIDED LTR.
5. THE GENERAL CONSTRUCTION CONTRACTOR SHALL ADJUST GRADING ALONG NORTHWEST FENCE LINE TO ENSURE ALL DISTURBANCE IS WITHIN PROPERTY BOUNDARY.
6. GRADE SHALL SLOPE UNIFORMLY BETWEEN FINISH SPOT ELEVATIONS AND CONTOURS SHOWN ON THE PLANS.
7. SLOPES SHALL BE 3(H):1(V) OR FLATTER, UNLESS NOTED OTHERWISE.
8. THE GENERAL CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR TYING FINISHED CONTOURS INTO EXISTING CONTOURS IN AREAS WHERE THERE IS INSUFFICIENT SURVEY DATA OF THE EXISTING GRADE.
9. EXISTING CONTOURS AND SPOT ELEVATIONS ARE BASED ON THE 05/04/2015 PROPERTY/TOPOGRAPHIC SURVEY PRODUCED BY BL COMPANIES. COORDINATES ARE BASED ON THE CONNECTICUT STATE PLANE COORDINATE SYSTEM (CT NAD83) AND ELEVATIONS REFER TO DATUM NAVD88.
10. SPOT ELEVATIONS AND CONTOURS ON THESE DRAWINGS ARE TOP OF FINISHED GRADE. SUBTRACT FINISH SURFACING MATERIAL THICKNESS TO OBTAIN TOP OF SUBGRADE.
11. ALL AREAS OUTSIDE OF THE SUBSTATION THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PRE–CONSTRUCTION CONDITIONS, AND STABILIZED, UNLESS NOTED OTHERWISE.
12. THE FINISHED GRADE IS SET 6 INCHES BELOW TOP OF CONCRETE, UNLESS NOTED OTHERWISE. FINISHED GRADE SHOULD SLOPE AWAY FROM THE STRUCTURE AT A MINIMUM SLOPE OF 1%.
13. INTERSECTION RECONSTRUCTION INFORMATION IS NOT SHOWN ON THESE DRAWINGS. PROPOSED INTERSECTION FOOTPRINT HAS BEEN REVIEWED RELATIVE TO SUBSTATION GRADING.
14. THE GENERAL CONSTRUCTION CONTRACTOR SHALL INSTALL A CONTECH CDS 2020 PER MANUFACTURER'S SPECIFICATION.
15. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR UNLESS NOTED OTHERWISE.
16. THE GENERAL CONSTRUCTION CONTRACTOR SHALL OBTAIN WATER AND SANITARY SEWER CONNECTION PERMITS TO SUPPORT CONSTRUCTION.
17. GRADING FOR FUTURE PARKING AREA SHALL BE COMPLETED TO SUPPORT CONSTRUCTION TIMELINE OF SUBSTATION. CONTOUR ELEVATIONS FOR THIS AREA ARE TOP OF SUBGRADE. GRADING FOR ACCESS RAMP TO TRANSMISSION LINE STRUCTURES SHALL BE REMOVED AFTER STRUCTURES ARE CONSTRUCTED.

LEGEND

- PROPERTY LINE
- BOUNDARY LINE
- NEW SUBSTATION FENCE
- NEW CONTOUR
- SURFACE FLOW INDICATOR
- CB–X — CATCH BASIN
- EXISTING FENCE
- EXISTING CONTOUR
- 15' WIDE STORMWATER EASEMENT
- FENCE TO BE REMOVED
- WETLANDS
- LEDGE
- EXISTING WATER
- EXISTING TRAFFIC
- EXISTING ELECTRICAL
- EXISTING GAS
- EXISTING SANITARY
- EXISTING STRUCTURES
- BOLLARDS
- GUARDRAIL

REFERENCE DRAWINGS:

GRADING AND DRAINAGE SITE PLAN BAIRD TO CONGRESS	25253–004B
CULVERT AND RIP RAP DETAILS	25253–005
EROSION CONTROL SITE PLAN	25253–006
EROSION CONTROL SITE PLAN BAIRD TO CONGRESS	25253–006A
EROSION CONTROL DETAILS	25253–007
SURFACING AND FENCING PLAN	25253–008
GUARDRAIL AND BOLLARD DETAILS	25253–008A
ROADS PLAN	25253–009B
15 FT SUBSTATION FENCE SECTIONS AND DETAILS	25253–014A
32 FT DOUBLE LEAF SWING BARRIER GATE	25253–014B
CONSTRUCTION FACILITIES PLAN	25253–805

PROJECT SURVEY CONTROL

CONTROL MONUMENT LOCATIONS

MONUMENT NO.	NAD83 COORDINATES		ELEVATION
	NORTHING	EASTING	
CP–1	628710.01	891642.56	–
CP–2	628576.74	891736.83	–
CP–3	628422.08	891828.72	–
CP–4	628463.04	891561.00	–

PRELIMINARY

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SMR	JTG
CHECKED	DATE
–	

PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
H	05/25/2016	ISSUED FOR BID – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
G	04/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
F	11/20/2015	ISSUED FOR UI REVIEW–PROJECT 186535–BAIRD REPLACEMENT	MEM		SMR	MAV
E	11/20/2015	ISSUED FOR CSC APPLICATION–PROJECT 186535–BAIRD REPLACEMENT	RRH		SMR	MAV
D	10/28/2015	ISSUED FOR CSC APPLICATION–PROJECT 186535–BAIRD REPLACEMENT	JDL		SMR	MAV
C	10/23/2015	ISSUED FOR UI REVIEW–CSC DRAWINGS–PROJECT 186535–BAIRD REPLACEMENT	JDL		SMR	MAV
B	10/09/2015	ISSUED FOR CSC APPLICATION	JDL		SMR	MAV
A	07/28/2015	ISSUED FOR MCF APPLICATION–PROJECT 186535–BAIRD REPLACEMENT	JTG		SMR	MAV

30' 20' 10' 0 30' 60'
1"=30'

TRUE NORTH

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	11/2015	BAIRD REPLACEMENT SUBSTATION	JDL		SMR	MAV

The United Illuminating Company

Drawn	JDL	Date	11/18/15	Scale:	1"=30'
Chkd.	–	Design Engr.	SMR	Design Supv.	MAV

GRADING AND DRAINAGE SITE PLAN
BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253–004

GENERAL NOTES:

1. GRADE SHALL SLOPE UNIFORMLY BETWEEN FINISH SPOT ELEVATIONS AND CONTCURS SHOWN ON THE PLANS.
2. SLOPES SHALL BE 3(H):1(V) OR FLATTER, UNLESS NOTED OTHERWISE.
3. THE GENERAL CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR TYING FINISHED CONTOURS INTO EXISTING CONTOURS IN AREAS WHERE THERE IS INSUFFICIENT SURVEY DATA OF THE EXISTING GRADE.
4. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR UNLESS NOTED OTHERWISE.
5. THE GENERAL CONSTRUCTION CONTRACTOR SHALL REMOVE VEGETATION TO SUPPORT CRANE SWING FOR POLE ERECTION.
6. GRADING FOR ACCESS RAMP TO TRANSMISSION LINE STRUCTURES SHALL BE REMOVED AFTER STRUCTURES ARE CONSTRUCTED.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE (MNR)
- 260 — NEW CONTOUR
- 260 — EXISTING CONTOUR
- 825N — TRANSMISSION LINE POLE
- WORK PAD/ACCESS ROAD
- EXISTING STRUCTURES
- RETAINING WALL

REFERENCE DRAWINGS:

GRADING AND DRAINAGE SITE PLAN	25253-004
CULVERT AND RIP RAP DETAILS	25253-005
EROSION CONTROL SITE PLAN	25253-006
EROSION CONTROL SITE PLAN BAIRD TO CONGRESS	25253-006A
EROSION CONTROL DETAILS	25253-007
SURFACING AND FENCING PLAN	25253-008
GUARDRAIL AND BOLLARD DETAILS	25253-008A
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32 FT DOUBLE LEAF SWING BARRIER GATE	25253-014B
CONSTRUCTION FACILITIES PLAN	25253-805

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PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
F	07/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	JTG		SMR	MAV
E	05/25/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
D	04/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
C	11/20/2015	ISSUED FOR CSC APPLICATION–PROJECT 186535–BAIRD REPLACEMENT	RRH		SMR	MAV
B	11/20/2015	ISSUED FOR UI REVIEW–PROJECT 186535–BAIRD REPLACEMENT	MEM		SMR	MAV
A	11/18/2015	ISSUED FOR UI REVIEW–PROJECT 186535–BAIRD REPLACEMENT	RRH		SMR	MAV

30' 20' 10' 0 30' 60'
1"=30'

TRUE NORTH

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	11/2015	BAIRD REPLACEMENT SUBSTATION	RRH	–	SMR	MAV

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Drawn _____ Date 11/17/2015 Scale: 1"=30'
Chkd. _____ Design Engr._____ Design Supv._____

GRADING AND DRAINAGE
SITE PLAN
BAIRD SUBSTATION

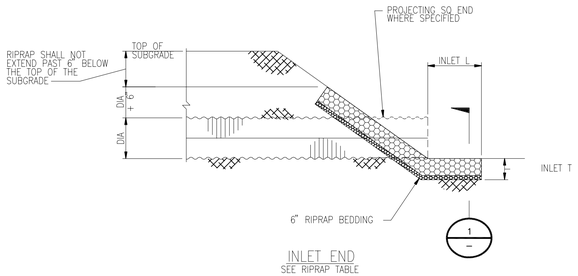
CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	–	25253-004B

RIPRAP TABLE

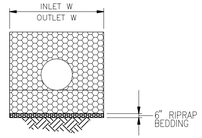
CULVERT NO.	INLET L	OUTLET L	INLET T	OUTLET T	INLET W	OUTLET W	INLET D50	OUTLET D50	REMARKS
EOP-1	5.0'	–	9"	–	3.75'	–	6"	–	

CULVERT TABLE

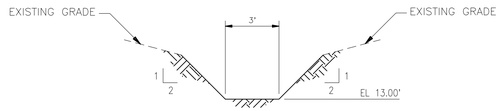
CULVERT NO.	CENTERLINE COORDINATES				LENGTH	INLET INV ELEVATION	OUTLET INV ELEVATION	END TYPE	PIPE DIAMETER	NUMBER OF BARRELS	PIPE MATERIAL	REMARKS
	INLET END		OUTLET END									
	NORTH	EAST	NORTH	EAST								
EOP-1	628463.20	891547.01	–	–	–	12.00	11.80	PROJECTING	15"	1	CHDPE	CONNECTS TO CB-1



INLET END
SEE RIPRAP TABLE

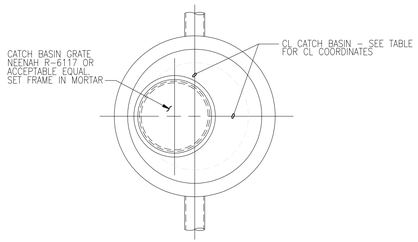


SECTION 1
NO SCALE
SEE THIS DWG
SEE RIPRAP TABLE

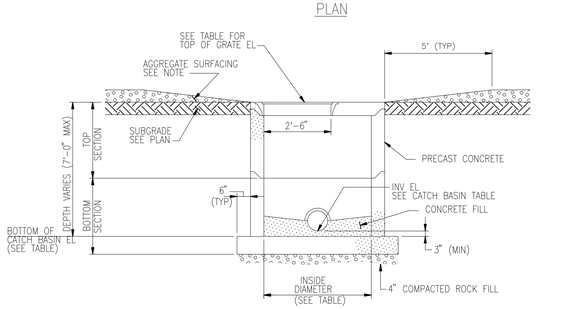


SECTION 2
NO SCALE
SEE DWG 25253-004

TYPICAL CULVERT RIPRAP
NO SCALE



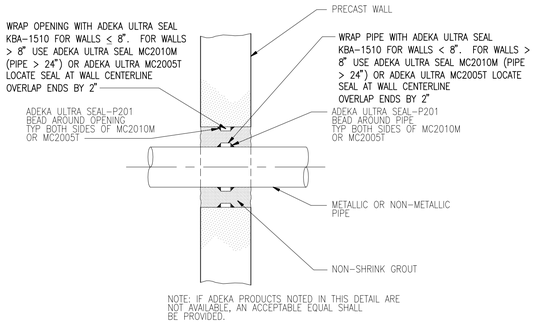
PLAN



SECTION

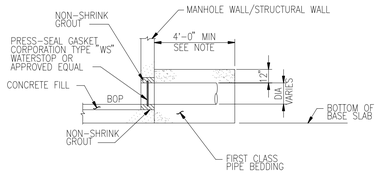
NOTE: AGGREGATE SURFACING SHALL TRANSITION FROM 0 AT THE EDGE OF THE MANHOLE TO FULL DEPTH WITHIN 5' OF THE MANHOLE EDGE

TYPICAL PRECAST CATCH BASIN UNDER 7'-0"
NO SCALE



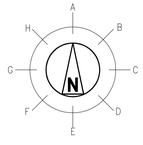
NOTE: IF ADEKA PRODUCTS NOTED IN THIS DETAIL ARE NOT AVAILABLE, AN ACCEPTABLE EQUAL SHALL BE PROVIDED.

OPTIONAL WALL PENETRATION DETAIL
NO SCALE



NOTE: FIRST CLASS PIPE BEDDING TO LIMITS SHOWN OR EDGE OF MANHOLE EXCAVATION WHICHEVER IS GREATER.

TYPICAL WALL PENETRATION DETAIL



CATCH BASIN TABLE

STRUCTURE NO.	DRAWING NO.	CENTERLINE COORDINATES		STRUCTURE SIZE ID	TOP OF GRATE ELEVATION	BOTTOM OF CATCH BASIN ELEVATION	INLET & OUTLET PIPE INFORMATION														REMARKS
							A		B		C		D		E		F		G		H		
		NORTH	EAST				INV EL	DIA	INV EL	DIA	INV EL	DIA	INV EL	DIA	INV EL	DIA	INV EL	DIA	INV EL	DIA	INV EL	DIA	
CB-1	25253-004	628479.55	891563.50	5'-6"	13.90	9.54	–	–	9.79	12"	–	–	–	–	–	–	9.79	12"	–	–	–	–	
CB-2	25253-004	628570.41	891724.27	5'-0"	13.80	10.06	–	–	–	–	–	–	–	–	10.31	12"	–	–	–	–	–	–	
CB-3	25253-004	628537.68	891739.08	5'-0"	13.80	9.97	10.22	12"	–	–	–	–	10.22	18"	–	–	–	–	–	–	–	–	OUTLET TO CONTECH CDS
CB-4	25253-004	628505.01	891665.00	5'-0"	13.80	9.65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9.90	12"	
CB-5	25253-004	628452.84	891599.00	5'-0"	13.80	9.40	–	–	9.65	12"	–	–	–	–	9.65	18"	–	–	–	–	9.65	12"	OUTLET TO CONTECH CDS

ALL DIMENSIONS ARE IN FEET, EXCEPT DIAMETER, WHICH IS IN INCHES
FOR PIPELINE MATERIAL SEE PIPELINE LIST

REFERENCE DRAWINGS:

GRADING AND DRAINAGE SITE PLAN	25253-004
GRADING AND DRAINAGE SITE PLAN BAIRD TO CONGRESS	25253-004B
EROSION CONTROL SITE PLAN	25253-006
EROSION CONTROL SITE PLAN BAIRD TO CONGRESS	25253-006A
EROSION CONTROL DETAILS	25253-007
SURFACING AND FENCING PLAN	25253-008
GUARDRAIL AND BOLLARD DETAILS	25253-008A
ROADS PLAN	25253-009B
15 FT SUBSTATION FENCE SECTIONS AND DETAILS	25253-014A
32 FT DOUBLE LEAF SWING BARRIER GATE	25253-014B
CONSTRUCTION FACILITIES PLAN	25253-805

NOTES

1. SEE DWG 25253-004 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. GRADATION OF RIPRAP BEDDING SHALL BE ACCORDING TO CONNDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
3. THE GENERAL CONSTRUCTION CONTRACTOR SHALL INSTALL UNDERGROUND STORMWATER DETENTION CHAMBER. INVERT EL 8.40. OUTLET SHALL BE CONNECTED TO EXISTING CATCH BASIN.

PRELIMINARY

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SMR	JTG
CHECKED	DATE
–	

PROJECT # 186535

No	Date	Revision	DRN	CHKD	DESN	SUPR.
H	05/25/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
G	04/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
F	11/20/2015	ISSUED FOR UI REVIEW-PROJECT 186535-BAIRD REPLACEMENT	MEM		SMR	MAV
E	11/20/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	JTG		SMR	MAV
D	10/28/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	JDL		SMR	MAV
C	10/23/2015	ISSUED FOR UI REVIEW-CSC DRAWINGS-PROJECT 186535-BAIRD REPLACEMENT	JDL		SMR	MAV
B	10/09/2015	ISSUED FOR CSC APPLICATION	JDL		SMR	MAV
A	07/28/2015	ISSUED FOR MCF APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	JTG		SMR	MAV

TRUE NORTH

NEW DRAWING

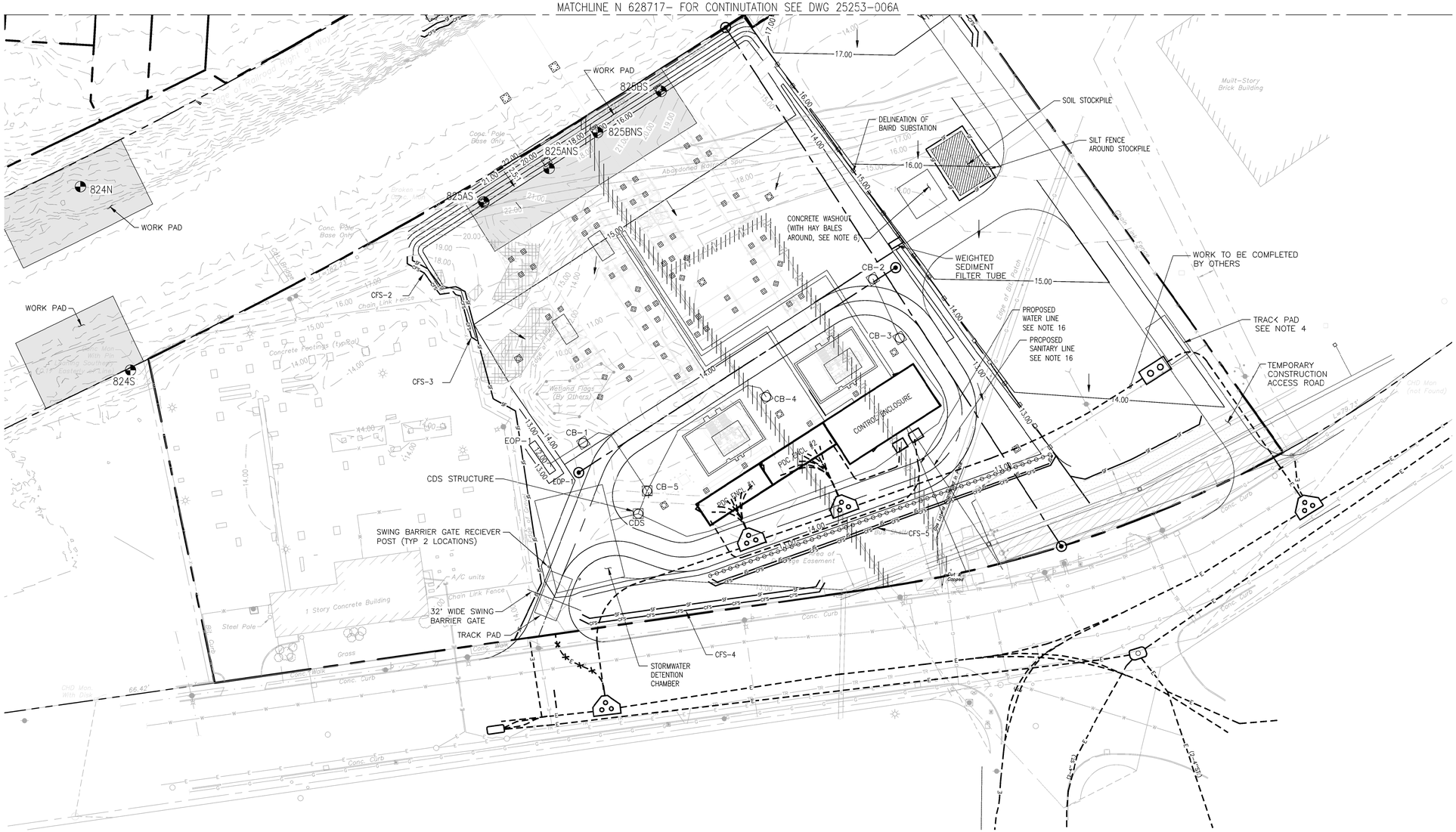
No	Date	Revision	By	Chkd.	Engr.	Supv.
1	11/2015	BAIRD REPLACEMENT SUBSTATION	JDL		SMR	MAV

The United Illuminating Company

Drawn JDL	Date 11/18/15	Scale: NO SCALE	
Chkd. –	Design Engr. SMR	Design Supv. MAV	

GRADING AND DRAINAGE DETAILS
BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253-005



GENERAL NOTES:

1. SEE DRAWING 25253–004 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWING 25253–007 FOR EROSION CONTROL DETAILS.
3. LOCATION OF CONCRETE WASHOUT AND SOIL STOCKPILE TO BE CONFIRMED BY THE GENERAL CONSTRUCTION MANAGER.
4. THE GENERAL CONSTRUCTION CONTRACTOR SHALL CUT AND REMOVE EXISTING ASPHALT PAVEMENT PREPARATION FOR INSTALLATION OF TRACK PAD.
5. SUBSTATION AND CONSTRUCTION FACILITIES DISTURBED AREA IS 112671 SF.
6. SEE STORMWATER POLLUTION CONTROL PLAN DEVELOPED BY CHD FOR ADDITIONAL INFORMATION.
7. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR UNLESS NOTED OTHERWISE.

LEGEND

- PROPERTY LINE
- BOUNDARY LINE
- NEW SUBSTATION FENCE
- NEW CONTOUR
- COMPOST FILTER SOCK
- SILT FENCE
- EXISTING FENCE
- EXISTING CONTOUR
- 15' WIDE STORMWATER EASEMENT
- EROSION CONTROL BLANKET
- WETLANDS
- LEDGE
- INLET PROTECTION
- EXISTING WATER
- EXISTING TRAFFIC
- EXISTING ELECTRICAL
- EXISTING GAS
- EXISTING SANITARY
- EXISTING STRUCTURES
- FENCE TO BE REMOVED
- BOLLARDS
- GUARDRAIL

REFERENCE DRAWINGS:

GRADING AND DRAINAGE SITE PLAN	25253–004
GRADING AND DRAINAGE SITE PLAN BAIRD TO CONGRESS	25253–004B
CULVERT AND RIP RAP DETAILS	25253–005
EROSION CONTROL SITE PLAN BAIRD TO CONGRESS	25253–006A
EROSION CONTROL DETAILS	25253–007
SURFACING AND FENCING PLAN	25253–008
GUARDRAIL AND BOLLARD DETAILS	25253–008A
ROADS PLAN	25253–009B
15 FT SUBSTATION FENCE SECTIONS AND DETAILS	25253–014A
32 FT DOUBLE LEAF SWING BARRIER GATE	25253–014B
CONSTRUCTION FACILITIES PLAN	25253–805

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CHECKED	DATE
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PROJECT # 186535

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I	05/25/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
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G	11/20/2015	ISSUED FOR UI REVIEW–PROJECT 186535–BAIRD REPLACEMENT	MEM		SMR	MAV
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D	10/23/2015	ISSUED FOR UI REVIEW–CSC DRAWINGS–PROJECT 186535–BAIRD REPLACEMENT	JDL		SMR	MAV
C	10/09/2015	ISSUED FOR CSC APPLICATION	JDL		SMR	MAV
B	09/24/2015	ISSUED FOR CLIENT REVIEW	JDL		SMR	MAV
A	07/28/2015	ISSUED FOR MCF APPLICATION–PROJECT 186535–BAIRD REPLACEMENT	JTG		SMR	MAV

30' 20' 10' 0 30' 60'
1"=30'
TRUE NORTH

NEW DRAWING

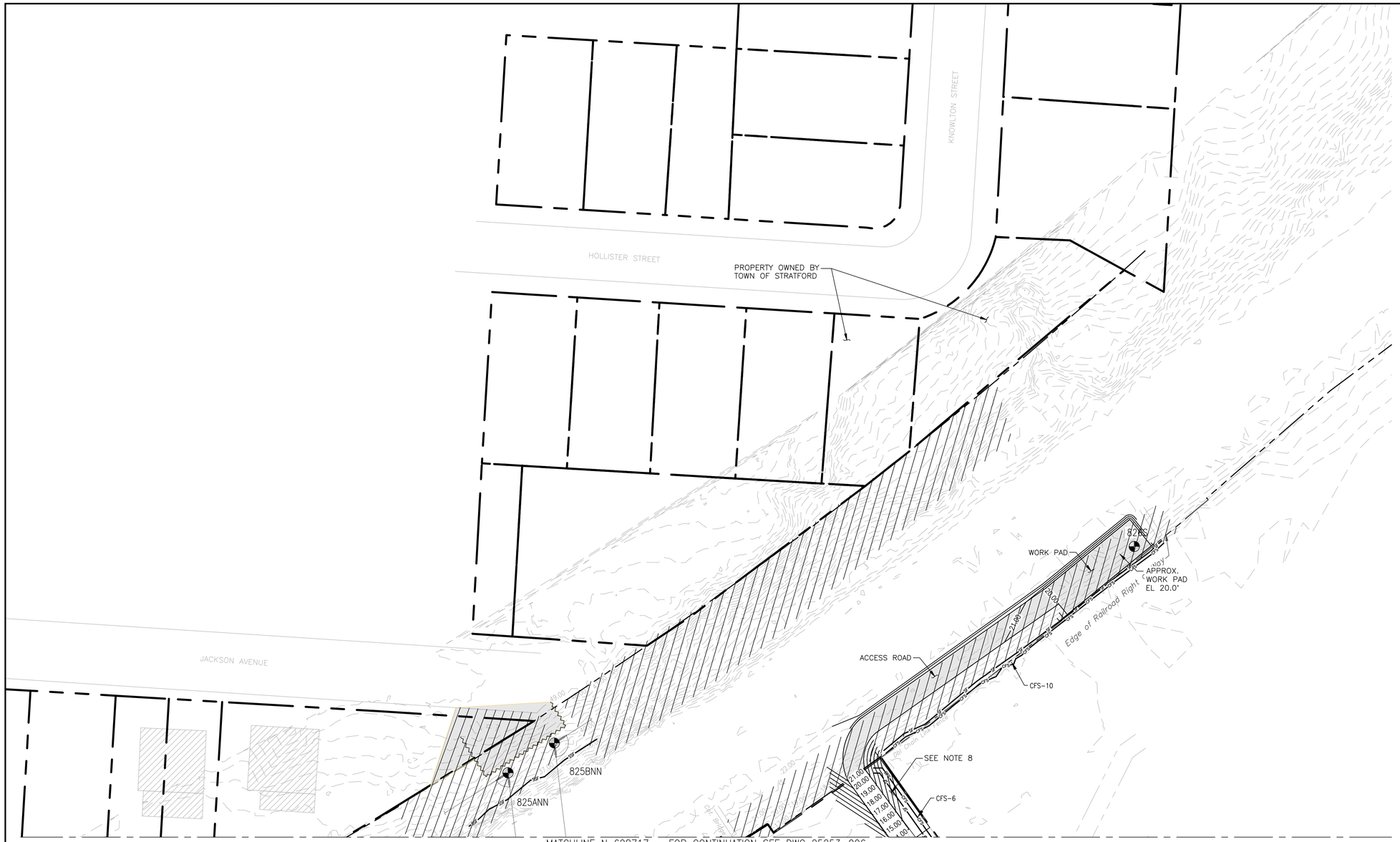
No	Date	Revision	By	Chkd.	Engr.	Supv.
1	11/2015	BAIRD REPLACEMENT SUBSTATION	JDL		SMR	MAV

The United Illuminating Company

Drawn	JDL	Date	11/18/15	Scale:	1"=30'
Chkd.	–	Design Engr.	SMR	Design Supv.	MAV

EROSION CONTROL SITE PLAN
BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253–006



GENERAL NOTES:

1. SEE DRAWING 25253-004 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWING 25253-007 FOR EROSION CONTROL DETAILS.
3. EROSION CONTROL BEST MANAGEMENT PRACTICES FOR SUBSTATION ARE SHOWN ON DRAWING 25253-006.
4. WORK PAD AND ACCESS ROAD DISTURBED AREA IS 18127 SF.
5. VEGETATION CLEARING OUTSIDE OF WORK AND ACCESS ROAD FOOTPRINT FOR TRANSMISSION LINE CONSTRUCTION DOES NOT INCLUDE GRUBBING OF STUMPS OR ROOTS.
6. SEE STORMWATER POLLUTION CONTROL PLAN DEVELOPED BY GHD FOR ADDITIONAL INFORMATION.
7. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR UNLESS NOTED OTHERWISE.
8. GRADING FOR ACCESS RAMP TO TRANSMISSION LINE STRUCTURES SHALL BE REMOVED AFTER STRUCTURES ARE CONSTRUCTED.

LEGEND

- PROPERTY LINE
- BOUNDARY LINE
- NEW SUBSTATION FENCE
- 260 NEW CONTOUR
- CFS COMPOST FILTER SOCK
- SF SILT FENCE
- SSF SUPER SILT FENCE
- EXISTING FENCE
- 260 EXISTING CONTOUR
- EXISTING STRUCTURES
- WORK PAD/ACCESS ROAD
- VEGETATION CLEARING (SEE NOTE 5)
- 824N TRANSMISSION LINE POLE
- RETAINING WALL

OPEN
06/29/16

REFERENCE DRAWINGS:

GRADING AND DRAINAGE SITE PLAN	25253-004
GRADING AND DRAINAGE SITE PLAN BAIRD TO CONGRESS	25253-004B
CULVERT AND RIP RAP DETAILS	25253-005
EROSION CONTROL SITE PLAN	25253-006
EROSION CONTROL DETAILS	25253-007
SURFACING AND FENCING PLAN	25253-008
GUARDRAIL AND BOLLARD DETAILS	25253-008A
ROADS PLAN	25253-009B
15 FT SUBSTATION FENCE SECTIONS AND DETAILS	25253-014A
32 FT DOUBLE LEAF SWING BARRIER GATE	25253-014B
CONSTRUCTION FACILITIES PLAN	25253-805

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

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DESIGNER	DRAWN
SMR	JTG
CHECKED	DATE
–	

PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
H						
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C	10/28/2015	ISSUED FOR CSC APPLICATION–PROJECT 186535–BAIRD REPLACEMENT	JDL		SMR	MAV
B	10/23/2015	ISSUED FOR UI REVIEW–CSC DRAWINGS–PROJECT 186535–BAIRD REPLACEMENT	JDL		SMR	MAV
A	10/12/2015	ISSUED FOR CSC APPLICATION	JDL		SMR	MAV

TRUE NORTH
30' 20' 10' 0 30' 60'
1"=30'

NEW DRAWING

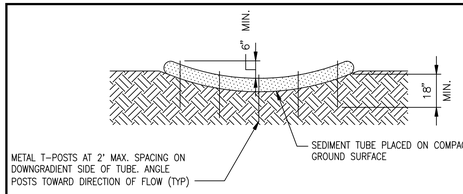
No	Date	Revision	By	Chkd.	Engr.	Supv.
1	11/2015	BAIRD REPLACEMENT SUBSTATION	JDL		SMR	MAV

The United Illuminating Company

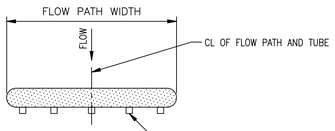
Drawn JDL	Date 11/18/15	Scale: 1"=30'	
Chkd. –	Design Engr. SMR	Design Supv. MAV	

EROSION CONTROL SITE PLAN
BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253-006A



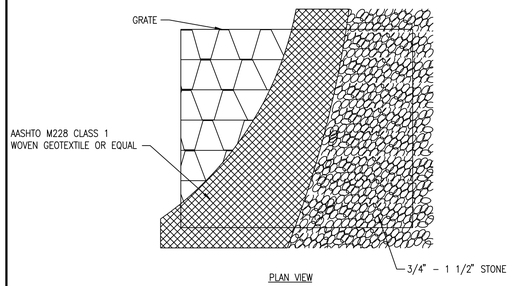
FRONT VIEW



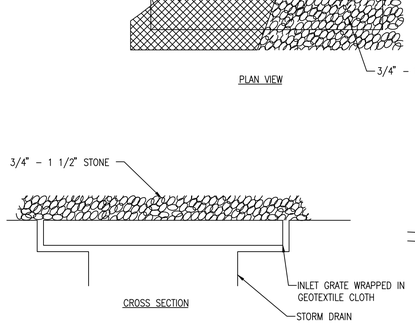
PLAN VIEW

WEIGHTED SEDIMENT FILTER TUBE INSTALLATION DETAIL

NOT TO SCALE
SEE NOTE 12



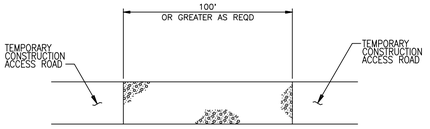
PLAN VIEW



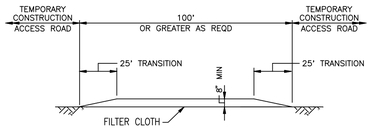
CROSS SECTION

GRATE INLET PROTECTION DETAIL

NOT TO SCALE
SEE NOTE 2



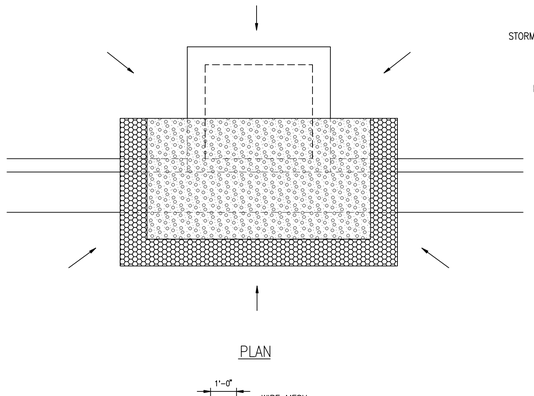
PLAN VIEW



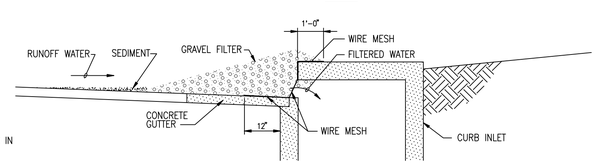
PROFILE

TRACK PAD

NO SCALE
SEE NOTES 5 & 6



PLAN

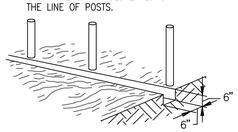


ELEVATION

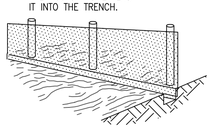
GRAVEL CURB INLET SEDIMENT FILTER

NO SCALE
SEE NOTE 4

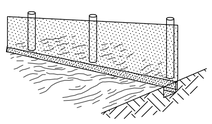
1. SET POSTS AND EXCAVATE A 6"X6" TRENCH UP SLOPE ALONG THE LINE OF POSTS.

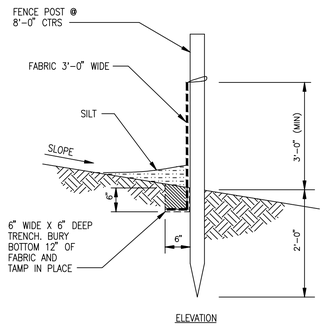


2. ATTACH THE FILTER FABRIC TO THE POSTS AND EXTEND IT INTO THE TRENCH.

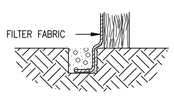


3. BACKFILL AND COMPACT THE EXCAVATED SOIL.





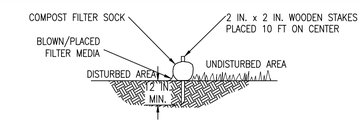
ELEVATION



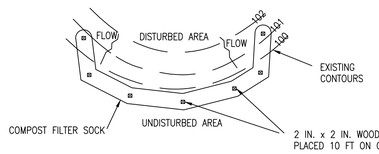
PLANS

SILT FENCE DETAIL

NO SCALE



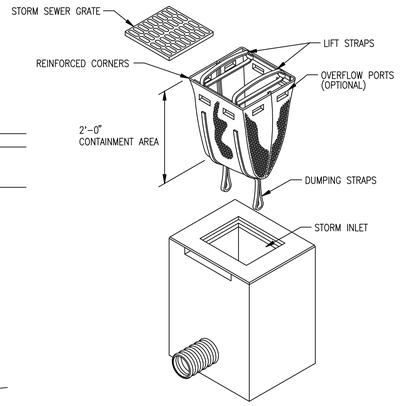
SECTION



PLAN VIEW

COMPOST FILTER SOCK

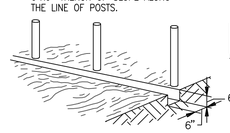
NO SCALE
SEE NOTES 8-10
SEE FILTER SOCK TABLE



FILTER BAG INLET PROTECTION

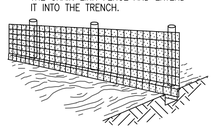
NO SCALE

1. SET POSTS AND EXCAVATE A 6"X6" TRENCH UP SLOPE ALONG THE LINE OF POSTS.

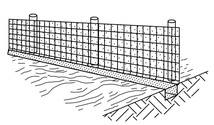


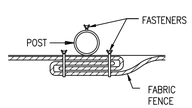
2. FASTEN CHAIN LINK TO THE POSTS @ 14" MAX. USE NO. 9 GUAGE ALUMINUM WIRE OR NO. 9 GUAGE GALVANIZED STEEL PRE-FORMED CLIPS.

3. ATTACH THE FILTER FABRIC TO THE CHAIN LINK FENCE AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

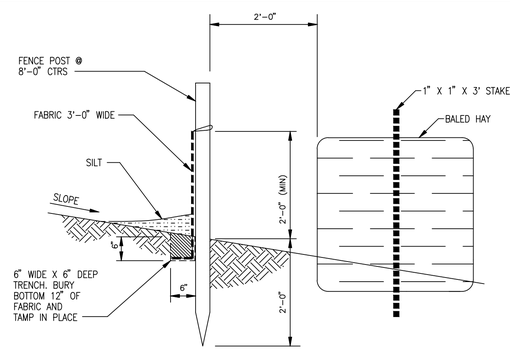




JOINING FENCE SECTIONS

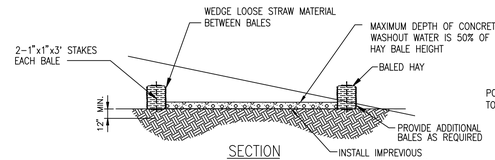
SUPER SILT FENCE DETAIL

NO SCALE

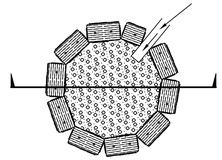


SILT FENCE W/ HAY BALE DETAIL

NO SCALE



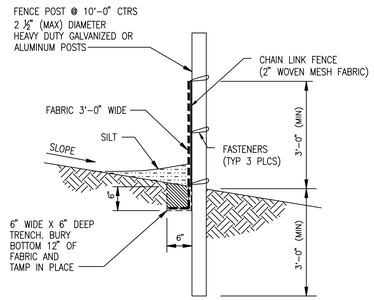
SECTION



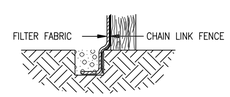
PLAN VIEW

TYPICAL WASHOUT INSTALLATION WITH HAY BALES

NO SCALE



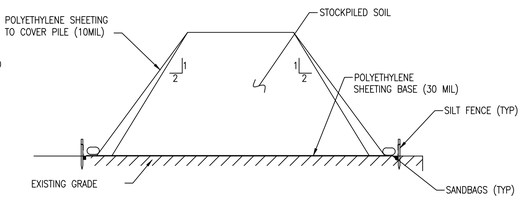
ELEVATION



PLANS

GENERAL NOTES:

1. SEE DWG 25253-004 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.
3. THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.
4. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC R.O.W.
5. DESIGN CRITERIA FOR STABILIZED CONSTRUCTION ENTRANCE.
   A. STONE SIZE – USE ASTM C-33, SIZE NO 2 OR 3, USE CRUSHED STONE.
   B. THICKNESS – NOT LESS THAN 8 INCHES.
   C. WIDTH – NOT LESS THAN FULL WIDTH OF POINTS OF INGRESS OR EGRESS.
   D. LENGTH – 50 FEET MINIMUM WHERE THE SOILS ARE SANDS OR GRAVEL OR 100 FEET MINIMUM WHERE SOILS ARE CLAYS OR SILTS, EXCEPT WHERE THE TRAVELED LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY. THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE.
   E. FILTER CLOTH – WILL BE PLACED OVER ENTIRE AREA PRIOR TO PLACING OF STONE.
   F. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ON TO PUBLIC RIGHT-OF-WAY THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
6. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.
7. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
8. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.
9. THE GENERAL CONSTRUCTION CONTRACTOR SHALL CUT AND REMOVE EXISTING ASPHALT PAVEMENT TO INSTALL STABILIZED CONSTRUCTION ENTRANCE.
10. METAL T-POSTS SHALL BE INSTALLED AT THE CENTER AND AT EACH END OF THE TUBE. ADDITIONAL T-POSTS SHALL BE INSTALLED AS NEEDED TO MEET THE MAXIMUM 2-FOOT SPACING.



CROSS SECTION-SOIL STOCKPILE AREA

NOT TO SCALE

LOCATION OF COMPOST FILTER SOCK					
ID NO.	NORTH	EAST	ID NO.	NORTH	EAST
CFS-2	628582.80	891465.90	CFS-6	628699.39	891781.98
	628578.93	891465.90		628707.55	891782.56
	628573.75	891475.24		628757.54	891747.07
	628561.90	891484.07		628757.54	891741.91
	628562.61	891498.14	CFS-10	628766.20	891749.28
CFS-3	628563.47	891491.33		628775.70	891760.63
	628561.72	891492.84		628782.20	891774.40
	628561.00	891495.59		628807.16	891804.51
	628538.21	891501.54		628811.03	891813.67
	628536.25	891504.48		628816.95	891817.68
CFS-4	628381.46	891561.78		628818.29	891824.00
	628379.03	891566.57		628821.48	891825.16
	628396.83	891694.48		628823.57	891828.78
	628401.77	891697.31		628827.14	891832.35
CFS-5	628402.41	891632.92		628882.76	891904.91
	628400.12	891636.88		628889.18	891911.90
	628467.03	891822.67			
	628472.10	891825.60			

REFERENCE DRAWINGS:

GRADING AND DRAINAGE SITE PLAN	25253-004
GRADING AND DRAINAGE SITE PLAN BAIRD TO CONGRESS	25253-004B
CULVERT AND RIP RAP DETAILS	25253-005
EROSION CONTROL SITE PLAN	25253-006
EROSION CONTROL SITE PLAN BAIRD TO CONGRESS	25253-006A
EROSION CONTROL DETAILS	25253-007
SURFACING AND FENCING PLAN	25253-008
GUARDRAIL AND BOLLARD DETAILS	25253-008A
ROADS PLAN	25253-009B
15 FT SUBSTATION FENCE SECTIONS AND DETAILS	25253-014A
32 FT DOUBLE LEAF SWING BARRIER GATE	25253-014B
CONSTRUCTION FACILITIES PLAN	25253-805

OPEN
06/29/16

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

BLACK & VEATCH
Building a world of difference®

DESIGNER	SMR	DRAWN	JTG
CHECKED	–	DATE	

PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
I						
H	05/25/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
G	04/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
F	11/20/2015	ISSUED FOR UI REVIEW-PROJECT 186535-BAIRD REPLACEMENT	MEM		SMR	MAV
E	11/20/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	JTG		SMR	MAV
D	10/28/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	JDL		SMR	MAV
C	10/23/2015	ISSUED FOR UI REVIEW-CSC DRAWINGS-PROJECT 186535-BAIRD REPLACEMENT	JDL		SMR	MAV
B	10/09/2015	ISSUED FOR CSC APPLICATION	JDL		SMR	MAV
A	07/28/2015	ISSUED FOR MCF APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	JTG		SMR	MAV

NEW DRAWING

TRUE NORTH

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	11/2015	BAIRD REPLACEMENT SUBSTATION	JDL		SMR	MAV

The United Illuminating Company

Drawn	JDL	Date	11/18/15	Scale:	NO SCALE
Chkd.	–	Design Engr.	SMR	Design Supv.	MAV

EROSION CONTROL DETAILS
BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253-007

GENERAL NOTES:

1. THE SURFACE COURSE IS CRUSHER RUN TRAP ROCK UNIFORMLY GRADED FROM 3/4" TO CRUSHER FINES. THE BASE COURSE IS TRAP ROCK THAT PASSES A 1 1/2" SIEVE AND IS RETAINED ON A 1" SIEVE.
2. THE GENERAL CONSTRUCTION CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS OUTSIDE OF SUBSTATION FENCE TO PRE-EXISTING SURFACE CONDITIONS.
3. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR UNLESS NOTED OTHERWISE.
4. THE GENERAL CONSTRUCTION CONTRACTOR SHALL GRADE AREA TO SUBGRADE ELEVATIONS ON DRAWING 25253-004B. FINAL SURFACING TO BE COMPLETED BY OTHERS.
5. GRADING FOR ACCESS RAMP TO TRANSMISSION LINE STRUCTURES SHALL BE REMOVED AFTER STRUCTURES ARE CONSTRUCTED.
6. GENERAL CONSTRUCTION CONTRACTOR SHALL INSTALL GUARDRAIL ALONG WESTERN BOUNDARY OF PARKING LOT. GUARDRAIL SHALL BE IN ACCORDANCE WITH CONN DOT STANDARD SPECIFICATIONS.

POST-CONSTRUCTION IMPERVIOUS/PERVIOUS AREAS

DESCRIPTION	SQUARE FEET	REMARKS
STRUCTURES, PAVEMENT, AND FOUNDATIONS	18348.50	–
VEGETATED	32183.50	–
TRAP ROCK	36456.50	–
EXISTING SUBSTATION AREA	30315.60	–

LEGEND

- PROPERTY LINE
- BOUNDARY LINE
- NEW SUBSTATION FENCE
- 260 NEW CONTOUR
- EXISTING FENCE
- 260 EXISTING CONTOUR
- 15' WIDE STORMWATER EASEMENT
- GRASS
- AGGREGATE
- ASPHALT PAVEMENT
- WETLANDS
- LEDGE
- EXISTING WATER
- EXISTING TRAFFIC
- EXISTING ELECTRICAL
- EXISTING GAS
- EXISTING SANITARY
- EXISTING STRUCTURES
- 824N TRANSMISSION LINE POLE
- FENCE TO BE REMOVED
- GUARDRAIL
- BOLLARD

REFERENCE DRAWINGS:

GRADING AND DRAINAGE SITE PLAN	25253-004
GRADING AND DRAINAGE SITE PLAN BAIRD TO CONGRESS	25253-004B
CULVERT AND RIP RAP DETAILS	25253-005
EROSION CONTROL SITE PLAN	25253-006
EROSION CONTROL SITE PLAN BAIRD TO CONGRESS	25253-006A
EROSION CONTROL DETAILS	25253-007
GUARDRAIL AND BOLLARD DETAILS	25253-008A
ROADS PLAN	25253-009B
15 FT SUBSTATION FENCE SECTIONS AND DETAILS	25253-014A
32 FT DOUBLE LEAF SWING BARRIER GATE	25253-014B
CONSTRUCTION FACILITIES PLAN	25253-805

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

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DESIGNER SMR | DRAWN JTG
CHECKED – | DATE
PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
H	07/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	JTG		SMR	MAV
G	05/25/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
F	04/07/2015	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
E	11/20/2015	ISSUED FORUI REVIEW–PROJECT 186535–BAIRD REPLACEMENT	MEM		SMR	MAV
D	11/18/2015	ISSUED FOR CSC APPLICATION–PROJECT 186535–BAIRD REPLACEMENT	JTG		SMR	MAV
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B	10/23/2015	ISSUED FOR UI REVIEW–CSC DRAWINGS–PROJECT 186535–BAIRD REPLACEMENT	JDL		SMR	MAV
A	10/09/2015	ISSUED FOR CSC APPLICATION	JDL		SMR	MAV

TRUE NORTH

30' 20' 10' 0 30' 60'

1"=30'

NEW DRAWING

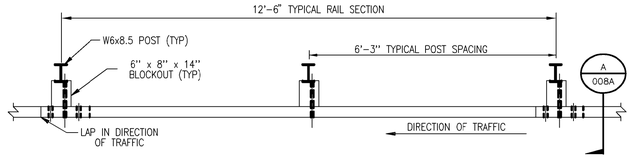
No	Date	Revision	By	Chkd.	Engr.	Supv.
1	11/2015	BAIRD REPLACEMENT SUBSTATION	JDL		SMR	MAV

The United Illuminating Company

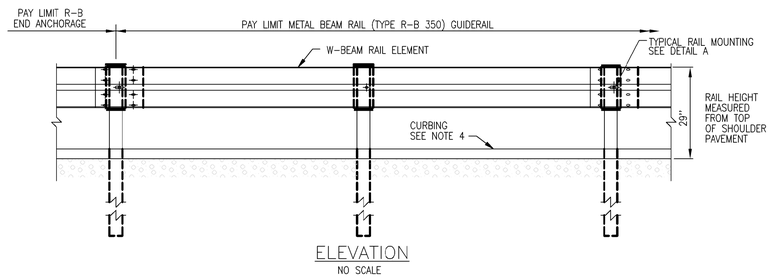
Drawn JDL | Date 11/18/15 | Scale: 1"=30'
Chkd. – | Design Engr. SMR | Design Supv. MAV

SURFACING AND FENCING PLAN
BAIRD SUBSTATION

CAD FILE NAME | SEQUENCE No. | DRAWING NUMBER 25253-008



PLAN
NO SCALE

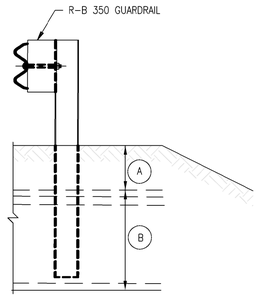


ELEVATION
NO SCALE

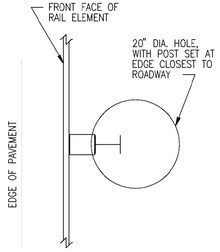
METAL BEAM RAIL (TYPE R-B 350)

CONDITION 1 :
IF SOIL DEPTH IS < 18" DEEP (A) DRILL 20" DIA. HOLE 24" INTO LEDGE. (B)

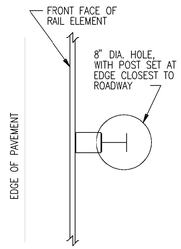
CONDITION 2 :
IF SOIL DEPTH IS > 18" DEEP (A) DRILL 8" DIA. HOLE 1" INTO LEDGE (B) OR TO THE DEPTH OF FULL EMBEDMENT OF 42 3/8" WHICHEVER IS LESS.



ELEVATION
(SEE NOTE 8)

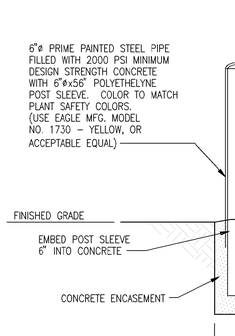


PLAN
CONDITION 1
(SEE NOTE 8)

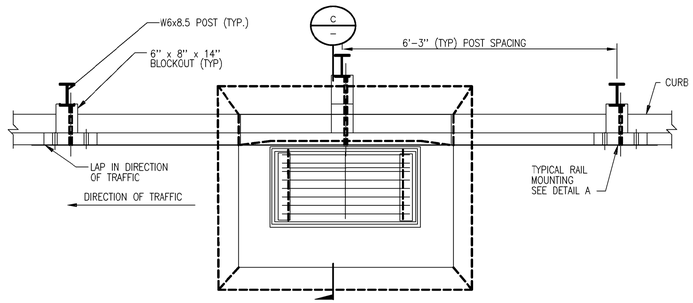


PLAN
CONDITION 2
(SEE NOTE 8)

DRILLING IN ROCK FOR GUARDRAIL POSTS



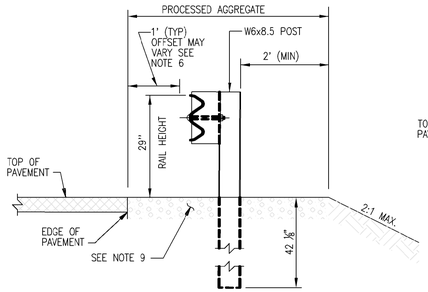
TYPICAL BOLLARD DETAIL
NO SCALE



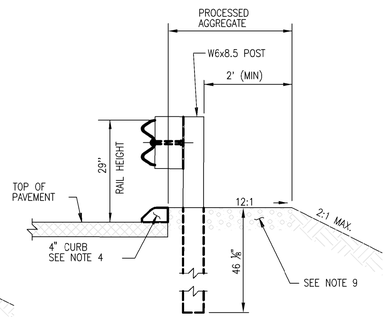
PLAN
NO SCALE

GENERAL NOTES:

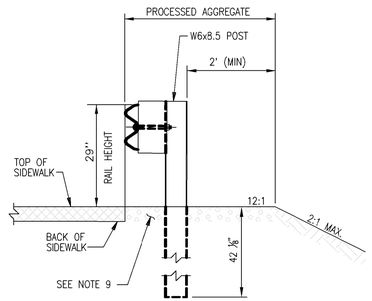
1. SEE SHEET CONN DOT STANDARD DRAWING HW-S10_01 FOR HARDWARE AND DELINEATOR DETAILS.
2. MAXIMUM DESIGN DEFLECTION FOR R-B 350 GUARDRAIL AT THE STANDARD POST SPACING OF 6'-3" IS 4'-3". DEFLECTION REQUIREMENT IS MEASURED FROM THE BACK OF POST TO THE FACE OF OBJECT.
3. FOR CURVES WITH RADII OF 150' OR LESS, ALL GUARDRAIL ELEMENTS SHALL BE SHOP FABRICATED TO THE PROPER RADIUS AND GALVANIZED AFTER FABRICATION. RADIUS GUARDRAIL WHEN REQUIRED AND NOTED ON THE PLANS, IS INCLUDED IN THE PAY ITEM FOR GUARDRAIL.
4. ON LOW SPEED ROADWAYS (<45mph), 6" CURBING MAY BE USED IN CONJUNCTION WITH GUARDRAIL AND THE GUARDRAIL ELEMENT SHALL BE PLACED A MAXIMUM OF 9" BEHIND THE FACE OF CURB.
5. THREE BLOCKOUTS MAY BE USED FOR ONE POST ONLY. TWO BLOCKCUTS MAY BE USED FOR A SERIES OF POSTS. THE COST OF ADDITIONAL BLOCKOUTS AND LONGER BOLTS SHALL BE INCLUDED IN THE BID PRICE PER FOOT OF GUARDRAIL. EXTRA BLOCKOUTS AT TRANSITION TO BRIDGE PARAPETS SHOULD BE AVOIDED.
6. W-BEAM GUARDRAIL MAY BE PLACED 1' OR MORE FROM THE EDGE OF PAVEMENT ONLY ON SLOPES 10:1 OR FLATTER AND WITHOUT CURBING. IF THE GUARDRAIL IS INSTALLED WITHIN 2' OF THE EDGE OF PAVEMENT, THE GUARDRAIL HEIGHT IS MEASURED FROM THE SHOULDER SLOPE EXTENDED TO THE GUARDRAIL. IF THE GUARDRAIL IS INSTALLED BEYOND 2' FROM THE EDGE OF PAVEMENT, THE GUARDRAIL HEIGHT IS MEASURED FROM THE GROUND DIRECTLY BELOW THE GUARDRAIL.
7. ALL R-B 350 GUARDRAIL TYPES INSTALLED ON EXPRESSWAYS AND RAMPS SHALL USE CLASS B, TYPE-II (10 GAUGE) W-BEAM GUARDRAIL ELEMENTS.
8. 20" DIA. EXCAVATED HOLE SHALL BE BACKFILLED WITH: SUITABLE MATERIAL, OR GRANULAR FILL COMPACTED IN 6" LIFTS BEFORE DRIVING POST OR POSTS MAY BE SET IN EXCAVATED HOLE AND BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM). 8" DIA. HOLE SHALL BE BACKFILLED WITH SUITABLE MATERIAL.
9. AS DIRECTED BY THE ENGINEER AND WHERE PAVEMENT FOR GUARD FAILNG IS NOT BEING INSTALLED, A MIN. 6". DEPTH OF PROCESSED AGGREGATE SHALL BE INSTALLED FROM THE PAVEMENT EDGE OR BACK OF CURB TO A MINIMUM OF 2' BEHIND THE GUARDRAIL POST AND COMPACTED IN 6" LIFTS.
10. MINIMUM GUARDRAIL HEIGHT FOR NEW CONSTRUCTION SHALL BE 29" + 1".



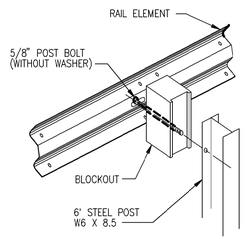
SECTION A
NO CURB APPLICATION
NO SCALE



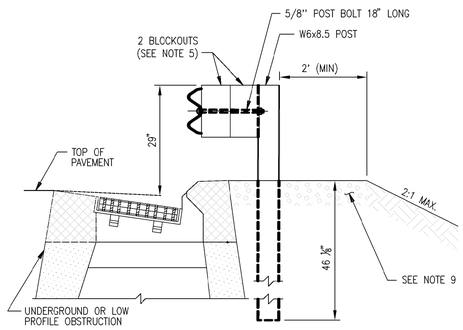
SECTION A
CURB APPLICATION
NO SCALE



SECTION A
SIDEWALK APPLICATION
NO SCALE



DETAIL A
RAIL MOUNTING
NO SCALE



SECTION C
MULTIPLE BLOCKOUT APPLICATION (MAY BE USED TO AVOID UNDERGROUND OR LOW PROFILE OBSTRUCTION)
NO SCALE

REFERENCE DRAWINGS:

GRADING AND DRAINAGE SITE PLAN	25253-004
GRADING AND DRAINAGE SITE PLAN BAIRD TO CONGRESS	25253-004B
CULVERT AND RIP RAP DETAILS	25253-005
EROSION CONTROL SITE PLAN	25253-006
EROSION CONTROL SITE PLAN BAIRD TO CONGRESS	25253-006A
EROSION CONTROL DETAILS	25253-007
SURFACING AND FENCING PLAN	25253-008
ROADS PLAN	25253-009B
15 FT SUBSTATION FENCE SECTIONS AND DETAILS	25253-014A
32 FT DOUBLE LEAF SWING BARRIER GATE	25253-014B
CONSTRUCTION FACILITIES PLAN	25253-805

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

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DESIGNER	SMR	DRAWN	JTG
CHECKED	–	DATE	

PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
A	05/25/2016	ISSUED FOR BID – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV

NEW DRAWING

TRUE NORTH

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	11/2015	BAIRD REPLACEMENT SUBSTATION	JDL		SMR	MAV

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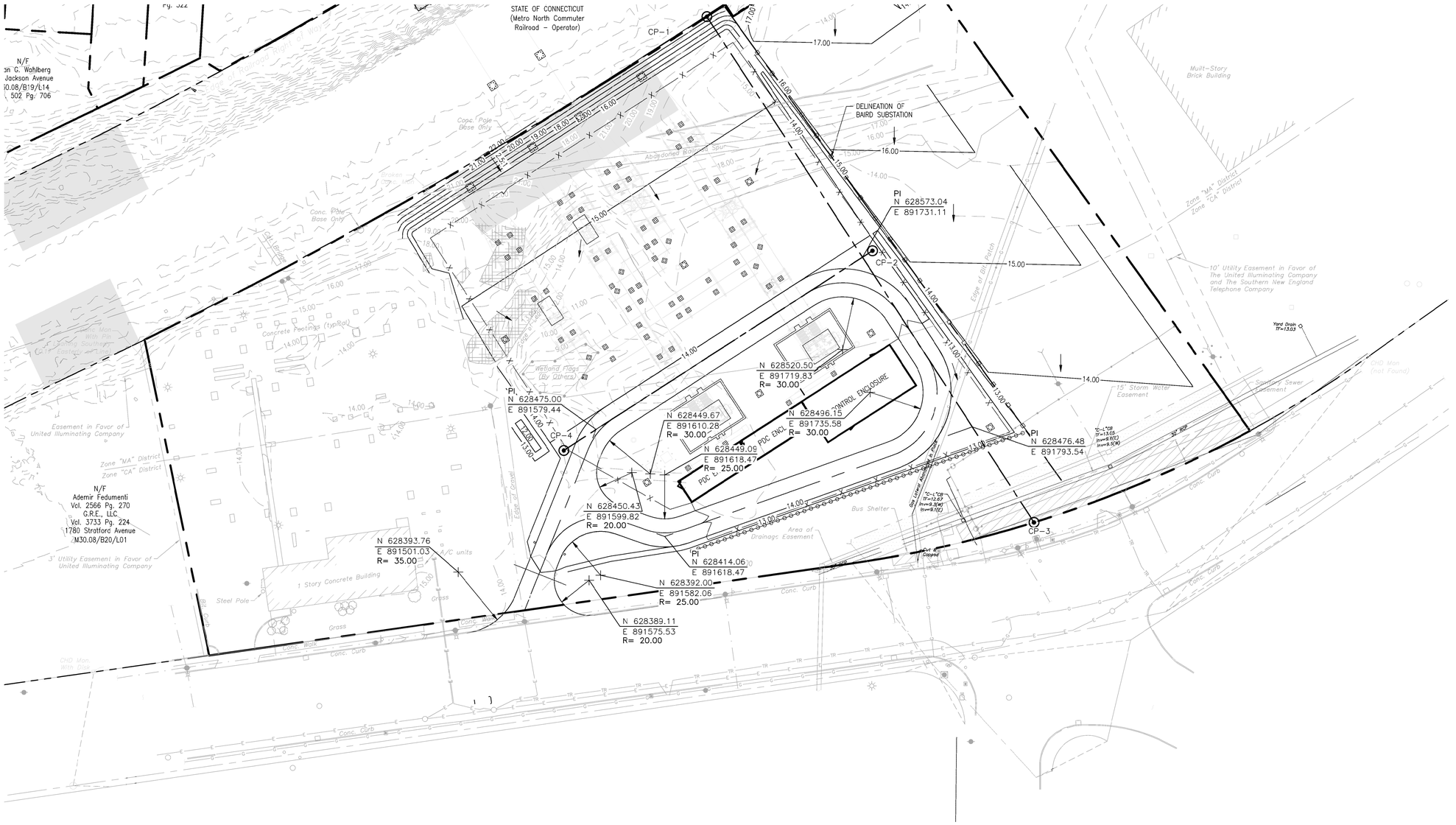
Drawn	JDL	Date	11/18/15	Scale:	NO SCALE
Chkd.	–	Design Engr.	SMR	Design Supv.	MAV

GUARDRAIL AND BOLLARD DETAILS
BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253-008A



GENERAL NOTES:

1. REMOVE EXISTING BITUMINOUS PAVEMENT. DISPOSAL OF PAVEMENT SHALL BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
2. EXISTING CONTOURS AND SPOT ELEVATIONS ARE BASED ON THE 05/04/2015 PROPERTY/TOPOGRAPHIC SURVEY PRODUCED BY BL COMPANIES. COORDINATES ARE BASED ON THE CONNECTICUT STATE PLANE COORDINATE SYSTEM (CT NAD83) AND ELEVATIONS REFER TO DATUM NAVD88.
3. ALL AREAS OUTSIDE OF THE SUBSTATION THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR RE-CONSTRUCTION CONDITIONS, AND STABILIZED, UNLESS NOTED OTHERWISE.
4. INTERSECTION RECONSTRUCTION INFORMATION IS NOT SHOWN ON THESE DRAWINGS. PROPOSED INTERSECTION FOOTPRINT HAS BEEN REVIEWED RELATIVE TO SUBSTATION GRADING.
5. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR UNLESS NOTED OTHERWISE.
6. GRADING FOR FUTURE PARKING AREA SHALL BE COMPLETED TO SUPPORT CONSTRUCTION TIMELINE OF SUBSTATION. CONTOUR ELEVATIONS FOR THIS AREA ARE TOP OF SUBGRADE. GRADING FOR ACCESS RAMP TO TRANSMISSION LINE STRUCTURES SHALL BE REMOVED AFTER STRUCTURES ARE CONSTRUCTED.

LEGEND

- PROPERTY LINE
- BOUNDARY LINE
- X — X — NEW SUBSTATION FENCE
- 260 — NEW CONTOUR
- SURFACE FLOW INDICATOR
- CB-X CATCH BASIN
- X — X — EXISTING FENCE
- 260 — EXISTING CONTOUR
- 15' WIDE STORMWATER EASEMENT
- FENCE TO BE REMOVED
- WETLANDS
- LEDGE
- W — W — EXISTING WATER
- TR — TR — EXISTING TRAFFIC
- E — E — EXISTING ELECTRICAL
- G — G — EXISTING GAS
- S — S — EXISTING SANITARY
- EXISTING STRUCTURES
- BOLLARDS
- GUARDRAIL

REFERENCE DRAWINGS:

GRADING AND DRAINAGE SITE PLAN BAIRD TO CONGRESS	25253-004
GRADING AND DRAINAGE SITE PLAN BAIRD TO CONGRESS	25253-004B
CULVERT AND RIP RAP DETAILS	25253-005
EROSION CONTROL SITE PLAN	25253-006
EROSION CONTROL SITE PLAN BAIRD TO CONGRESS	25253-006A
EROSION CONTROL DETAILS	25253-007
SURFACING AND FENCING PLAN	25253-008
GUARDRAIL AND BOLLARD DETAILS	25253-008A
15 FT SUBSTATION FENCE SECTIONS AND DETAILS	25253-014A
32 FT DOUBLE LEAF SWING BARRIER GATE	25253-014B
CONSTRUCTION FACILITIES PLAN	25253-805

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NOT TO BE USED FOR CONSTRUCTION

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DESIGNER	DRAWN
SMR	RMG
CHECKED	DATE
–	04/07/2016

PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
B	05/25/2016	ISSUED FOR BID – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV
A	04/07/2016	ISSUED FOR BID – PROJECT 186535 – BAIRD REPLACEMENT	RMG		SMR	MAV

30' 20' 10' 0 30' 60'
1"=30'

TRUE NORTH

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	11/2015	BAIRD REPLACEMENT SUBSTATION	JDL		SMR	MAV

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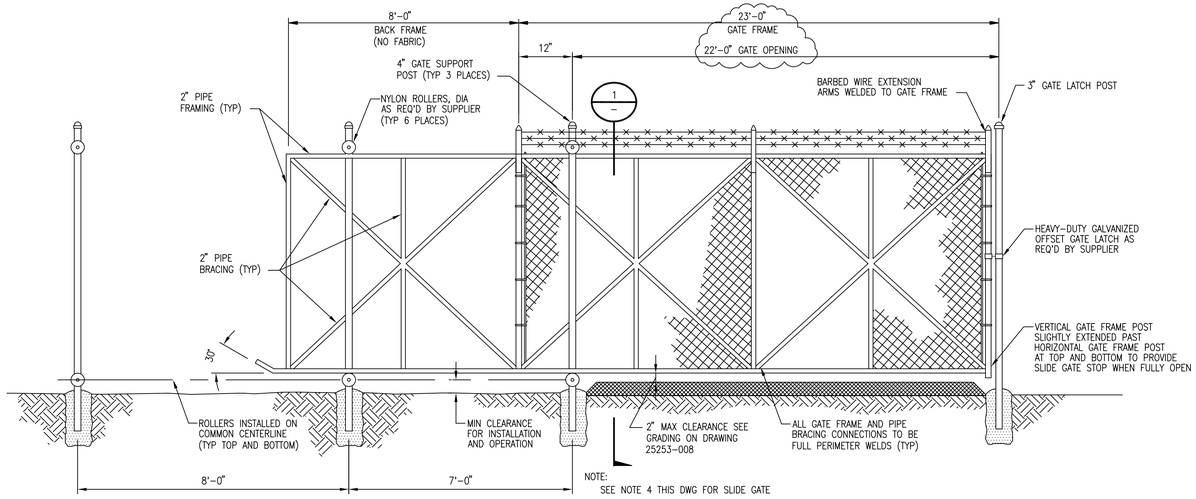
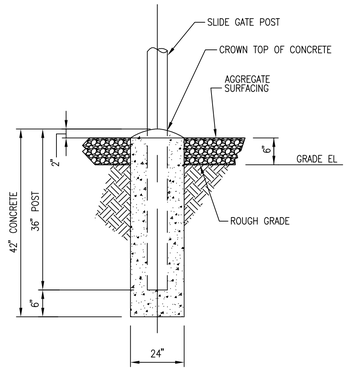
Drawn – Date – Scale: 1" = 30'
Chkd. – Design Engr. – Design Supv. –

ROAD PLAN
BAIRD SUBSTATION

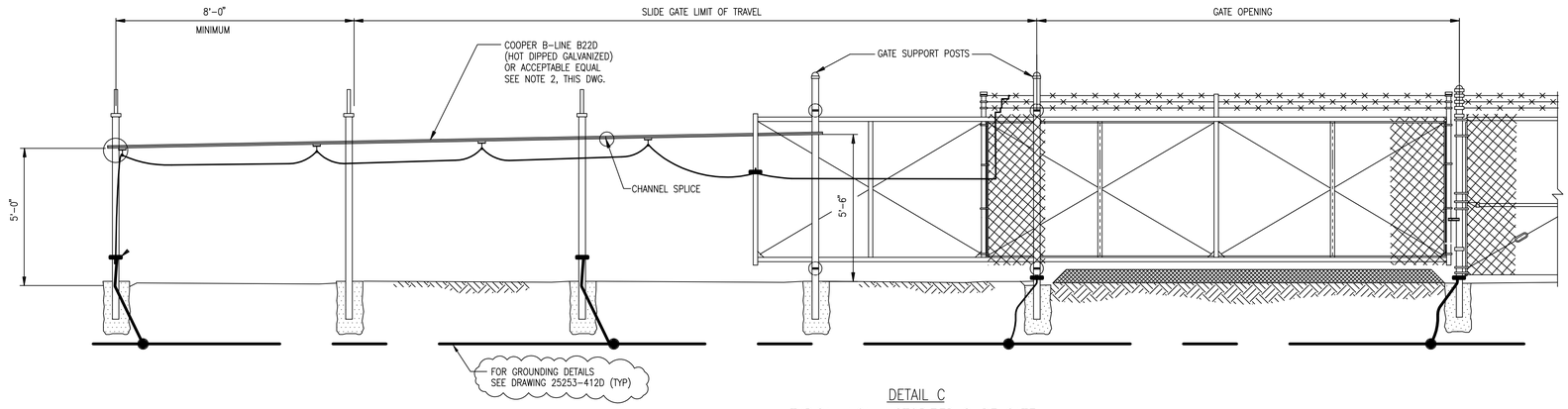
CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253-009B



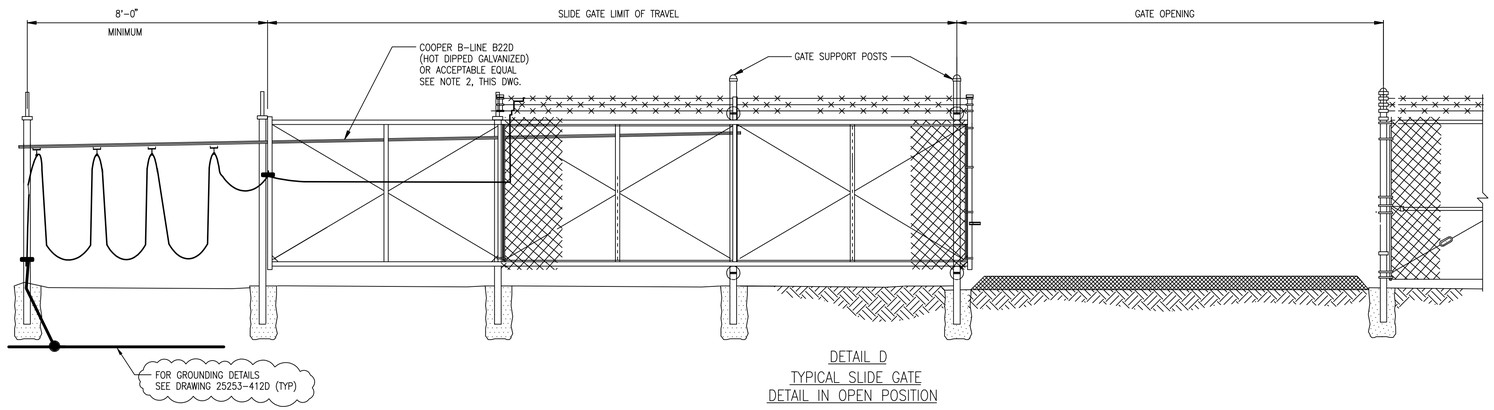
DETAIL A
MANUAL SLIDE DRIVE GATE DETAIL
NOT TO SCALE



DETAIL B
SLIDE GATE POST, SUPPORT POST
AND LATCH POST FOUNDATIONS
NOT TO SCALE



DETAIL C
TYPICAL NON-MOTORIZED SLIDE GATE
DETAIL CLOSED POSITION



DETAIL D
TYPICAL SLIDE GATE
DETAIL IN OPEN POSITION

GENERAL NOTES

1. FOR FENCE GROUNDING MATERIALS AND DETAILS SEE DWG 25253-412D.
2. CHANNEL SHALL BE INSTALLED WITH MINIMUM OF 6" SLOPE DOWNWARD FROM GATE OPENING.
3. SEE DWG. 25253-014 FOR THE SUBSTATION FENCE SPECIFICATIONS AND SUMMARY OF STANDARDS.
4. SLIDE GATE SHALL BE MANUFACTURED BY IRON WORLD IN HOWARD COUNTY, MARYLAND OR ACCEPTABLE EQUALY

REFERENCE DRAWINGS

GRADING AND DRAINAGE – SITE PLAN	25253-004
GRADING AND DRAINAGE SITE PLAN BAIRD TO CONGRESS	25253-004B
SURFACING AND FENCING PLAN	25253-008
15 FT SUBSTATION FENCE CONSTRUCTION SECTIONS AND DETAILS	25253-014
SITE PLAN	25253-401
GROUNDING PLAN	25253-412
GROUNDING DETAILS	25253-412D
ILLUMINATION PLAN	25253-415
YARD SECURITY PLAN	25253-416

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DESIGNER	DRAWN
SBA	BD
CHECKED	DATE
–	–

PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
D	05/25/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	BD		SBA	MAV
C	04/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	BD		SBA	MAV
B	11/18/2015	ISSUED FOR UI REVIEW–PROJECT 186535 – BAIRD REPLACEMENT	BD		SBA	MAV
A	09/25/2015	ISSUED FOR UI REVIEW–PROJECT 186535 – BAIRD REPLACEMENT	BD		SBA	MAV

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	BD	–	SAB	MAV

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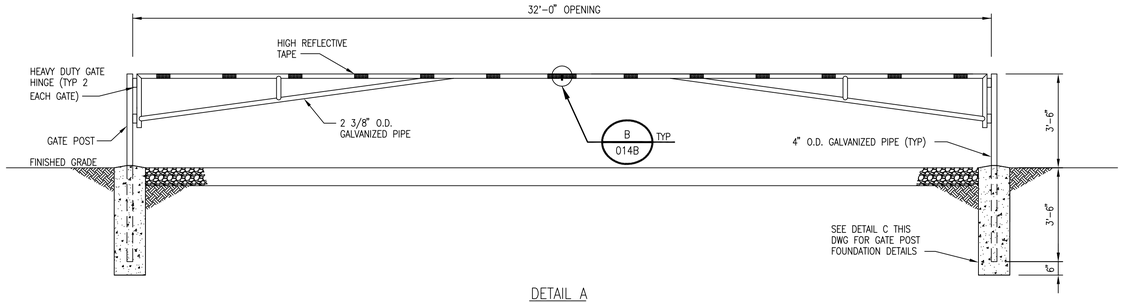
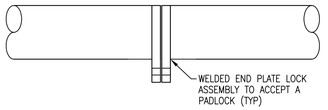
Drawn	Date 02/17/2016	Scale: NONE
Chkd.	Design Engr.	Design Supv.

15 FT SUBSTATION FENCE CONSTRUCTION SLIDE GATE SECTIONS AND DETAILS BAIRD SUBSTATION

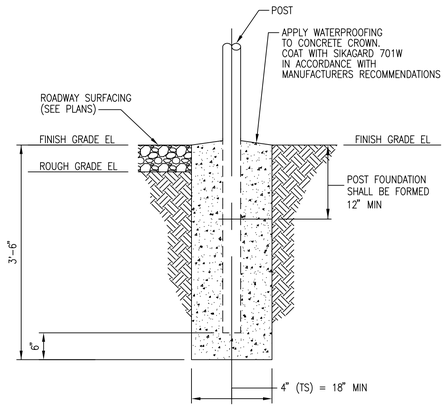
CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	–	25253-014A



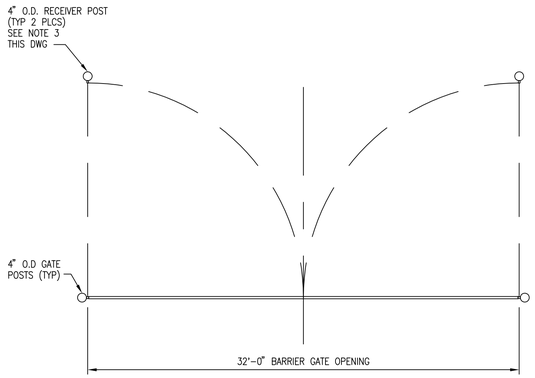
DETAIL A
DOUBLE LEAF SWING BARRIER GATE DETAIL
NOT TO SCALE



DETAIL B
GATE LOCKING TABS
NOT TO SCALE



DETAIL C
POST FOUNDATION
NOT TO SCALE



DETAIL D
BARRIER GATE RECEIVER POST PLAN
NOT TO SCALE

NOTES

1. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY CONTRACT GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE.
2. SEE DRAWING 25253-014 FOR GENERAL CONSTRUCTION AND MATERIAL NOTES
3. GENERAL CONSTRUCTION CONTRACTOR SHALL FURNISH AND INSTALL SWING BARRIER RECEIVER POST AT EACH SWING BARRIER GATE.

REFERENCE DRAWINGS

EXISTING SITE GRADING PLAN	25253-004
EXISTING SITE SURVEY	25253-004A
GRADING AND DRAINAGE DETAILS	25253-005
EROSION CONTROL AND SURFACING - SITE PLAN	25253-006A
EROSION CONTROL AND SURFACING - SITE TYPICAL DETAILS	25253-007
FENCING - SITE PLAN	25253-008
CONSTRUCTION FACILITIES PLAN	25253-805
SITE CONSTRUCTION POWER AND GROUNDING DETAILS	25253-806

PRELIMINARY

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DESIGNER SBA	DRAWN BD
CHECKED -	DATE -
PROJECT # 186535	

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR
B	05/25/2016	ISSUED BIDS - PROJECT 186535 - BAIRD REPLACEMENT	BD	-	SBA	MAV
A	04/07/2016	ISSUED BIDS - PROJECT 186535 - BAIRD REPLACEMENT	BD	-	SBA	MAV

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	04/2016	BAIRD REPLACEMENT SUBSTATION	BD	-	SBA	MAV

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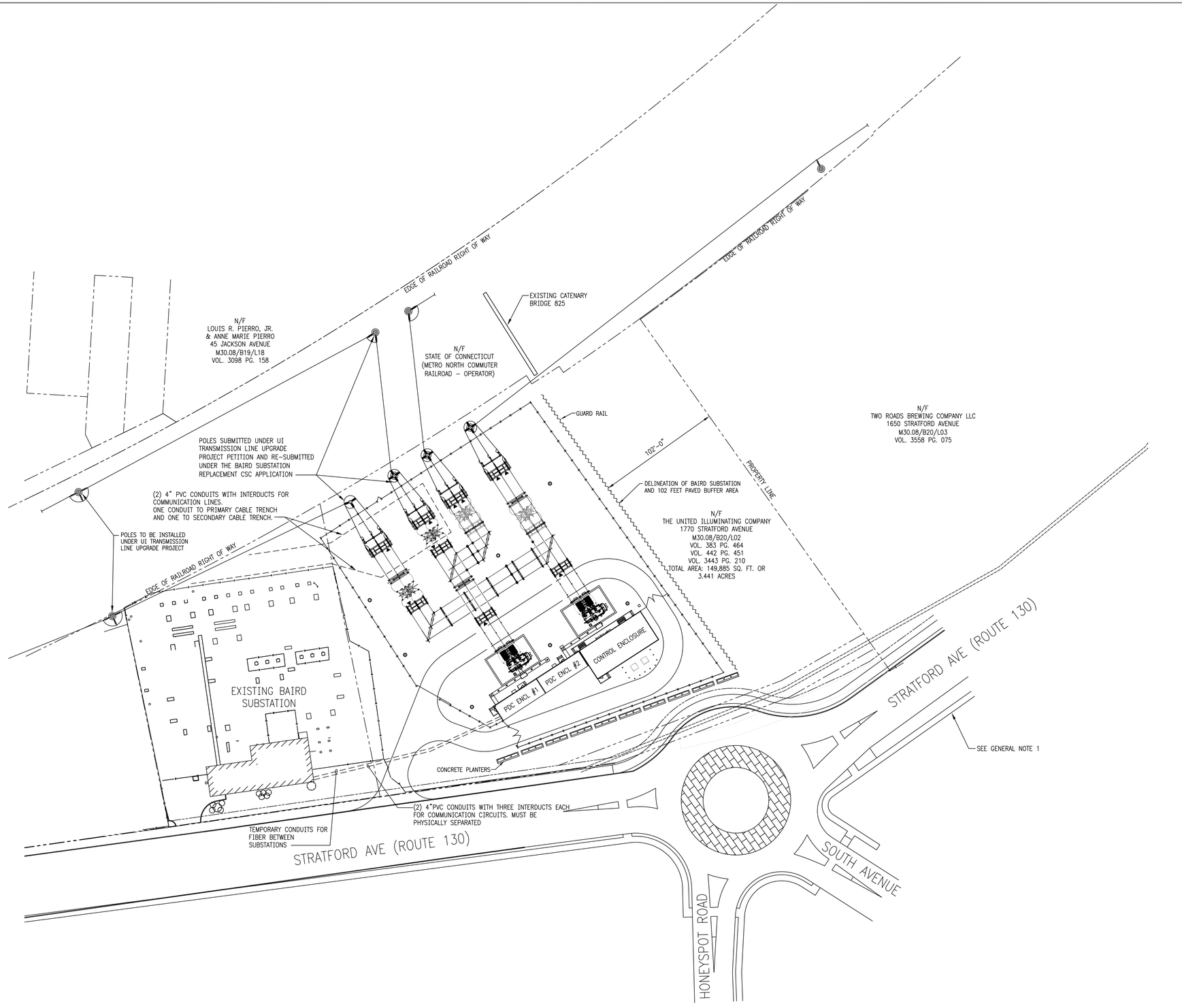
Drawn _____ Date 04/04/2016 Scale: NONE
Chkd. _____ Design Engr._____ Design Supv._____

DOUBLE LEAF SWING BARRIER GATE SECTIONS AND DETAILS

BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253-014B



GENERAL NOTES:

1. THE ROUNDABOUT DESIGN IS PRELIMINARY AND WILL BE FINALIZED AFTER APPROVAL FROM THE CITY.

REFERENCE DRAWINGS:

SUBSTATION PLAN	25253-402
FOUNDATION PLAN	25253-407
GROUNDING PLAN	25253-412
RACEWAY PLAN	25253-413

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

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DESIGNER	DRJ	DRAWN	CRE
CHECKED		DATE	

PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
J	07/07/2016	ISSUED FOR BID–PROJECT 186535–BAIRD REPLACEMENT	BD	TKD	DRJ	MAV
H	05/25/2016	ISSUED FOR BID–PROJECT 186535–BAIRD REPLACEMENT	CRE	TKD	DRJ	MAV
G	04/07/2016	ISSUED FOR BID–PROJECT 186535–BAIRD REPLACEMENT	CRE	RJH	DRJ	MAV
F	11/18/2015	ISSUED FOR UI REVIEW–PROJECT 186535–BAIRD REPLACEMENT	SLC/CRE	JBS	DRJ	MAV
E	10/28/2015	ISSUED FOR CSC APPLICATION–PROJECT 186535–BAIRD REPLACEMENT	BD	JBS	TKD	MAV
D	10/09/2015	ISSUED FOR CSC APPLICATION–PROJECT 186535–BAIRD REPLACEMENT	BGG/CRE	JDG	TKD	MAV
C	07/27/2015	ISSUED FOR MCF APPLICATION–PROJECT 186535–BAIRD REPLACEMENT	WDS	JDG	TKD	MAV
B	06/19/2015	ISSUED FOR EMF STUDY –PROJECT 186535 –BAIRD REPLACEMENT	WDS/BJF	JDG	TKD	MAV
A	04/30/2015	ISSUED FOR UI 30% REVIEW–PROJECT 186535–BAIRD REPLACEMENT	WDS	JDG	ASV	MAV

40' 20' 0 40' 80'
1"=40'-0"

NORTH

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	CRE	–	TKD	MAV

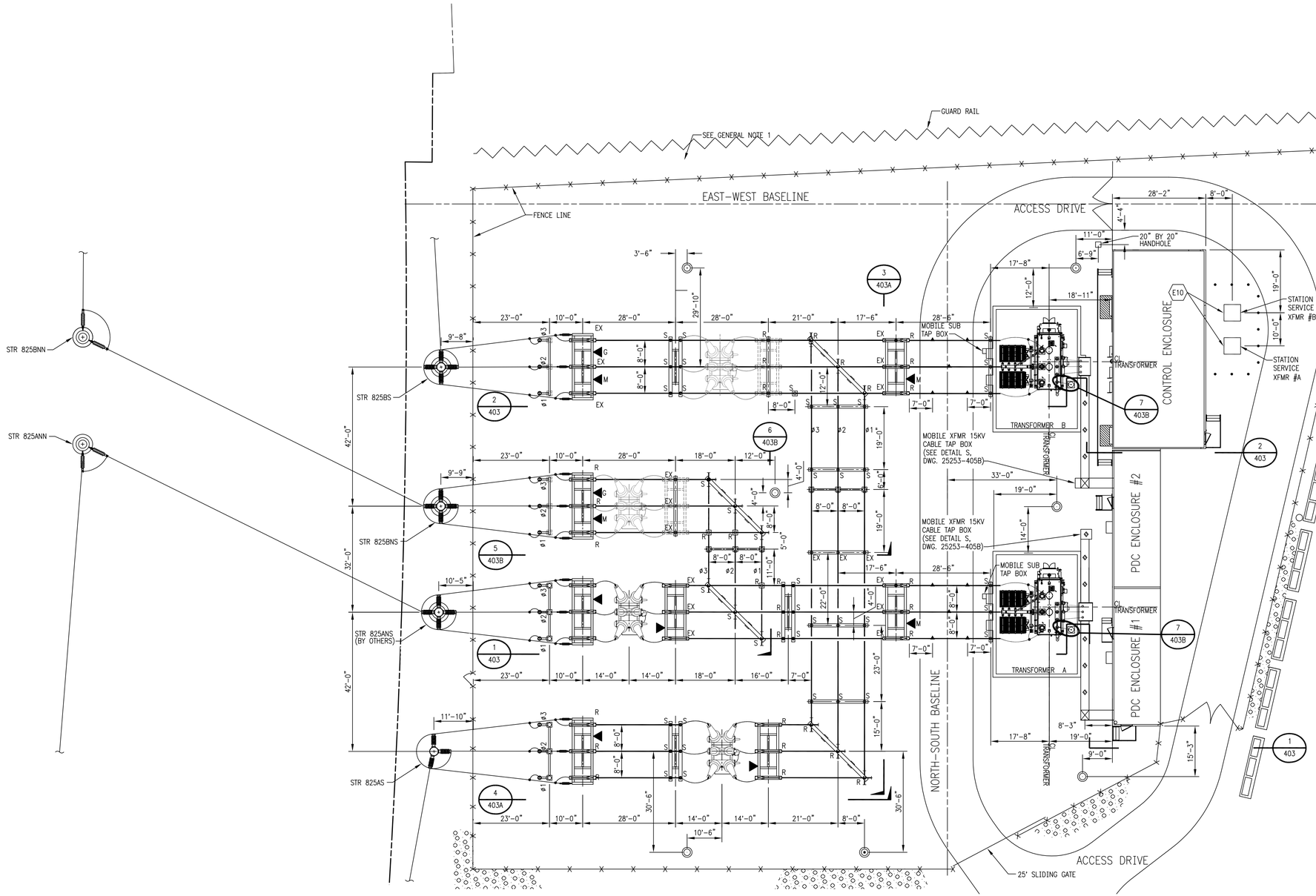
The United Illuminating Company

Drawn _____ Date 04/29/2015 Scale: 1"=40'
Chkd. _____ Design Engr._____ Design Supv._____

SITE PLAN

BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	094095	25253-401



LEGEND:

- MOBILE TRANSFORMER 115KV TAP
- R RIGID (FIXED) BUS CONNECTION
- S SLIP BUS CONNECTION
- EX EXPANSION BUS CONNECTION
- SURGE ARRESTER
- COUPLING CAPACITOR VOLTAGE TRANSFORMER
- LIGHTNING MAST
- COMMUNICATION POLE
- M DISCONNECT SWITCH MOTOR OPERATOR
- G GROUNDING SWITCH MANUAL OPERATOR
- DISCONNECT SWITCH MANUAL OPERATOR
- WHITE ROCK SURFACING
- SEE DWG# 25253-499 FOR EQUIPMENT ITEM DESCRIPTIONS

GENERAL NOTES:

1. WHITE ROCK SURFACING SHALL BE INSTALLED 6'-0" OUTSIDE SUBSTATION FENCE, WHEREVER POSSIBLE

CONSTRUCTION NOTES

1. THE GENERAL CONSTRUCTION CONTRACTOR SHALL MAINTAIN THE FOLLOWING ELECTRICAL CLEARANCES AND SHALL NOTIFY BVCI IMMEDIATELY FOR ANY VIOLATIONS OF THESE CLEARANCES.

	115KV
MINIMUM PHASE TO GROUND	47 INCHES
MINIMUM PHASE TO PHASE	53 INCHES

2. THE GENERAL CONSTRUCTION CONTRACTOR SHALL DRILL 1/8" DIA. DRAIN HOLES IN THE BOTTOM OF RIGID BUS CONDUCTOR EVERY 6'-0".

REFERENCE DRAWINGS:

SECTIONS 1 & 2	25253-403
SECTIONS 3 & 4	25253-403A
SECTIONS 5, 6, & 7	25253-403B
FOUNDATION PLAN	25253-407
GROUNDING PLAN	25253-412
RACEWAY PLAN	25253-413
BILL OF MATERIALS	25253-499

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

NEW DRAWING

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DESIGNER DRJ | DRAWN CRE | CHECKED | DATE | PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
J	07/07/2016	ISSUED FOR BID-PROJECT 186535-BAIRD REPLACEMENT	BD	TKD	DRJ	MAV
H	05/25/2016	ISSUED FOR BID-PROJECT 186535-BAIRD REPLACEMENT	CRE	TKD	DRJ	MAV
G	04/07/2016	ISSUED FOR BID-PROJECT 186535-BAIRD REPLACEMENT	CRE	RJH	DRJ	MAV
F	11/18/2015	ISSUED FOR UI REVIEW-PROJECT 186535-BAIRD REPLACEMENT	SLC/CRE	JDG	DRJ	MAV
E	10/28/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	BD	JDG	TKD	MAV
D	10/09/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	BGG/CRE	JDG	TKD	MAV
C	07/27/2015	ISSUED FOR MCF APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	WDS	JDG	TKD	MAV
B	06/19/2015	ISSUED FOR EMF STUDY -PROJECT 186535 -BAIRD REPLACEMENT	WDS/BJF	JDG	TKD	MAV
A	04/30/2015	ISSUED FOR UI 30% REVIEW-PROJECT 186535-BAIRD REPLACEMENT	WDS	TKD	BES	MAV

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	CRE	-	TKD	MAV

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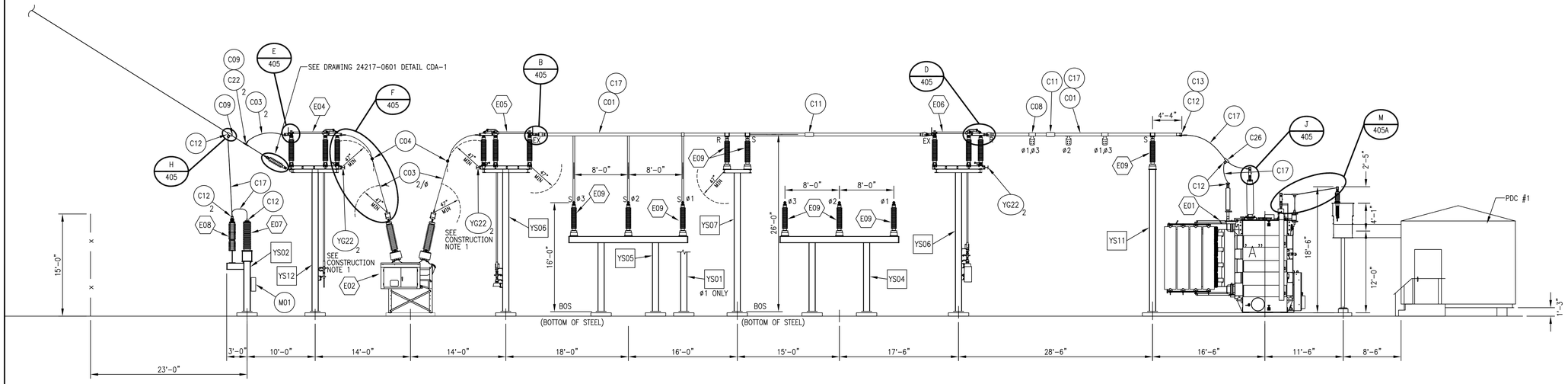
Chkd. _____ Design Engr._____ Design Supv._____

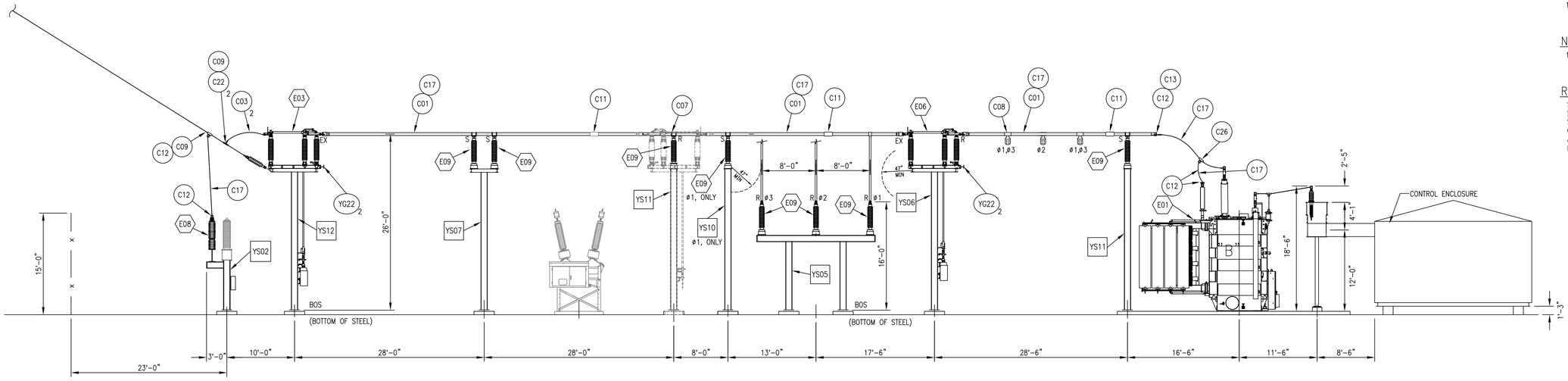
SUBSTATION PLAN

BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	094096	25253-402



SECTION 1



SECTION 2

LEGEND:

— x — x — FENCE

CONSTRUCTION NOTES:

1. GROUND STUDS SHALL BE PLACED BETWEEN PHASES 1 AND 2, AND BETWEEN PHASES 2 AND 3 ON DISCONNECT SWITCHES.

NOTES:

1. SEE BILL OF MATERIALS FOR DESCRIPTIONS OF EQUIPMENT, STRUCTURES AND FITTINGS.

REFERENCE DRAWINGS:

SUBSTATION PLAN	25253-402
SECTIONS 3 & 4	25253-403A
SECTIONS 5, 6 & 7	25253-403B
CCVT, MOBILE SUB/XFMR	25253-405B
JUNCTION BOX DETAILS	
BILL OF MATERIALS	25253-499 & 499B

8' 4' 0 8' 16'

1/8"=1'-0"

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G	04/07/2016	ISSUED FOR BID-PROJECT 186535-BAIRD REPLACEMENT	CRE	RJH	DRJ	MAV
F	11/18/2015	ISSUED FOR UI REVIEW-PROJECT 186535-BAIRD REPLACEMENT	SLC	JDG	TKD	MAV
E	10/28/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	BD	JDG	DRJ	MAV
D	10/09/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	BGG/CRE	JDG	TKD	MAV
C	07/27/2015	ISSUED FOR MCF APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	WDS	JDG	TKD	MAV
B	06/19/2015	ISSUED FOR EMF STUDY -PROJECT 186535 -BAIRD REPLACEMENT	WDS/BJF	JDG	TKD	MAV
A	04/30/2015	ISSUED FOR UI 30% REVIEW-PROJECT 186535-BAIRD REPLACEMENT	WDS	JDG	ASV	MAV

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	SLC	–	DRJ	MAV

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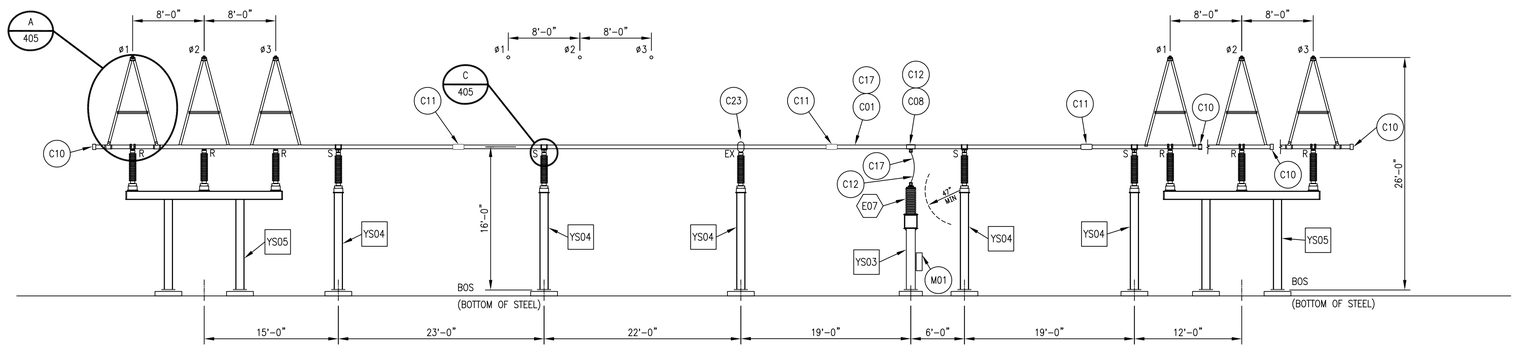
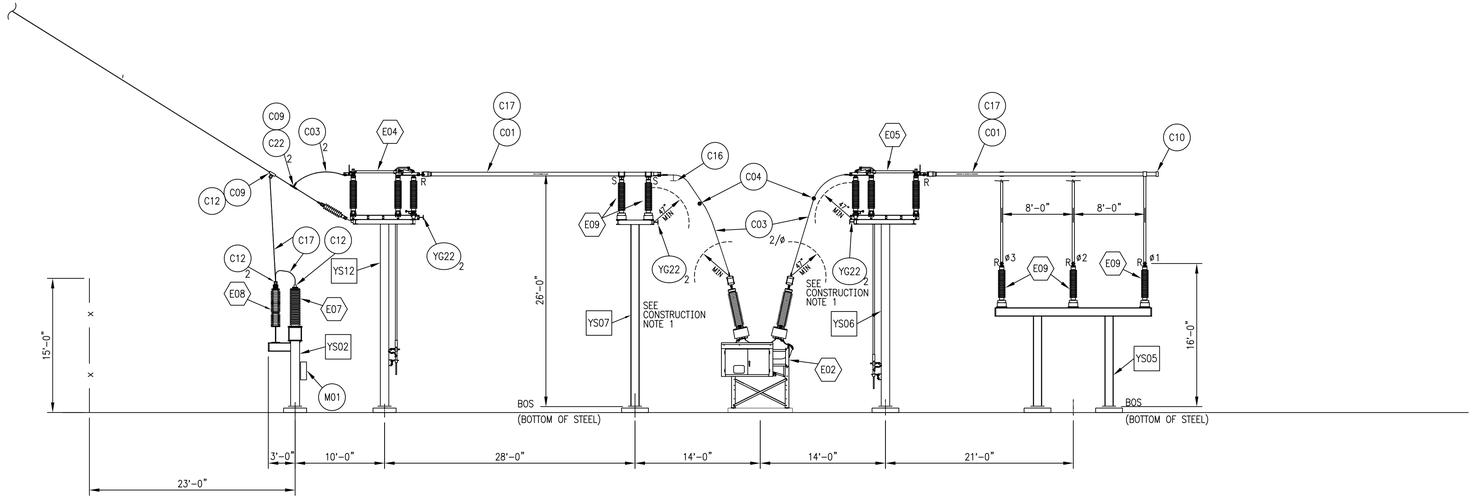
SECTIONS 1 AND 2

BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	094099	25253-403



SECTION 3



SECTION 4

LEGEND:

— × — × — FENCE

CONSTRUCTION NOTES:

1. GROUND STUDS SHALL BE PLACED BETWEEN PHASES 1 AND 2, AND BETWEEN PHASES 2 AND 3 ON THE DISCONNECT SWITCHES.

NOTES:

1. SEE BILL OF MATERIALS FOR DESCRIPTIONS OF EQUIPMENT, STRUCTURES AND FITTINGS.

REFERENCE DRAWINGS:

SUBSTATION PLAN	25253-402
SECTIONS 1 & 2	25253-403
SECTIONS 5, 6 & 7	25253-403B
CCVT, MOBILE SUB/XFMR	25253-405B
JUNCTION BOX DETAILS	
BILL OF MATERIALS	25253-499 & 499B

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

8' 4' 0 8' 16'

1/8"=1'-0"

NEW DRAWING

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
G	03/25/2016	ISSUED FOR BID-PROJECT 186535-BAIRD REPLACEMENT	CRE	RJH	DRJ	MAV
F	11/18/2015	ISSUED FOR UI REVIEW-PROJECT 186535-BAIRD REPLACEMENT	SLC/CRE	JDG	DRJ	MAV
E	10/28/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	BD	JDG	DRJ	MAV
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C	07/27/2015	ISSUED FOR MCF APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	WDS	JDG	TKD	MAV
B	06/19/2015	ISSUED FOR EMF STUDY -PROJECT 186535 -BAIRD REPLACEMENT	WDS/BJF	JDG	TKD	MAV
A	04/30/2015	ISSUED FOR UI 30% REVIEW-PROJECT 186535-BAIRD REPLACEMENT	WDS	JDS	ASV	MAV

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	CRE	–	TKD	MAV

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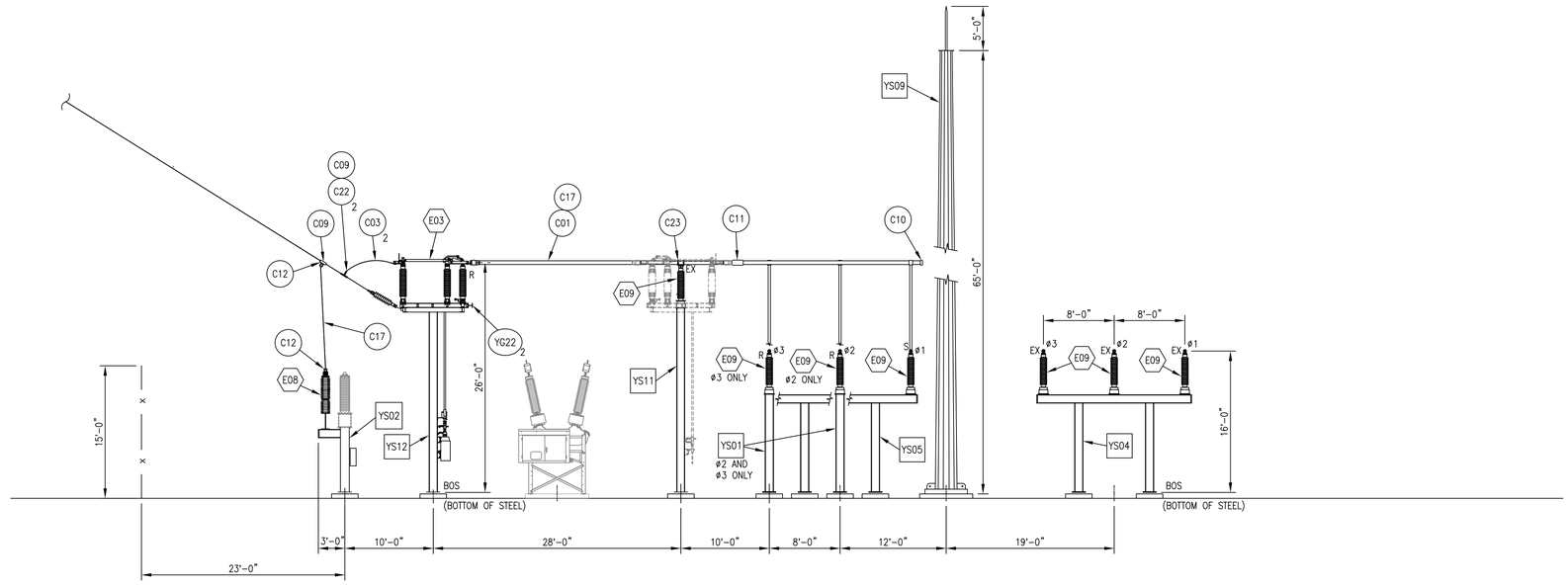
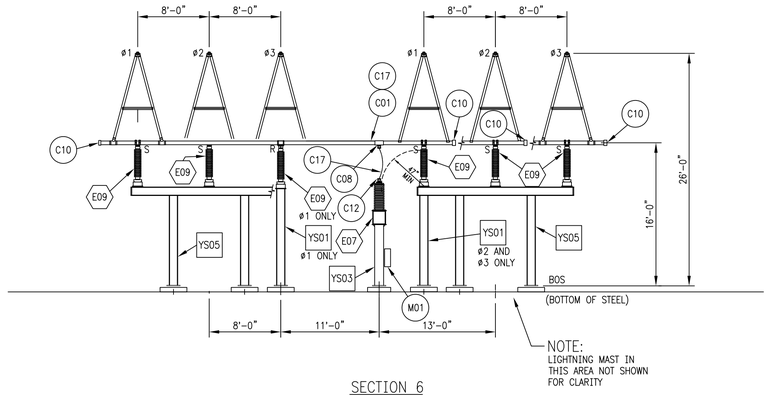
SECTIONS 3 AND 4

BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	094101	25253-403A

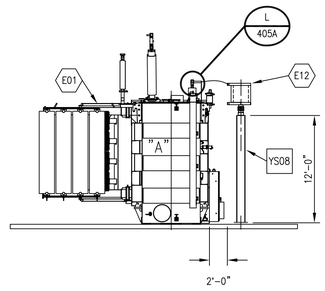


SECTION 5



NOTE:
LIGHTNING MAST IN THIS AREA NOT SHOWN FOR CLARITY

SECTION 6



SECTION 7

LEGEND:

— x — x — FENCE

NOTES:

1. SEE BILL OF MATERIALS FOR DESCRIPTIONS OF EQUIPMENT, STRUCTURES AND FITTINGS.

REFERENCE DRAWINGS:

SUBSTATION PLAN	25253-402
SECTIONS 1 & 2	25253-403
SECTIONS 3 & 4	25253-403A
CCVT, MOBILE SUB/XFMR	25253-405B
JUNCTION BOX DETAILS	
BILL OF MATERIALS	25253-499 & 499B

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G	04/07/2016	ISSUED FOR BID-PROJECT 186535-BAIRD REPLACEMENT	CRE	RJH	DRJ	MAV
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B	06/19/2015	ISSUED FOR EMF STUDY -PROJECT 186535 -BAIRD REPLACEMENT	WDS/BJF	JDG	TKD	MAV
A	04/30/2015	ISSUED FOR UI 30% REVIEW-PROJECT 186535-BAIRD REPLACEMENT	WDS	JDG	ASV	MAV

8' 4' 0 8' 16'

1/8"=1'-0"

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	CRE	–	DRJ	MAV

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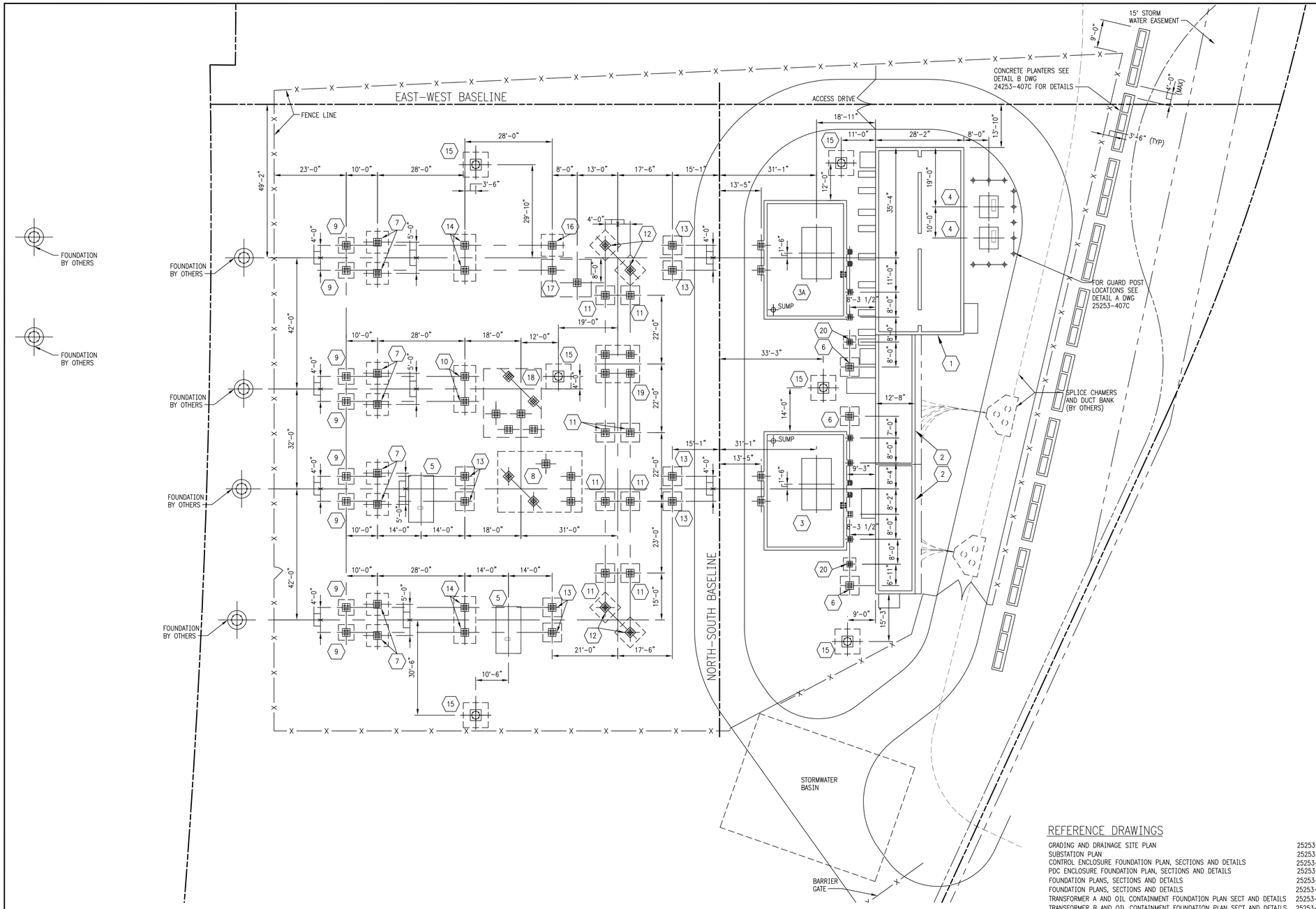
Drawn _____ Date 04/10/2015 Scale: 1/8"=1'-0"

Chkd. _____ Design Engr._____ Design Supv._____

SECTIONS 5,6 AND 7

BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	094102	25253-403B



FOUNDATION LIST

FOUNDATION NUMBER	TOP OF CONCRETE ELEV. (SEE NOTE LATER)	DETAIL DRAWING	DESCRIPTION
1	TBD	25253-407A	CONTROL ENCLOSURE FOUNDATION
2	TBD	25253-407B	PDC ENCLOSURE FOUNDATION
3	TBD	25253-407E	115KV DISTRIBUTION TRANSFORMER A FOUNDATION AND OIL CONTAINMENT PIT
3A	TBD	25253-407F	115KV DISTRIBUTION TRANSFORMER B FOUNDATION AND OIL CONTAINMENT PIT
4	TBD	25253-900	STATION SERVICE TRANSFORMERS
5	TBD	25253-407C	115KV BREAKER FOUNDATION
6	TBD	25253-407D	115KV NON-SEGREGATED BUS DUCT SUPPORT FOUNDATION
7	TBD	25253-407D	115KV HIGH SWITCH SUPPORT (26'-0") FOR 8' PHASE TO PHASE W/T-LINE DEADEND 10' PHASE TO PHASE (YS12)
8	TBD	25253-407H	115KV 1 PHASE LOW BUS SUPPORT (YS01) 115KV 3 PHASE LOW ANGLED BUS SUPPORT (YS05) 115KV 3 PHASE HIGH DOUBLE INSULATOR SUPPORT (YS07)
9	TBD	25253-407D	115KV 3 PHASE CCVT SUPPORT WITH SURGE ARRESTERS (YS02)
10	TBD	25253-407D	115KV 3 PHASE HIGH BUS SUPPORT (YS11)
11	TBD	25253-407D	115KV 3 PHASE LOW BUS SUPPORT (YS04)
12	TBD	25253-407D	115KV 3 PHASE LOW ANGLED BUS SUPPORT (YS05)
13	TBD	25253-407D	115KV HIGH SWITCH SUPPORT (26'-0") FOR 8' PHASE TO PHASE (YS06)
14	TBD	25253-407D	115KV 3 PHASE HIGH DOUBLE INSULATOR SUPPORT (YS07)
15	TBD	25253-407D	LIGHTNING MAST, 70 FOOT (YS09)
16	TBD	25253-407D	115KV 3 PHASE HIGH BUS SUPPORT (YS11)
17	TBD	25253-407G	115KV 1 PHASE HIGH BUS SUPPORT (YS10) AND 115KV 3 PHASE HIGH BUS SUPPORT (YS11)
18	TBD	25253-407G	115KV 1 PHASE LOW BUS SUPPORT (YS01) 115KV 3 PHASE CCVT SUPPORT (YS03) AND 115KV 3 PHASE LOW ANGLED BUS SUPPORT (YS05)
19	TBD	25253-407G	115KV 3 PHASE CCVT SUPPORT (YS03) AND 115KV 3 PHASE LOW BUS SUPPORT (YS04)
20	TBD	25253-407H	115KV NON-SEGREGATED BUS DUCT SUPPORT FOUNDATION

NOTES

1. SEE DRAWING 25253-407C FOR GENERAL NOTES AND FOUNDATION DETAILS
2. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE.
3. DIMENSIONS ARE TO THE CENTERLINE OF THE FOUNDATION UNLESS NOTED OTHERWISE.
4. THE AGGREGATE SURFACE INSIDE THE SUBSTATION, AND EXTENDING 6'-0" OUTSIDE THE FENCE, SHALL CONSIST OF TWO LAYERS WITH THE FOLLOWING REQUIREMENTS:
   A) BASE COURSE: 4 INCHES OF TRAP ROCK THAT PASSES A 1-1/2" SIEVE AND IS RETAINED ON A 1" SIEVE.
   B) SURFACE COURSE: 2 INCHES OF CRUSHER RUN TRAP ROCK UNIFORMLY GRADED FROM 3/4" TO CRUSHER FINES INSIDE FENCED AREA. SURFACE COURSE: OUTSIDE FENCED AREA 2 INCHES OF WHITE ROCK UNIFORMLY GRADED FROM 3/4" TO CRUSHER FINES.
5. VERTICAL ELEVATIONS SHOWN ARE BASED ON NAVD88. SEE FOUNDATION PLAN ON THIS DRAWING FOR NEW TOP OF CONCRETE ELEVATIONS ASSOCIATED WITH PROJECT NO. 186535.
6. FOR BASELINE LOCATION AND CONTROL MONUMENTS SEE DRAWING 25253-004.

REFERENCE DRAWINGS

GRADING AND DRAINAGE SITE PLAN	25253-004
SUBSTATION PLAN	25253-402
CONTROL ENCLOSURE FOUNDATION PLAN, SECTIONS AND DETAILS	25253-407A
PDC ENCLOSURE FOUNDATION PLAN, SECTIONS AND DETAILS	25253-407B
FOUNDATION PLANS, SECTIONS AND DETAILS	25253-407C
FOUNDATION PLANS, SECTIONS AND DETAILS	25253-407D
TRANSFORMER A AND OIL CONTAINMENT FOUNDATION PLAN SECT AND DETAILS	25253-407E
TRANSFORMER B AND OIL CONTAINMENT FOUNDATION PLAN SECT AND DETAILS	25253-407F
FOUNDATION PLANS, SECTIONS AND DETAILS	25253-407G
FOUNDATION PLANS, SECTIONS AND DETAILS	25253-407H
GROUNDING PLAN	25253-412
RACEWAY PLAN	25253-413

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PROJECT # 186535			

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
F	07/07/2016	ISSUED FOR BID – PROJECT 186535 – BAIRD REPLACEMENT	BD	TKD	SBA	MAV
E	05/25/2016	ISSUED FOR BID – PROJECT 186535 – BAIRD REPLACEMENT	BD	TKD	SBA	MAV
D	04/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	BD	TKD	SBA	MAV
C	11/18/2015	ISSUED FOR UI REVIEW-PROJECT 186535-BAIRD REPLACEMENT	BD	JDG	SBA	MAV
B	07/15/2015	ISSUED FOR BID-PROJECT 186535-BAIRD REPLACEMENT	BD	–	SBA	MAV
A	04/30/2015	ISSUED FOR UI 30% REVIEW-PROJECT 186535-BAIRD REPLACEMENT	BJF	JDG	SBA	MAV

TRUE NORTH PLAN NORTH
16' 12' 8' 4' 0 16' 32'
1/16"=1'-0"

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	SLC	–	SBA	MAV

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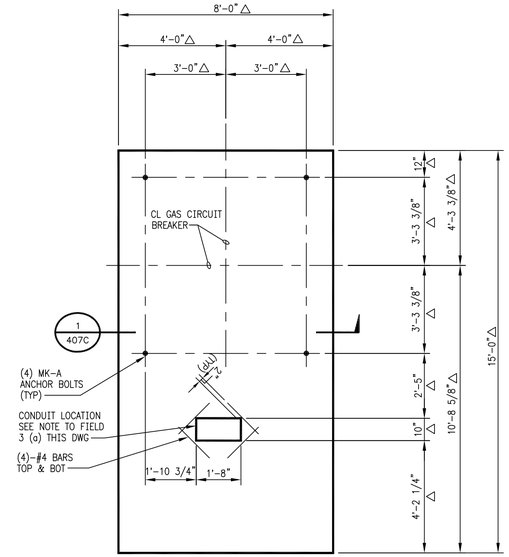
Drawn _____ Date 03/24/2015 Scale: 1/16"=1'-0"
Chkd. _____ Design Engr._____ Design Supv._____

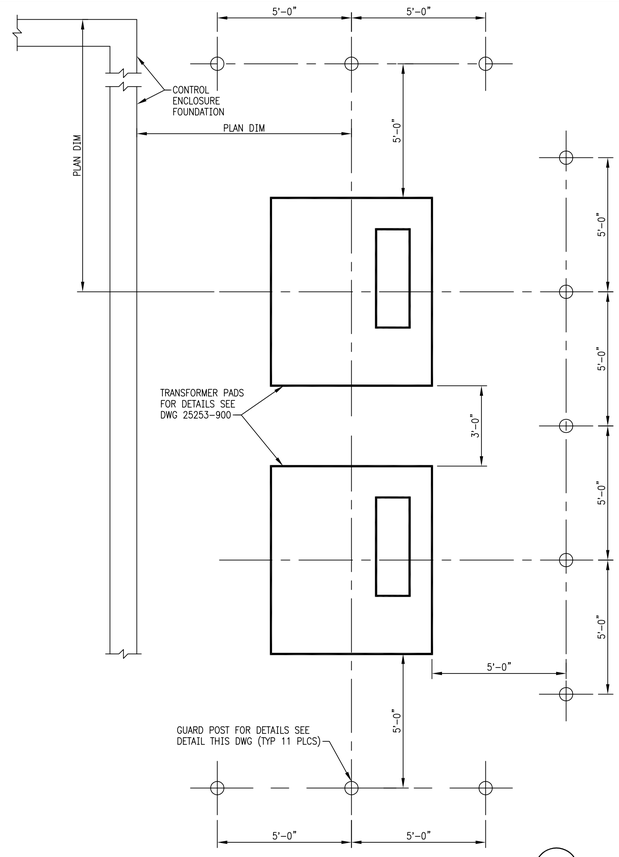
FOUNDATION PLAN AND LIST

BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	094104	25253-407

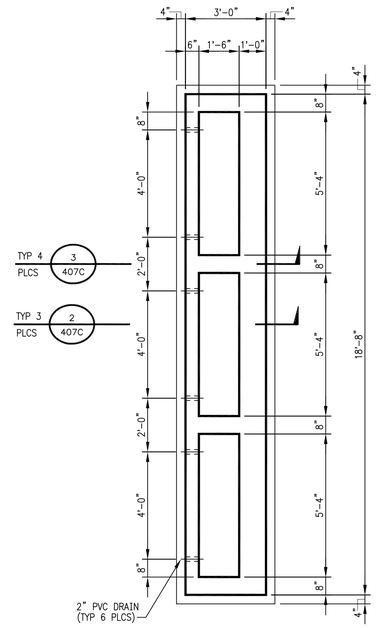


GAS CIRCUIT BREAKER FOUNDATION (5)
SCALE: 3/8"=1'-0"
SEE DWG 25253-407



STATION SERVICE TRANSFORMER AREA GUARD POST PLAN DETAIL A
SCALE: 3/8"=1'-0"
SEE DWG 25253-407

PLAN NORTH



CONCRETE PLANTER DETAIL B
SCALE: 3/8"=1'-0"
SEE DWG 25253-008

GENERAL NOTES

CONCRETE

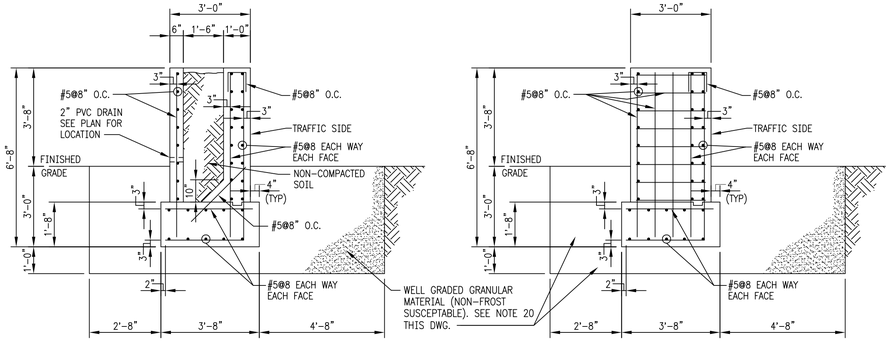
1. (a) SHALL CONFORM TO A.C.I. 318-11 CODE REQUIREMENTS
   (b) SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,000 P.S.I. AT 28 DAYS.

REINFORCING STEEL

2. (a) THE MINIMUM YIELD STRENGTH SHALL BE 60,000 P.S.I.
   (b) REINFORCING BARS SHALL BE INTERMEDIATE GRADE BILLET STEEL.
   (c) BARS SHALL BE LAPPED 30 BAR DIAMETERS AT SPLICES, UNLESS NOTED OTHERWISE
   (d) ALL SPLICES IN REINFORCEMENT SHALL BE CLASS "B".

NOTE TO FIELD

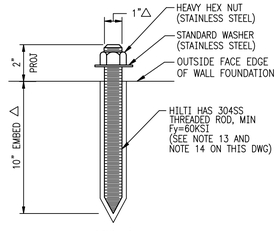
3. (a) CONCRETE IS NOT TO BE PLACED UNTIL ALL REQUIRED EQUIPMENT, ANCHOR BOLTS, PIPE SLEEVES, INSERTS, CONDUITS, ETC. TO BE SET IN CONCRETE ARE INSTALLED AND STABILIZED AGAINST DISPLACEMENT DURING CONCRETE POUR.
   (b) ALL EXPOSED CORNERS SHALL HAVE 3/4" CHAMFER.
4. NOTE DIRECTION OF NORTH ARROW FOR FOUNDATION DETAILS.
5. TOP SURFACES OF ALL EQUIPMENT FOUNDATIONS ARE TO BE WELL TROWELLED, SMOOTH AND LEVEL.
6. SEE DRAWING 25253-407 FOR TOP OF CONCRETE ELEVATIONS.
7. SEE DRAWINGS 25253-407 FOR FOUNDATION LOCATIONS.
8. THE GENERAL CONSTRUCTION CONTRACTOR SHALL PROVIDE FORMED CUT OUTS AT LOCATIONS INDICATED ON DRAWINGS.
9. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS: THE BELOW GRADE CONSTRUCTION (WITH ASSOCIATED U.I. TECHNICAL REQUIREMENTS FOR STANDARD SUBSTATION CONSTRUCTION).
10. THE GENERAL CONSTRUCTION CONTRACTOR SHALL PLACE REINFORCING STEEL TO AVOID ANCHOR BOLTS.
11. MINIMUM DISTANCE FROM EDGE OF CONCRETE TO EDGE OF REBAR SHALL BE 3 INCHES.
12. THE GERNERAL CONSTRUCTION CONTRACTOR SHALL MOISTEN EXISTING SOIL AS REQUIRED PRIOR TO PLACING CONCRETE TO PREVENT RAPID MOISTURE LOSS FROM THE CONCRETE DUE TO DRY SOIL CONDITIONS.
13. EPOXY THREADED RODS SHALL BE HILTI HAS 304SS OR EQUAL. FURNISHED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR.
14. THE GENERAL CONSTRUCTION CONTRACTOR SHALL USE HVA ADHESIVE CAPSULES OR EQUAL TO ANCHOR THREADED RODS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. IF CONCRETE TEMPERATURE OR AMBIENT AIR TEMPERATURE IS BELOW 30°F CONTRACTOR SHALL USE HILTI-ICE ADHESIVE OR EQUAL TO ANCHOR REBAR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
15. ALL WORK ON THIS DRAWING SHALL BE FURNISHED AND ERECTED BY THE GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE.
16. ALL NEW CONCRETE FOUNDATION EXPOSED SURFACES ARE TO BE COATED WITH SIKAGARD 701W IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
17. THE GENERAL CONSTRUCTION CONTRACTOR IS TO AVOID PLACING ANCHORS ON CONTROL JOINTS.
18. THE GENERAL CONSTRUCTION CONTRACTOR SHALL INSTALL WATERSTOP RX-101 AROUND EACH CONDUIT PRIOR TO CONCRETE PLACEMENT. A MINIMUM OF 3 INCHES OF REINFORCED CONCRETE COVER IS REQUIRED FOR CONDUIT INSTALLATIONS. WATERSTOP PLACEMENT SHALL MEET THE MANUFACTURER'S SPECIFICATIONS.
19. ELEVATIONS SHOWN REFER TO NAVD88 AND ESTABLISHED BASED ON TOPOGRAPHIC SURVEY CONDUCTED BY CONTRACT 186535.78.0106 ON 05/04/2015.
20. COMPACTED ROCK FILL SHALL CONSIST OF CRUSHED ROCK CONFORMING TO ASTM C33, GRADATION 1 1/2 INCH TO CRUSHER FINES.
21. DIMENSIONS NOTED THUS "△" ARE ON HOLD. THE GENERAL CONSTRUCTION CONTRACTOR SHALL NOT CONSTRUCT OR FABRICATE THESE ITEMS UNTIL DIMENSIONS ARE FINALIZED AND RELEASED BY THE ENGINEER.



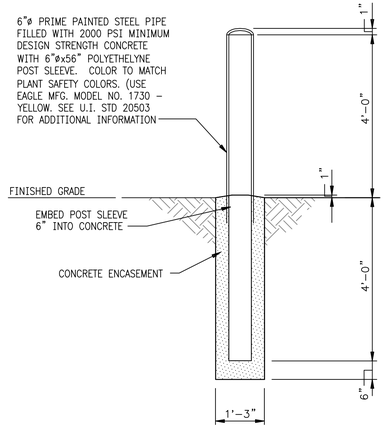
SECTION 1
SCALE: 3/8"=1'-0"
SEE THIS DWG

SECTION 2
SCALE: 3/8"=1'-0"
SEE THIS DWG

SECTION 3
SCALE: 3/8"=1'-0"
SEE THIS DWG



MK-A EPOXY THREADED ROD
NOT TO SCALE
(QTY = AS REQUIRED)



NOTES:
1. MAXIMUM SPACING BETWEEN POSTS = 5'-0", UNLESS NOTED OTHERWISE MINIMUM SPACING FROM TRANSFORMER = 5'-0" UNLESS NOTED OTHERWISE.
2. FURNISHED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE..

TYPICAL GUARD POST
NO SCALE

NOTES

1. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE.
2. FOUNDATION ANCHOR BOLTS SHALL BE PROVIDED BY THE GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE.

REFERENCE DRAWINGS

GRADING AND DRAINAGE SITE PLAN	25253-004
SUBSTATION PLAN	25253-402
FOUNDATION PLAN AND LIST	25253-407
CONTROL ENCLOSURE FOUNDATION PLAN, SECTIONS AND DETAILS	25253-407A
PDC ENCLOSURE FOUNDATION PLAN, SECTIONS AND DETAILS	25253-407B
FOUNDATION PLANS, SECTIONS AND DETAILS	25253-407D
TRANSFORMER A AND OIL CONTAINMENT FOUNDATION PLAN SECT AND DETAILS	25253-407E
TRANSFORMER B AND OIL CONTAINMENT FOUNDATION PLAN SECT AND DETAILS	25253-407F
FOUNDATION PLANS, SECTIONS AND DETAILS	25253-407G
FOUNDATION PLANS, SECTIONS AND DETAILS	25253-407H

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PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR
C	07/07/2016	ISSUED FOR BID - PROJECT 186535 - BAIRD REPLACEMENT	BD	TKD	SBA	MAV
B	04/07/2016	ISSUED FOR BIDS - PROJECT 186535 - BAIRD REPLACEMENT	BD	TKD	SBA	MAV
A	11/18/2015	ISSUED FOR UI REVIEW-PROJECT 186535-BAIRD REPLACEMENT	BD	–	SBA	MAV

12" 6" 0 1' 2' 3' 4' 5' 6' 7'
3/8"=1'-0"

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	BD	–	SBA	MAV

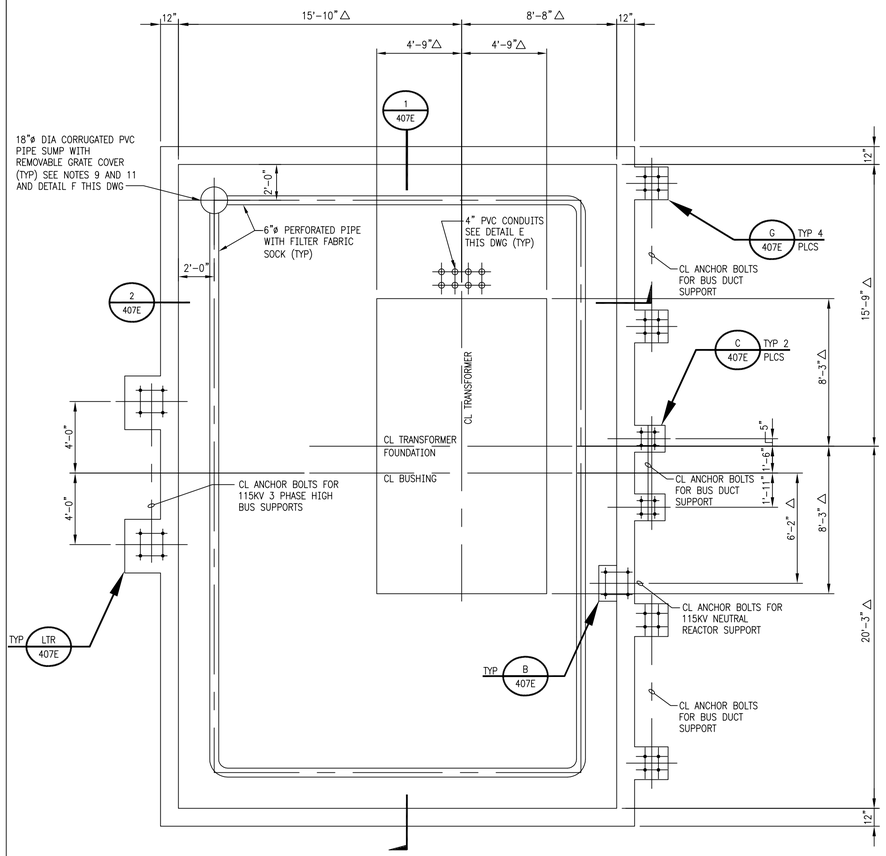
The United Illuminating Company

Drawn	Date 09/15/2015	Scale: AS NOTED
Chkd.	Design Engr.	Design Supv.

FOUNDATION PLANS SECTIONS AND DETAILS

BAIRD SUBSTATION

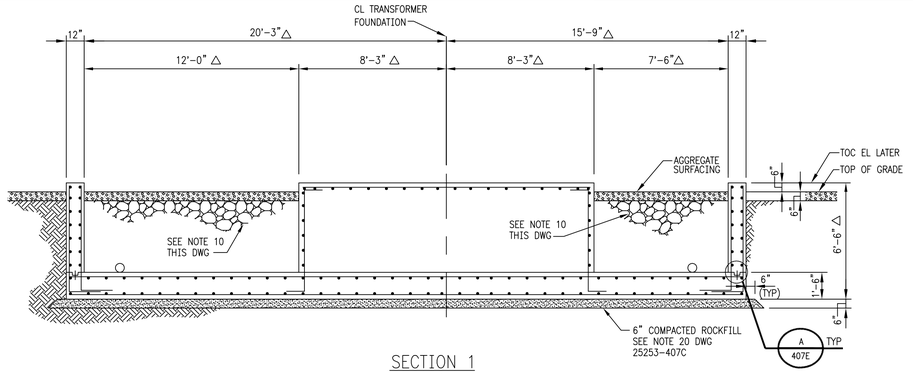
CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253-407C



TRANSFORMER A AND OIL CONTAINMENT FOUNDATION PLAN (3)

SCALE: 1/4"=1'-0"

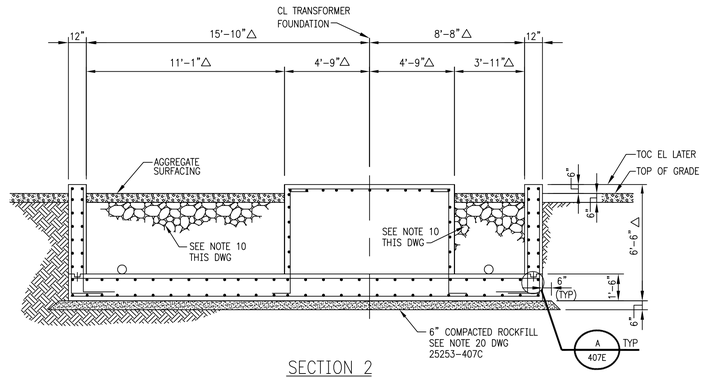
PLAN NORTH



SECTION 1

SCALE: 1/4"=1'-0"

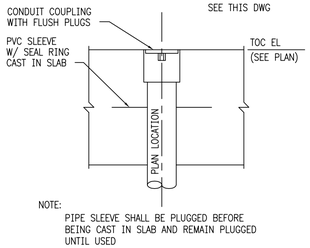
SEE THIS DWG



SECTION 2

SCALE: 1/4"=1'-0"

SEE THIS DWG

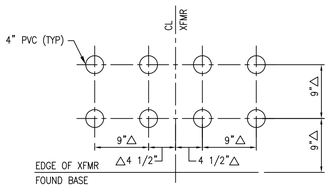


NOTE:

PIPE SLEEVE SHALL BE PLUGGED BEFORE BEING CAST IN SLAB AND REMAIN PLUGGED UNTIL USED

TYPICAL PIPE SLEEVE DETAIL CAST IN SLAB

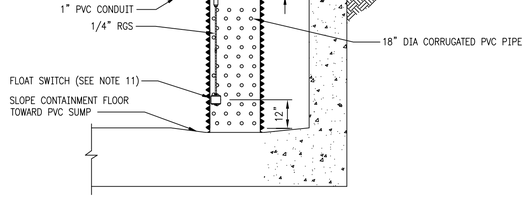
NO SCALE



PLAN

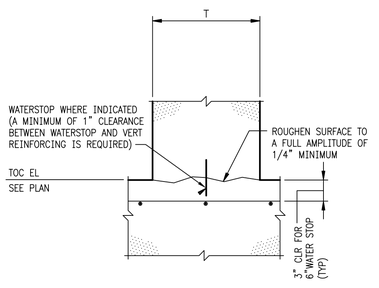
TYPICAL PVC WALL EMBEDMENT DETAILS DETAIL E

NO SCALE



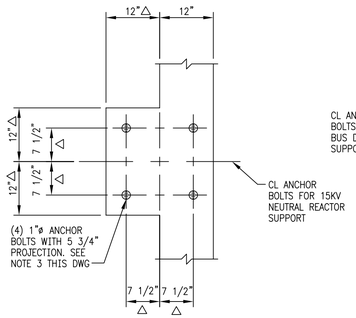
DETAIL F

NO SCALE



TYPICAL WALL TO SLAB CONSTRUCTION JOINT DETAIL A

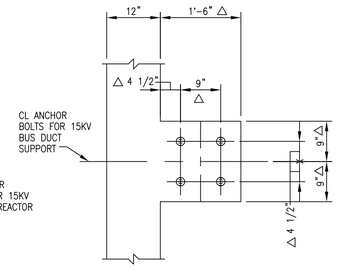
NO SCALE



DETAIL B

SCALE: 3/4"=1'-0"

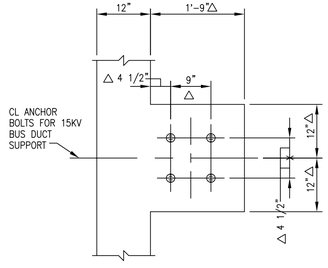
SEE THIS DWG



DETAIL C

SCALE: 3/4"=1'-0"

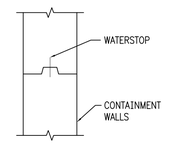
SEE THIS DWG



DETAIL G

SCALE: 3/4"=1'-0"

SEE THIS DWG



NOTE:

PROVIDE A MINIMUM OF 1" CLEARANCE BETWEEN WATERSTOP AND VERTICAL REINFORCING

PLAN

TYPICAL WALL CONSTRUCTION JOINT DETAIL D

NO SCALE

SEE THIS DWG

CONSTRUCTION NOTES

1. SEE DRAWING 25253-407C FOR GENERAL NOTES
2. COMPACTED ROCK FILL SHALL BE PLACED UNDER THE CONTAINMENT PIT SLAB. IT SHALL CONSIST OF CRUSHED ROCK CONFORMING TO ASTM C33, GRADATION 1-1/2 INCH TO CRUSHER FINES. THE FILL SHALL BE FINISHED WITH A THIN LAYER OF CLEAN CONCRETE SAND TO FILL ALL VOIDS AND INTERSTICES AND TO OBTAIN THE REQUIRED SUBGRADE ELEVATION. A POLYETHYLENE FILM MOISTURE BARRIER SHALL BE PLACED OVER THE SAND.
3. ANCHOR BOLTS SHALL BE FURNISHED BY THE STRUCTURES & EQUIPMENT CONTRACTOR AND SHALL BE INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR.
4. CONSTRUCTION JOINTS AT THE WALL TO SLAB INTERFACE SHALL UTILIZE A 2"X4" TAPERED KEYWAY AND RUBBER WATERSTOP. WATERSTOPS SHALL BE THERMOPLASTIC ELASTOMETRIC RUBBER (TPE-R), 6" RIBBED CENTER BULB, WESTEC TPE-R STYLE NO. 619 OR EQUAL. INSTALLATION SHALL MEET MANUFACTURER'S REQUIREMENTS. JOINTS SHALL BE WELDED PER MANUFACTURER'S RECOMENDATIONS TO PROVIDE A WATERTIGHT INSTALLATION.
5. CURRENTLY THIS DRAWING DOES NOT REQUIRE CONSTRUCTION JOINTS IN THE WALLS. IF THE CONTRACTOR FEELS THAT CONSTRUCTION JOINTS ARE NECESSARY IN ORDER TO SCHEDULE THEIR WORK, THEN THE REQUIREMENTS SET FORTH IN DETAIL D SHALL BE UTILIZED. THE CONTRACTOR SHALL NOTIFY THEIR REBAR DETAILER WHERE THESE JOINTS WILL BE LOCATED SO THAT THE SHOP DRAWINGS CAN BE CREATED ACCORDINGLY.
6. PER THE GEOTECHNICAL INVESTIGATION, THE ALLOWABLE SOIL BEARING CAPACITY UNDER THE OIL CONTAINMENT SLAB IS 4,000 PSF.
7. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE.
8. NOT USED.
9. GENERAL CONSTRUCTION CONTRACTOR SHALL PROVIDE 1/8" PER FOOT OF SLOPE DOWN TO SUMP LOCATION.
10. TRANSFORMER CONTAILMENT PIT SHALL BE FILLED WITH 3/4-INCH CLEAN CRUSHER STONE MEETING THE FOLLOWING GRADUATION:

    100 PERCENT PASSING 1-1/4 INCH SCREEN.
    45 TO 75 PERCENT PASSING 3/4-INCH SCREEN.
    25 TO 45 PERCENT PASSING 1/2-INCH SCREEN.
    0 TO 10 PERCENT PASSING 1/4-INCH SCREEN.

11. FLOAT SWITCH SHALL BE STAINLESS STEEL WITH 24" WIRE LEAD AS SOLD BY SMD FLUID SWITCH ITEM NO FS21-0000 OR OWNER/ENGINEER APPROVED EQUAL. FLOAT SWITCH SHALL BE MOUNTED TO THE SIDE OF THE 18" PVC PIPE SUMP.

NOTES

1. DIMENSIONS NOTED THUS "△" ARE ON HOLD. THE GENERAL CONSTRUCTION CONTRACTOR SHALL NOT CONSTRUCT OR FABRICATE THESE ITEMS UNTIL DIMENSIONS AND FINALIZED AND RELEASED BY THE ENGINEER.

REFERENCE DRAWINGS

SUBSTATION PLAN	25253-402
FOUNDATION PLAN AND LIST	25253-407
CONTROL ENCLOSURE FOUNDATION PLAN SECTIONS AND DETAILS	25253-407A
PDC ENCLOSURE FOUNDATION PLAN SECTIONS AND DETAILS	25253-407B
FOUNDATION PLANS SECTIONS AND DETAILS	25253-407C
FOUNDATION PLANS SECTIONS AND DETAILS	25253-407D
TRANSFORMER B AND OIL CONTAINMENT FOUNDATION PLAN	25253-407F
FOUNDATION PLANS SECTIONS AND DETAILS	25253-407G
FOUNDATION PLANS SECTIONS AND DETAILS	25253-407H
GROUNDING PLAN	25253-412
RACEWAY PLAN	25253-413

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

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DESIGNER	SBA	DRAWN	BD
CHECKED	–	DATE	–

PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
B	04/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	BD	–	SBA	MAV
A	11/18/2015	ISSUED FOR UI REVIEW–PROJECT 186535–BAIRD REPLACEMENT	BD	–	SBA	MAV

12" 0 1' 2' 3"

3/4"=1'-0"

4' 2' 0 4' 8'

1/4"=1'-0"

NEW DRAWING

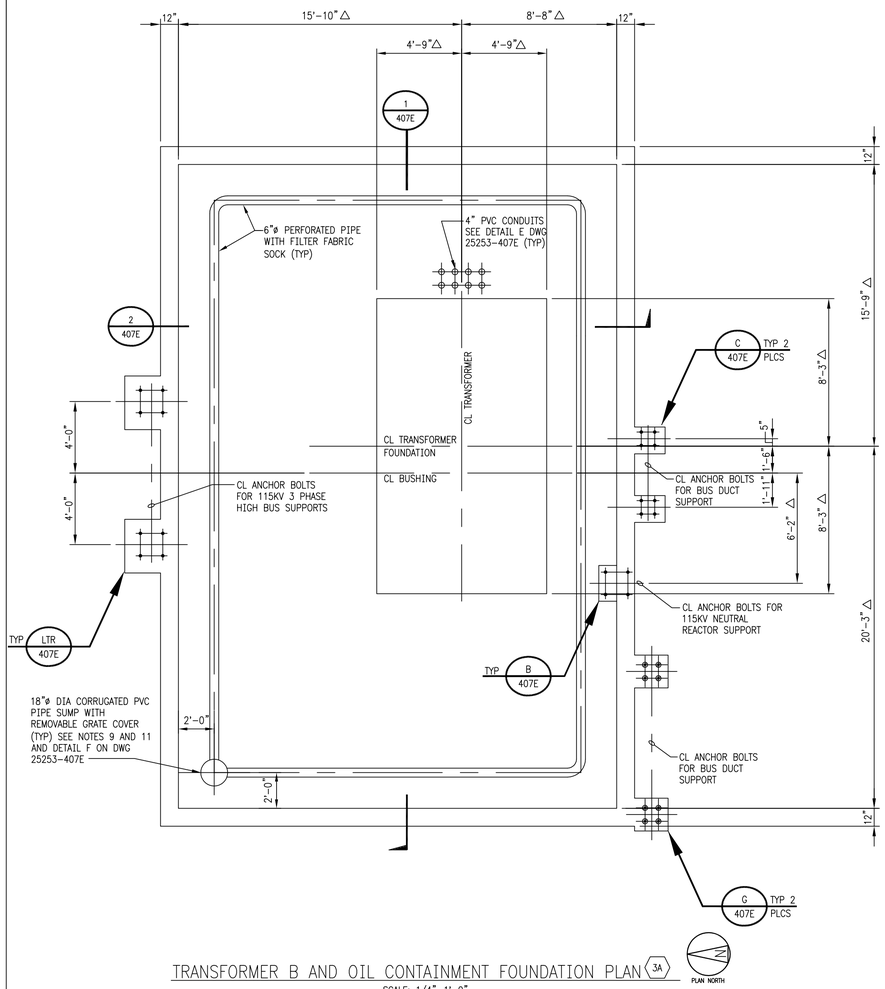
No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	BD	–	SBA	MAV

The United Illuminating Company

Drawn	Date 09/17/2015	Scale: AS NOTED
Chkd.	Design Engr.	Design Supv.

TRANSFORMER A AND OIL CONTAINMENT FOUNDATION PLAN SECTIONS AND DETAILS BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253-407E



TRANSFORMER B AND OIL CONTAINMENT FOUNDATION PLAN 3A

SCALE: 1/4"=1'-0"

NOTES

1. SEE DRAWING 25253-407C FOR GENERAL NOTES.
2. SEE DRAWING 25253-407E FOR ALL CONSTRUCTION NOTES.
3. DIMENSIONS NOTED THUS "△" ARE ON HOLD. THE GENERAL CONSTRUCTION CONTRACTOR SHALL NOT CONSTRUCT OR FABRICATE THESE ITEMS UNTIL DIMENSIONS AND FINALIZED AND RELEASED BY THE ENGINEER.

REFERENCE DRAWINGS

SUBSTATION PLAN	25253-402
FOUNDATION PLAN AND LIST	25253-407
CONTROL ENCLOSURE FOUNDATION PLAN SECTIONS AND DETAILS	25253-407A
PDC ENCLOSURE FOUNDATION PLAN SECTIONS AND DETAILS	25253-407B
FOUNDATION PLANS SECTIONS AND DETAILS	25253-407C
FOUNDATION PLANS SECTIONS AND DETAILS	25253-407D
TRANSFORMER A AND OIL CONTAINMENT FOUNDATION PLAN	25253-407E
FOUNDATION PLANS SECTIONS AND DETAILS	25253-407G
FOUNDATION PLANS SECTIONS AND DETAILS	25253-407H
GROUNDING PLAN	25253-412
RACEWAY PLAN	25253-413

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

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DESIGNER SBA	DRAWN BD
CHECKED –	DATE –
PROJECT # 186535	

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
A	04/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	BD	–	SBA	MAV

12" 0 1' 2' 3'
3/4"=1'-0"

4' 2' 0 4' 8'
1/4"=1'-0"

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	BD	–	SBA	MAV

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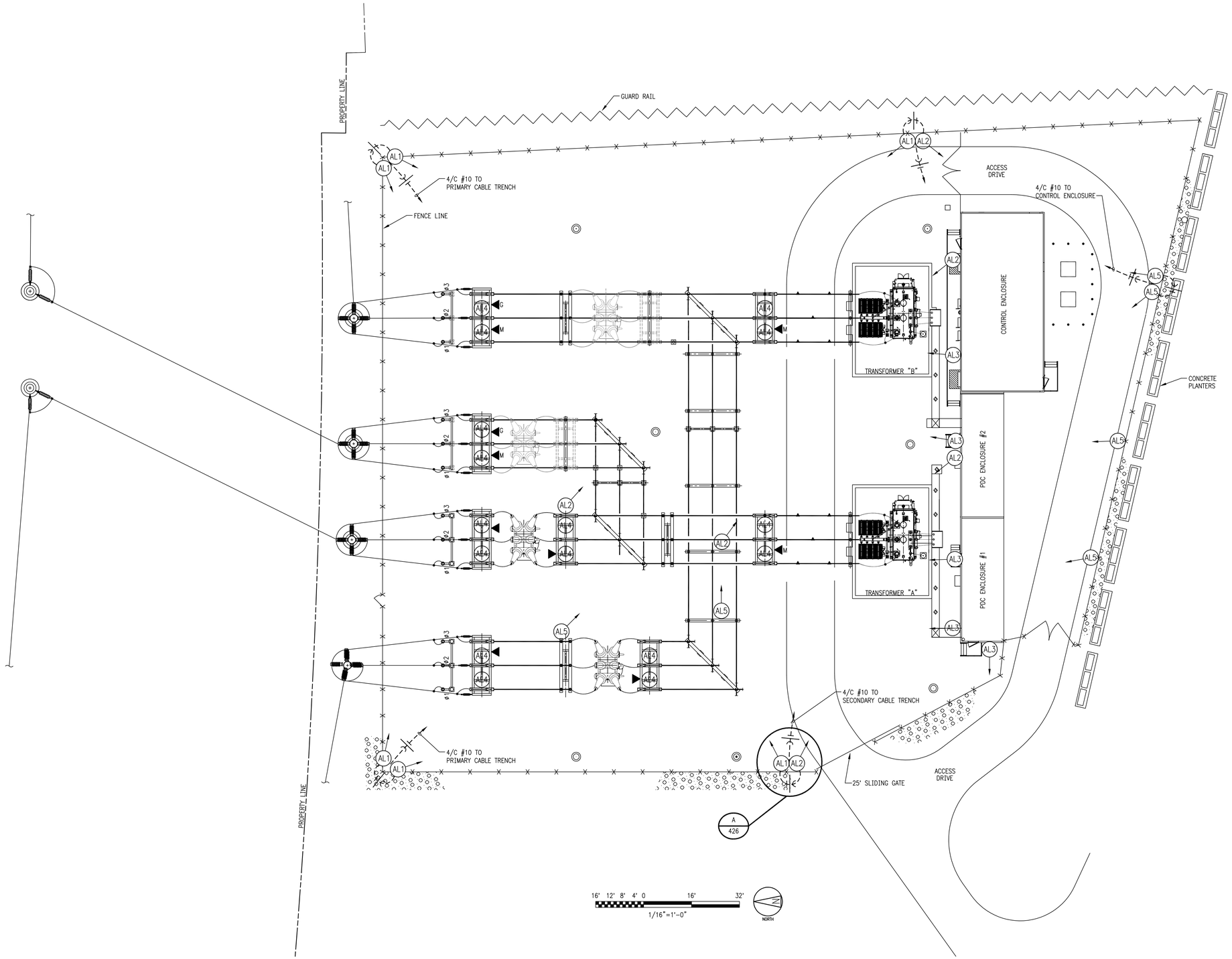
Drawn	Date 09/17/2015	Scale: AS NOTED
Chkd.	Design Engr.	Design Supv.

TRANSFORMER B AND OIL CONTAINMENT FOUNDATION PLAN SECTIONS AND DETAILS BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		25253-407F

FIXTURE LIST				
	SYMBOL	FIXTURE TYPE	MOUNTING ELEVATION	DESCRIPTION
L01	AL1	267W, 120V, LED LUMINAIRE, 15 DEGREE	17'-0"	CREE FLD-EHO-15-HV-12-E-UL-SV-700-50K
L02	AL2	267W, 120V, LED LUMINAIRE, 40 DEGREE	17', 12', 8'	CREE FLD-EHO-40-HV-12-E-UL-SV-700-50K
L03	AL3	42W, LED WALL PACK	12'-0"	CREE XSPWAX3MC-U
L09	AL4	134W LED DOWNLIGHT (FACING UP)	6'-0"	CREE ARE-EDG-4M-AA-06-E-UL-700-40K
L10	AL5	80W LED	17', 12', 8'	RAB FFLED-80-T-500K



LEGEND:

CIRCUITING DESIGNATION WITH CONDUCTOR SIZE AND QUANTITY INDICATED ON DRAWING
CONDUCTOR CODE:
SHORT DASH – PHASE OR SWITCHED CONDUCTOR
LONG DASH – NEUTRAL CONDUCTOR
ARC – GROUND CONDUCTOR

(AL) FIXTURE TYPE WITHOUT PHOTOCELL CONTROL

GENERAL NOTES:

1. FENCE POSTS MOUNTED BY ONE OR MORE LIGHTS SHALL HAVE A HEIGHT OF 17'.

CONSTRUCTION NOTES:

1. THE GENERAL CONSTRUCTION CONTRACTOR SHALL AIM THE LIGHTS IN THE GENERAL DIRECTION OF THE FIXTURE ARROWS, SUBJECT TO FINAL ACCEPTANCE BY THE OWNER.
2. THE GENERAL CONSTRUCTION CONTRACTOR SHALL CONFIRM THAT THE MOUNTING ELEVATION OF THE FLOODLIGHT PROVIDES A MINIMUM MAINTENANCE CLEARANCE OF 10'-8" BETWEEN FLOODLIGHT AND ANY ENERGIZED EQUIPMENT. THE FLOODLIGHT ELEVATION SHALL BE ADJUSTED, IF REQUIRED, TO PROVIDE MINIMUM CLEARANCE.
3. THE GENERAL CONSTRUCTION CONTRACTOR SHALL MOUNT LIGHTS AT 8'-0" ON LOW BUS SUPPORTS.

REFERENCE DRAWINGS:

SUBSTATION PLAN	25253-402
RACEWAY PLAN	25253-413
ILLUMINATION DETAILS	25253-426 & 426A
BILL OF MATERIALS	25253-499A

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

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DESIGNER	DRAWN
ASV	WDS
CHECKED	DATE
PROJECT # 186535	

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
H	07/07/2016	ISSUED FOR BID-PROJECT 186535-BAIRD REPLACEMENT	BD	TKD	DRJ	MAV
G	05/25/2016	ISSUED FOR BID-PROJECT 186535-BAIRD REPLACEMENT	CRE	TKD	DRJ	MAV
F	04/07/2016	ISSUED FOR BID-PROJECT 186535-BAIRD REPLACEMENT	CRE	RJH	DRJ	MAV
E	11/18/2015	ISSUED FOR UI REVIEW-PROJECT 186535-BAIRD REPLACEMENT	SLC/CRE	JDG	DJR	MAV
D	10/28/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	BD	JDG	DJR	MAV
C	10/09/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	BGG/CRE	JDG	TKD	MAV
B	07/27/2015	ISSUED FOR MCF APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	WDS	JDG	TKD	MAV
A	04/30/2015	ISSUED FOR UI 30% REVIEW-PROJECT 186535-BAIRD REPLACEMENT	WDS	JDG	ASV	MAV

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	CRE	–	DJR	MAV

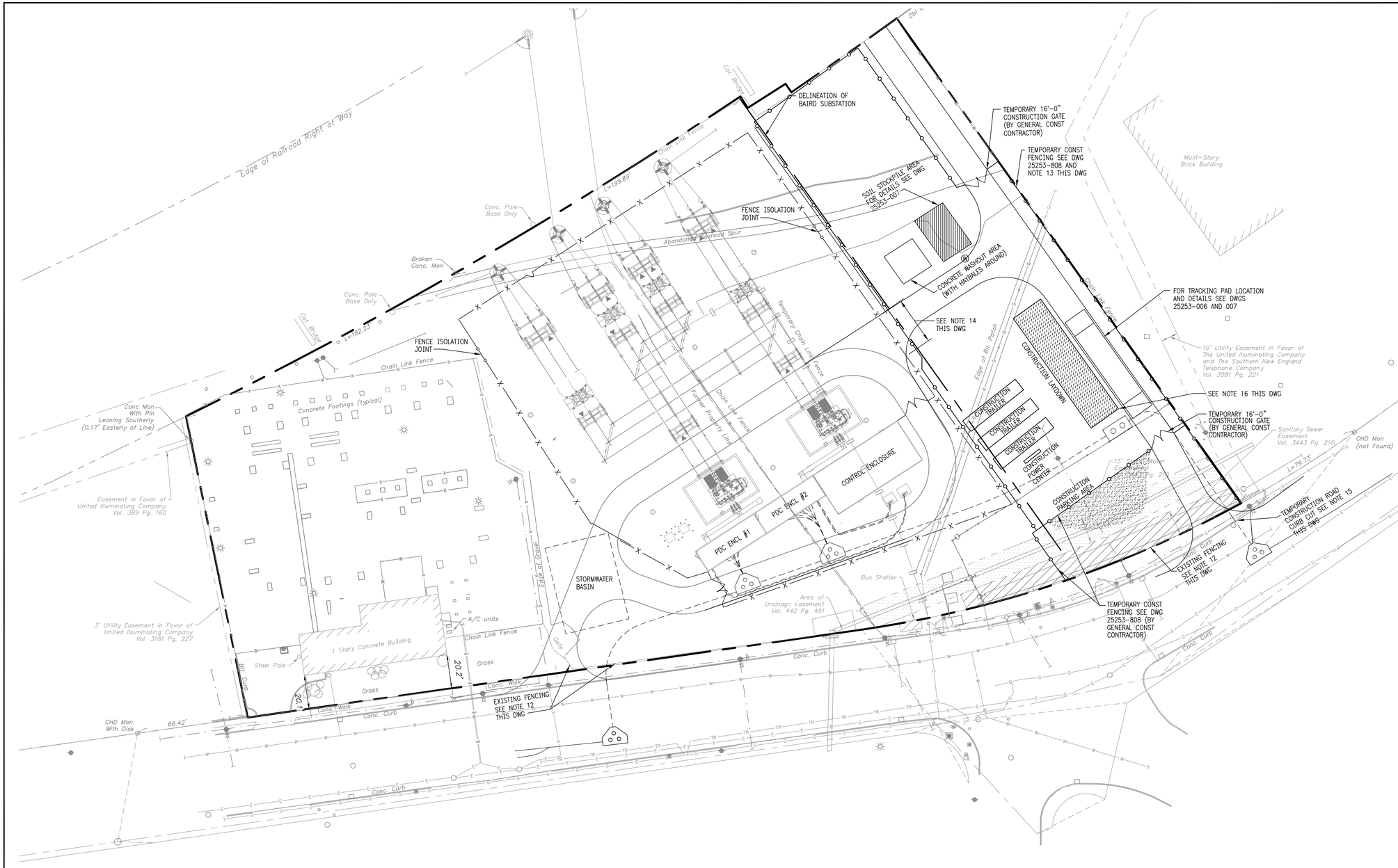
The United Illuminating Company

Drawn _____ Date 04/16/2015 Scale: 1/16"=1'-0"
Chkd. _____ Design Engr._____ Design Supv._____

ILLUMINATION PLAN

BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	094110	25253-415



GENERAL NOTES:

1. PER CONNECTICUT STATE LAW THE GENERAL CONSTRUCTION CONTRACTOR SHALL CONFIRM THE LOCATION OEALL UTILITIES PRIOR TO THE COMMENCEMENT OF EXCAVATION. CALL BEFORE YOU DIG 1-800-922-4455.
2. DELIVERIES FOR THE BAIRD SUBSTATION AT 1770 STRATFORD AVENUE ROUTE 30, STRATFORD, CONNECTICUT MAY ONLY BE RECEIVED BETWEEN THE HOURS OF 8:00 AM AND 3:00 PM, MONDAY THRU FRIDAY.
3. ALL WORK SHOWN ON THIS DRAWING SHALL BE FURNISHED AND INSTALLED BY GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE.
4. NOT USED.
5. EXISTING FENCE SHALL REMAIN UNTIL THE CONSTRUCTION MANAGER APPROVES THE REMOVAL BY GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE.
6. NOT USED
7. NOT USED.
8. ALL NEW PERMANENT FENCING SHALL HAVE GREEN WINGED SLATS THRU THE CHAIN LINK FENCE FABRIC.
9. THE TEMPORARY CONSTRUCTION FENCE SHALL BE GROUNDED BY GENERAL CONSTRUCTION CONTRACTOR. THE GROUND CONDUCTOR (4/0AWG CU) SHALL BE BURIED AT 18 INCHES BELOW GRADE AND SHALL EXTEND 3'-0" BEYOND THE FENCE. GROUND FENCE POSTS AT 40'-0" SPACING.
10. TEMPORARY CONSTRUCTION PARKING AREA ROCK SURFACING SHALL BE REMOVED AT THE END OF CONSTRUCTION AND THE AREA RE-SEEDED BY THE GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE.
11. REMOVE EXISTING BITUMINOUS PAVEMENT. DISPOSAL OF PAVEMENT SHALL BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. BY THE GENERAL CONSTRUCTION CONTRACTOR, UNLESS NOTED OTHERWISE.
12. EXISTING FENCE ALONG STRATFORD AVENUE (ROUTE 130) AND TYING INTO THE EXISTING SUBSTATION SHALL BE REPAIRED AND MAINTAINED DURING CONSTRUCTION BY THE GENERAL CONSTRUCTION CONTRACTOR. AFTER NEW SUBSTATION FENCING IS INSTALLED BY GENERAL CONSTRUCTION CONTRACTOR AND AT THE APPROVAL OF THE BVCI CONSTRUCTION MANAGER CONSTRUCTION THE GENERAL CONSTRUCTION CONTRACTOR SHALL REMOVE THE EXISTING FENCE.
13. TEMPORARY CONSTRUCTION FENCE SHALL BE INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR AND REMOVED AT THE END OF CONSTRUCTION AND WITH THE APPROVAL OF THE BVCI CONSTRUCTION MANAGER BY THE GENERAL CONSTRUCTION CONTRACTOR.
14. TEMPORARY CONSTRUCTION OPENING BY THE GENERAL CONSTRUCTION CONTRACTOR. AFTER CONSTRUCTION COMPLETION AND AT THE APPROVAL OF THE CONSTRUCTION MANAGER THE GENERAL CONSTRUCTION CONTRACTOR SHALL CLOSE THE TEMPORARY OPENING WITH PERMANENT FENCING MATERIAL AS SHOWN ON DRAWING 25253-014A.
15. TEMPORARY CONSTRUCTION ACCESS ROAD CURB CUT SHALL BE BY THE GENERAL CONSTRUCTION CONTRACTOR. AFTER COMPLETION OF CONSTRUCTION NEW CURB SHALL BE INSTALLED TO MATCH EXISTING CURB AND MEETING ALL CITY STANDARDS BY THE GENERAL CONSTRUCTION CONTRACTOR.
16. IT IS THE RESPONSIBILITY OF THE GENERAL CONSTRUCTION CONTRACTOR TO MANAGE THE CONSTRUCTION LAYDOWN SPACE ON SITE. IN THE EVENT THAT MATERIAL DELIVERIES EXCEED THE LAYDOWN SPACE AVAILABLE ON SITE IT WILL BE THE RESPONSIBILITY OF THE GENERAL CONSTRUCTION, AT HIS EXPENSE TO FIND SECURED SPACE NEEDED FOR MATERIAL STORAGE UNTIL IT CAN BE MOVED TO CONSTRUCTION SITE.

LEGEND

- SOIL STOCKPILE AREA
- CONSTRUCTION LAYDOWN
- TEMP CONSTRUCTION PARKING (TO BE REMOVED AFTER CONST)
- PROPERTY LINE
- BOUNDARY LINE
- NEW SUBSTATION FENCE
- EXISTING FENCE
- TEMP CONSTRUCTION FENCING
- CULVERT
- CB-X CATCH BASIN
- 15' WIDE STORMWATER EASEMENT
- FENCE TO BE REMOVED
- FUTURE ROAD IMPROVEMENT (BY OTHERS)
- EXISTING WATER
- EXISTING TRAFFIC
- EXISTING ELECTRICAL
- EXISTING GAS
- EXISTING SANITARY
- EXISTING STRUCTURES

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

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DESIGNER	DRAWN
SMR	JTG
CHECKED	DATE
–	

PROJECT # 186535

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
E	07/07/2016	ISSUED FOR BID – PROJECT 186535 – BAIRD REPLACEMENT	BD		SMR	MAV
D	05/25/2016	ISSUED FOR BID – PROJECT 186535 – BAIRD REPLACEMENT	BD		SMR	MAV
C	04/07/2016	ISSUED FOR BIDS – PROJECT 186535 – BAIRD REPLACEMENT	BD		SMR	MAV
B	11/18/2015	ISSUED FOR UI REVIEW-PROJECT 186535-BAIRD REPLACEMENT	BD		SMR	MAV
A	11/16/2015	ISSUED FOR CSC APPLICATION-PROJECT 186535-BAIRD REPLACEMENT	BD		SMR	MAV

30' 20' 10' 0 30' 60'
1"=30'

TRUE NORTH

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
A	04/2016	BAIRD REPLACEMENT SUBSTATION	BD		SMR	MAV

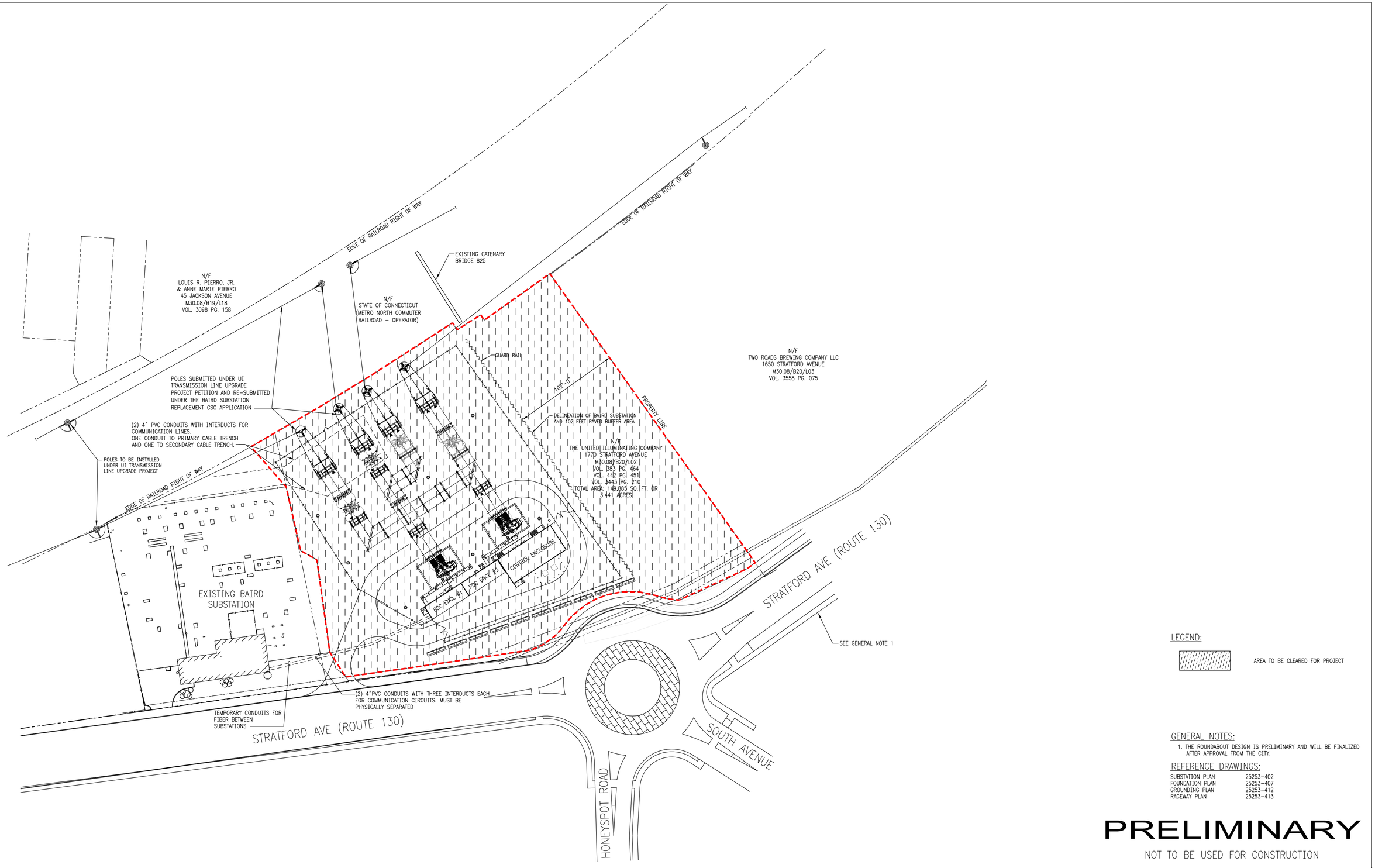
The United Illuminating Company

Drawn _____ Date 10/01/2015 Scale: 1"=30'
Chkd. _____ Design Engr._____ Design Supv._____

CONSTRUCTION FACILITIES PLAN

BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	–	25253-805



LEGEND:

AREA TO BE CLEARED FOR PROJECT

GENERAL NOTES:

1. THE ROUNDABOUT DESIGN IS PRELIMINARY AND WILL BE FINALIZED AFTER APPROVAL FROM THE CITY.

REFERENCE DRAWINGS:

SUBSTATION PLAN	25253-402
FOUNDATION PLAN	25253-407
GROUNDING PLAN	25253-412
RACEWAY PLAN	25253-413

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

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DESIGNER SMR	DRAWN BD
CHECKED	DATE
PROJECT # 186535	

NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.
B	07/07/2016	ISSUED FOR BID–PROJECT 186535–BAIRD REPLACEMENT	BD	–	TKD	MAV
A	05/25/2015	ISSUED FOR BID–PROJECT 186535–BAIRD REPLACEMENT	BD	–	TKD	MAV

40' 20' 0 40' 80'
1"=40'-0"

NORTH

NEW DRAWING

No	Date	Revision	By	Chkd.	Engr.	Supv.
1	03/2016	BAIRD REPLACEMENT SUBSTATION	CRE	–	TKD	MAV

The United Illuminating Company

Drawn _____ Date 05/25/2016 Scale: 1"=40'
Chkd. _____ Design Engr._____ Design Supv._____

CONSTRUCTION FACILITIES
SITE CLEARING PLAN

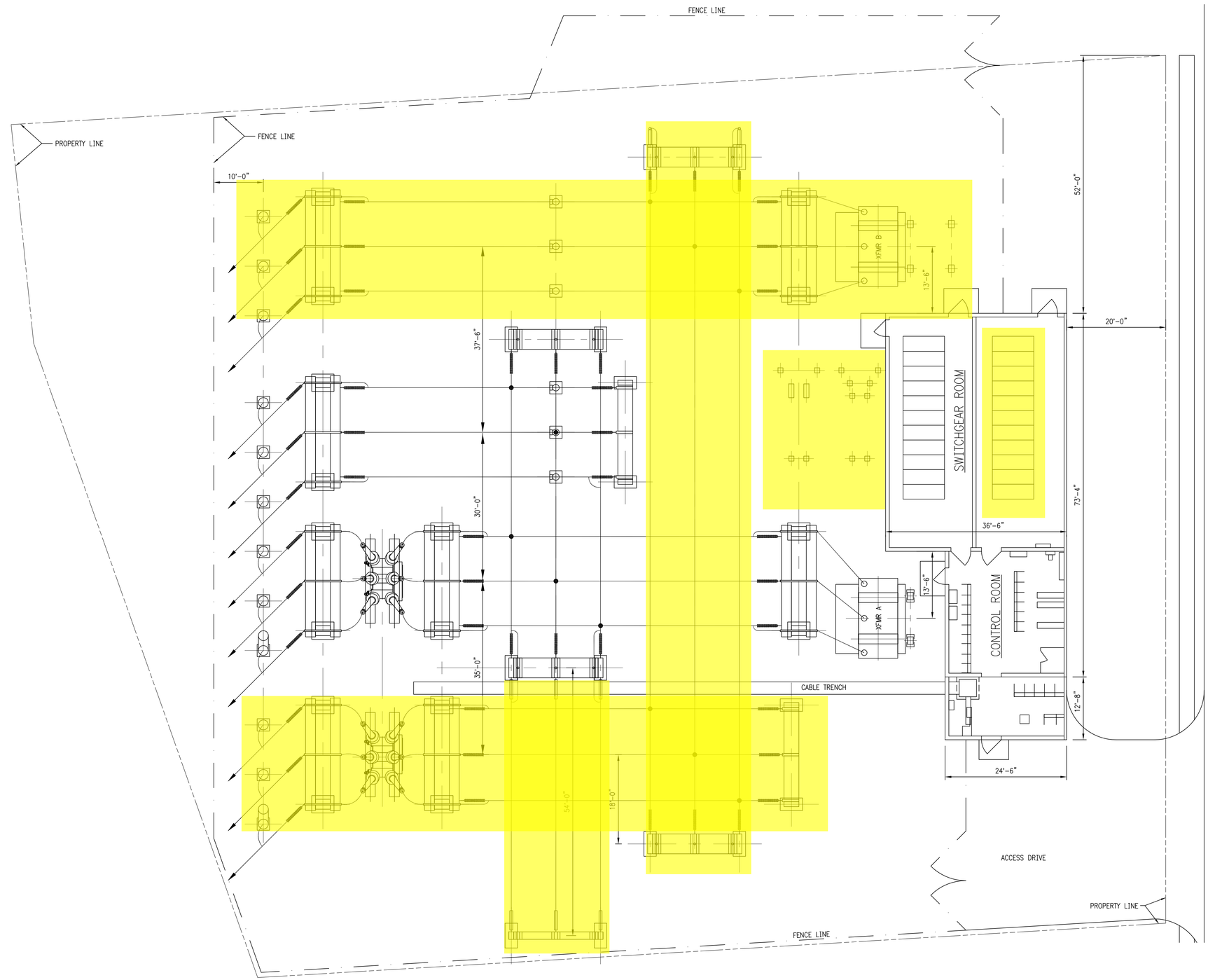
BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	–	25253-809

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map US Topo

BRIDGEPORT QUADRANGLE
CONNECTICUT-FAIRFIELD CO.
7.5-MINUTE SERIES



Existing Baird Decommissioning Plan
All equipment highlighted in yellow will be removed. Predominantly this encompasses all equipment associated with the exterior transmission line terminals. An itemized list of equipment to be removed is as follows:
- Transformer "B"
- Transformer "B" disconnect switch and structure
- Line disconnect switch and structure
- Gas Circuit Breaker and associated disconnect switches
- Associated CCVT's and Surge Arrestors
- Strain bus and corresponding hardware and support structures
- Mobile sub tap for Transformer "A"
- 13.8kV Capacitor bank assembly
- One line-up of 13.8kV switchgear

RATFORD

Equipment to be added to the existing Baird substation include:
- One 4kV transformer
- New standard 8' fence with 1' barbed wire extending the full perimeter in place of existing fence

REFERENCE DRAWINGS

SUBSTATION CONTROL BUILDING	25237-070
FOUNDATION PLAN	24204-1
FOUNDATION DETAILS	24204-2
CONDUIT LIGHTING & GROUNDING PLAN	24204-7
YARD GROUNDING	24204-7A

NOTES:

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

10 0 5 10 20 40
1"=10'-0"

BLACK & VEATCH
Building a world of difference®
PROJECT NO. 177401

DRAWN	BD
DESIGNED	JDG
APPROVED	ALL
CHECKED	–

No	Date	Revision	By	Chkd.	Engr.	Supv.
C	09/26/2012	ISSUED FOR UI REVIEW – PROJ. 177401	BD	–	BRH	ALL
B	09/11/2012	ISSUED FOR UI REVIEW – PROJ. 177401	BD	–	JDG	ALL
A	09/06/2012	ISSUED FOR UI REVIEW – PROJ. 177401	BD	–	JDG	ALL

The United Illuminating Company
157 Church St. New Haven, Ct. 06506

Drawn _____ Date 09/11/2012 Scale: 1" = 10'-0"
Chkd. _____ Design Engr. _____ Design Supv. _____

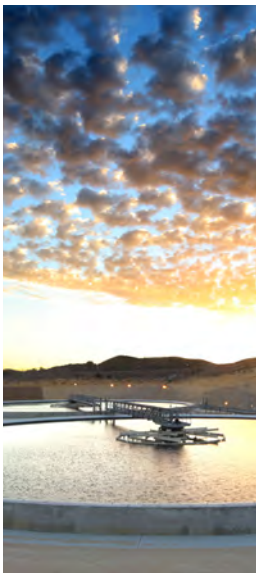
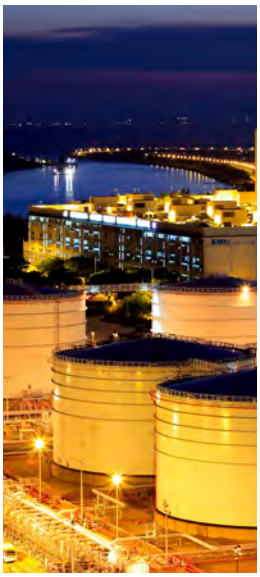
SUBSTATION ARRANGEMENT
EXISTING PLAN

BAIRD SUBSTATION

CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
		SK-091012-1

APPENDIX B

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION STORMWATER POLLUTION CONTROL PLAN AND APPROVAL LETTER


Stormwater Pollution Control Plan

Baird Substation
1771 Stratford Avenue
Stratford, Connecticut

United Illuminating Company

45 Farmington Valley Drive Plainville Connecticut 06062
083167 | Report No 1 | February 16 2016

Table of Contents

Figure Index

Appendices

1. Certifications

Permittee

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with section 22a-6 of the Connecticut General Statutes, pursuant to section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Richard J Reed — Name

VP - EPE — Title

Richard J Reed — Signature

2/18/14 — Date

Document Preparer

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with section 22a-6 of the Connecticut General Statutes, pursuant to section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Kyle Eckert — Name

Engineer — Title

Signature

2/18/14 — Date

Contractor

"I certify under penalty of law that I have read and understand the terms and conditions of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. I understand that as a contractor or subcontractor at the site, I am authorized by this general permit, and must comply with the terms and conditions of this general permit, including, but not limited to the requirements of the Stormwater Pollution Control Plan prepared for the site."

Mark A. Vance	Project Manager
Name	Title
Signature	17-Feb-2017
	Date

Contractor Information:

Black & Veatch

11401 Lamar Avenue

Overland Park, KS 66211

Site Location:

Baird Substation

1771 Stratford Avenue

Stratford, CT 06615

Professional Engineer

"I hereby certify that I am a professional engineer 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 The United Illuminating Company for an activity located at 1771 Stratford Avenue, Stratford, Connecticut. 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 the 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."

Jeffrey Lambert — Professional Engineer
Name — Title

Signature — 02/18/2016
Signature — Date

45 Farmington Valley Drive
Plainville, CT
Mailing Address

Affix P.E. Stamp Here

Consultant Information

GHD Services, Inc.
45 Farmington Valley Drive
Plainville, CT 06062
(860) 747-1800

Contacts:

Mr. Jeffrey Lambert
Ms. Kyle Eckert

2. Introduction

GHD Services, Inc. (GHD) has prepared this Stormwater Pollution Control Plan (SWPCP) for The United Illuminating Company (UI) for the Baird Substation expansion project (Project) to be located at 1771 Stratford Avenue in Stratford, Connecticut (Site). This SWPCP has been prepared in accordance with the State of Connecticut Department of Energy and Environmental Protection (CT DEEP) General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective October 1, 2013 (Permit) and the 2004 Connecticut Stormwater Quality Manual.

This SWPCP is designed to minimize potential pollution caused by soil erosion and sedimentation during and after construction, and potential stormwater pollution caused by use of the Site after construction is completed.

3. Site and Project Description

3.1 Site Plan

Site drawings depicting drainage patterns, slopes, areas of soil disturbance, locations of non-structural controls and other pertinent information are included with this SWPCP (see Figures 1 through 7).

3.2 Site Description

The Site is made up of a vacant wooded parcel, an exisiting paved asphalt parking lot and a portion on both the north and south sides of the MetroNorth/Connecticut Department of Transportation right-of-way. Additionally, the Site is located to the east of UI's existing 115/13.8 kilovolt (kv) Baird Substation. The anticipated total area of disturbance during construction is approximately 3 acres.

Some of the proposed improvements on the Site to manage stormwater runoff will be trap rock to allow infiltration and asphalt pavement pitched to direct stormwater through a series of catchbasins on the Site or to a vegetated swale along the eastern portion of the Site. The catchbasins will discharge to the an underground stormwater treatment unit connected to an underground detention chamber, which ultimately will discharge to the localized stormwater infrastructure. The stormwater detention chamber will be designed to retain runoff and promote groundwater recharge, while the vegetated swale will discharge to natural grade on the southeast portion of the Site, with an overflow connection to the State of Connecticut storm sewer via a stormwater easement along Stratford Avenue. The estimated runoff coefficient of the Site after construction activities are completed is 0.65.

A wetland delineation was conducted at the Site in April 2015 by a Certified Soil Scientist, who identified approximately 654 square feet of total wetlands. As a result of the existing electrical infrastructure and abutting properties the substation expansion Project, will fill the wetlands effectively eliminating the wetlands.

3.3 Construction Sequencing

The expected sequence of major construction activities and corresponding erosions and sediment controls include the following:

- Clear, grub and remove all vegetation
- Install erosion and sediment controls (E&S) such as, but not limited to compost filter socks, silt fencing and hay bales
- Install geotextile filter bags in catch basins immediately adjacent to Site along Stratford Avenue
- Perform Site civil activities such as cutting, grading, foundation installation, etc.
- Install permanent fencing
- Backfill and compact aggregate surfacing
- Install Site stormwater infrastructure and connect to State of Connecticut stormwater system
- Install swale and connect to State of Connecticut stormwater system
- Install asphalt driveway
- Construct substation
- Remove temporary compost filter socks, silt fencing, and hay bales
- Site restoration and clean-up
- Demobilize – expected to be completed in approximately December 2017

This above construction sequencing work is planned to be executed in phases. Performing these activities in phases will be beneficial to stormwater management allowing for the precise monitoring of UI's E&S controls; however the actual sequence may be altered based upon field conditions encountered and this SWPCP will be updated as necessary.

Complete installation of the necessary stormwater controls down gradient of each phase of earth-disturbing activities will be achieved by the time each phase of earth-disturbing activities has begun, unless infeasible. Maintenance of these temporary erosion and surface runoff controls include adjustments and/or relations of controls will be conducted to be most effective, and removal of accumulated sediment from behind or within the controls will be conducted as needed. Regular maintenance to the stormwater controls will occur throughout the project as necessary or until the Project has been completed.

4. Best Management Practices (BMPs)

4.1 Minimum Design Considerations

UI will use good engineering practices and follow manufacturer's specifications in the design and installation of all BMPs used. The following factors should be accounted for when designing stormwater controls:

- The expected amount, frequency, intensity, and duration of precipitation and associated runoff

- The nature of stormwater runoff and run-on at the Site, including factors such as expected immediate flow from impervious surfaces, slopes and site drainage features (if any stormwater flow will be channelized at the Site, stormwater controls should be designed to control both peak flow rates and total stormwater volume to minimize erosion of outlets and to minimize downstream erosion)
- The potential for exposed soil to contain contaminants (highly unlikely at the Site)
- The range of soil particle sizes expected to be present on the Site

4.2 Erosion Control BMPs

The objective of E&S controls are to protect exposed, disturbed soil surfaces and to prevent sediment from being detached by precipitation or wind. Non-erodible cover is the primary erosion control practice and can include vegetation, temporary surface treatments, covers, or permanent covers such as pavement. Covers are efficient and economical methods of controlling sheet, rill, and raindrop impact erosion. While many of the BMPs described herein will be most applicable during regarding activities (whether making cuts or creating fills), some may also apply to soil exposed following pavement removal where stormwater has the potential to flow across the exposed soil. Important criteria for reducing erosive forces include:

1. Maintaining pavement and/or vegetative cover wherever possible and for as long as possible, and removing cover in sequenced states
2. Re-routing run-on flowing toward the exposed areas
3. Limiting availability and exposure of significant material (in particular, potentially erodible materials by providing temporary or permanent cover)
4. Performing Site work procedures in a manner that, to the extent practicable, considers weather conditions, Site characteristics, surface water flow pathways, and specific work task
5. Establishing permanent cover, whether hard or soft, as soon as possible after disturbance
6. Where applicable, seeding with fast growing, native grasses and/or protecting exposed soil with mulch or other approved covers to provide erosion control after Site work activities have concluded

Erosion and sedimentation control details for several common BMPs applicable to the Project are included on Figures 6 and 7. The BMPs outlined in this plan are designed to significantly reduce the contact of exposed soil at the Site with precipitation or wind.

4.2.1 Preservation of Vegetated Areas and Topsoil Removal Considerations

Where feasible, preservation of areas currently covered with topsoil should be performed to the maximum extent possible in order to maintain erosion-resistant cover. In addition timely construction methods and preservation to these areas will reduce the quantity of high organic-containing materials that will have to be imported to the Site for stabilization following the completion of Site work activities. Where and when applicable, vegetated topsoil will be stripped from construction areas in a sequential manner, stockpiled and managed according to the BMP criteria above, until it is transported for disposal.

Where required, topsoil shall be spread sequentially on exposed areas once Site work activities have been completed. The subsurface shall be frost-free and well graded prior to topsoil placement. The surface of the newly placed topsoil shall be stabilized with mulch or rolled erosion control matting to facilitate new vegetation growth while protecting against erosion.

4.2.2 Minimize Soil Compaction

Site work during the Project should include the designation of areas that are to remain undisturbed due to their present or future value for stormwater infiltration. In any areas of the Site where final vegetative stabilization will occur or where infiltration practices will be installed, UI shall either: 1) restrict vehicle and/or equipment use that might adversely alter the infiltration capabilities of the soil due to compaction; or 2) use soil conditioning techniques described below to maintain or restore infiltrative capacity of the soil for the duration of the Project.

4.2.3 Surface Stabilization of Non-Paved Areas

For the purposed of this SWPCP the following types of activities will constitute the initiation of stabilization:

1. Prepping soil for vegetative or non-vegetative stabilization
2. Applying mulch, erosion control blankets or other non-vegetative product to the exposed areas
3. Seeding or planting the exposed area
4. Starting any of the above activities (i.e., prepping soil, applying mulch, or seeding) on a portion of the area to be stabilized, but not on the entire area
5. Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization

Where non-vegetative controls are being used to stabilize exposed portions of the Site or to temporarily protect areas that are being stabilized, UI should provide effective non-vegetative cover materials. Examples of temporary non-vegetative stabilization methods include, but are not limited to: hydromulch and erosion control blankets. For final stabilization, examples of permanent non-vegetative stabilization methods include, but are not limited to: riprap, gabions, and geotextiles.

4.2.4 Seeding

Proper seeding is essential to encourage germination and fast growth. Proper seeding includes, but it not limited to:

- Applying permanent seeding to areas to be vegetated when no further disturbances are planned
- Applying permanent seeding before freezing weather is anticipated or to avoid arid conditions of the late summer
- Using seeds appropriate to the season and Site conditions
- Using a proper indigenous seed blend
- Adjusting pH and nutrient ratio of the soil if necessary

- Anchoring seed with straw mulch or wood chips and tracking using appropriate equipment with any grooves horizontal to slopes
- The use of indigenous or naturally-occurring grasses free of invasive species is recommended to establish a healthy stand of vegetation.

Immediately after seeding or planting the area to be stabilized non-vegetative erosion controls such as mulch, rolled erosion control products, etc. should be placed over the area while vegetation is becoming established to the extent necessary to prevent erosion of the seeded or planted area.

4.3 Sediment Control BMPs

Erosion controls discussed above in Section 4.2 are preventative measures intended to reduce the amount of soil that is transported off Site by wind or precipitation. Sedimentation control is the last line of defense for off-Site transportation of sediment and can be considered a treatment technique. Because sedimentation is the product of erosion, proper sediment control must be used to encourage deposition of soil particles that have been transported by water or wind on Site. Sediment control devices must be designed to impound sediment-laden runoff for a certain retention time necessary to allow soil particles to fall out of suspension. It is important when implementing the BMPs listed below to consider their ability to retain and reduce the velocity of runoff rather than try to filter sediment from the runoff. Structures that are designed or installed to filter sediment will generally have the potential to fail during significant storm events and potentially worsen the transport of sediment off Site.

4.3.1 Drop Inlet Sediment Barriers

Sediment control will be implemented around storm drains located with 50 feet of work zones and in areas downstream from work zones that could potentially receive stormwater runoff from Site work activities. Due to the topography of the Site, the catch basins on Stratford Avenue adjacent to the Site will be the focal point for stormwater quality control. This BMP allows for use of the storm drain system as long as sediment-laden runoff is ponded for a sufficient time to allow sediment to fall out of suspension or be sufficiently filtered to remove suspended solids before entering the storm drain. Typical types of drop inlet sediment barriers include stone and filter fabric barriers or filter tubes barriers. Drop inlet filters specified for this project include a geotextile filter bag (silt sack) insert installed beneath the catch basin grate (as indicated on Figured 6 and 7), as well as surrounding the receiving catch basin with hay bales (Figures 6 and 7). The specified inlet protection device shall be used and properly maintained to protect storm drains that receive runoff from the Site that is potentially affected by Site work activity. Additional inlet protection measures may be used in combination with the specified device, as applicable.

4.3.2 Silt Fence and Hay/Straw Bales

Silt fence may be used within exposed soil areas following pavement removal to aid in runoff control and treatment in certain locations. If used, silt fence will be considered a temporary sediment control structure consisting of semi-permeable filter fabric (sometimes with a wire support net) entrenched into soil and attached to supporting stakes. The fencing shall consist of woven polypropylene with stabilizers or inhibitors or both to make the filaments resistant to deterioration resulting from exposure to sunlight or heat. Hay or straw bales may also be used in conjunction with silt fence to provide additional support and be installed as indicated on Figure 6.

Silt fence shall be installed downgradient of disturbed work areas to treat the potential of excessive flow runoff during Site work. The fence installation shall be designed to cause ponding to occur on the upgradient side of the silt fence during a precipitation event, which will encourage infiltration and provide retention time for sediment to fall from suspension. In addition, silt fencing may be installed off-contour to divert potential run-on flows from discharging into excavations or through disturbed areas and to concentrate flows to runoff control structures. Silt fence and hay/straw bale use should meet the following requirements:

- The silt fence installed will be prefabricated with wooden stakes
- The bottom edge of the fabric shall be buried at least 6 inches, and the anchoring soil shall be well compacted to prevent short-circuiting of runoff underneath the silt fence
- The silt fence will be installed in such a way as to prevent runoff from passing over, under, or around the fence and in such a way that runoff passes through the silt fence
- The maximum slope upgradient of the silt fence shall be 2:1
- Fencing shall be placed on-contour to be most effective in sediment control applications
- Silt fence shall be arranged in a configuration such that the ends are turned uphill, unless otherwise approved
- Silt fence shall be placed at least 2 feet away from the tow of a slope to increase ponding volume
- Ponding height behind the silt fence shall not exceed 18 inches. Hay/straw bales will have minimum approximate dimensions of 36 inches long by 18 inches wide by 24 inches high
- Each bale will be secured to the ground surface with two 2"x2"x3.5" hardwood stakes when used in conjunction with silt fence, or otherwise suitable weighted to make them immobile to water
- Hay/straw bales will be installed such that the edges are in contact with adjacent bales, with any spaces between bales being filed with additional bale material

Silt fence and hay/straw bales will be installed concurrent with or at a practical time during the, clearing and grubbing activities to provide initial sediment control. Silt fence shall be adjusted to accommodate changing Site conditions and should always be positioned between Site work areas and adjacent sensitive areas or stormwater control structures. Silt fence and hay/straw bale barriers can also be used to control runoff from stockpiles on Site, if needed.

4.3.3 Compost Filter Sock

Filter socks can be used as temporary sediment barriers and consist of tubular netting filled with a specified compost and wood fiber mix (or dense rolled straw) and installed as indicated on Figure 6. Tubes can be installed between sitework areas and adjacent to sensitive areas and used for drop inlet protection. Tubes can be installed in place of silt fence where trenching is not possible due to paved surfaces, frozen ground, or irregular surfaces. The following installation criteria are recommended:

- Filter tubes will include an outer reinforcement of photodegradable netting made of woven propylene, nylon, polyester, or ethylene yarn

- The compost filling shall be weed free and derived from a well-decomposed source of organic matter, with the compost having been produced using an aerobic composting process meeting code of federal regulations (CFR) 503, including time and temperature data indicating effective weed seed, pathogen, and insect larvae kill
- The compost or straw shall be free of any refuse, contaminants, or other materials toxic to plant growth
- Install filter tubes to prevent runoff from passing over, under or around the tube and in such a way that runoff passes through the tube for filtration
- Anchor tubes with 1.5” x 1.5 x 36” hardwood stakes, or where used on paved surfaces, using masonry blocks every approximately 8 feet to keep the tube in intimate contact with the ground surface (refer to Figure 6).

4.4 Sediment and Erosion Control BMP Maintenance

Top Soil Preservation

Stabilization of the topsoil after placement on exposed surfaces and repair of existing vegetated areas not designated for disturbance are necessary to prevent off-Site migration of soil particles. Based on certain inspection criteria additional erosion control measures may be necessary to promote proper stabilization. These additional measures will be on a case by case basis.

Soil Compaction

If vehicle or equipment use is observed to adversely compact surface conditions in vegetated areas (or areas to be vegetated), signs, retraining, or barriers should be employed to alter the traffic patterns to preserve soil character. Where areas are observed to have been compacted that were designated for infiltration and/or new vegetation, they should be conditioned by rototilling, tining, or other practices designed to loosen the soil.

Seeding

During construction seeded areas shall be inspected for evidence of erosive forces including splash erosion, rilling, or channeling during the standard weekly inspection. Stabilization methods shall be reestablished to prevent further damage to exposed areas.

Drop Inlet Sediment Barriers

Frequent maintenance of the silt sack devices is required as they have the potential to clog quickly due to their filtering function. Maintenance activities should include inspecting the devices after each rain event and removing sediment and/or replacing geotextile, and also replacing surrounding filter systems (i.e., filter tubes or stone filter socks) to maintain their effectiveness. These devices should be installed only when resulting ponding water will not encroach onto roadways or erodible slopes.

Silt Fence

Silt fence shall be inspected weekly and after every qualifying storm event during construction. Damaged silt fence shall be repaired immediately. Accumulated sediment should be removed from behind the upgradient side when sediment reaches one-third the silt fence height. Silt fencing has a useful life of one year. Replace silt fencing as required to maintain efficiency. Remove silt fence

once slopes have been adequately stabilized and all permanent erosion and runoff control structures have been completed.

Compost Filter Sock

Compost filter socks shall be inspected weekly and after every qualifying storm event during construction. Damaged tubes shall be repaired immediately. Accumulated sediment should be removed from behind the upgradient side when the sediment reaches one-half the tube height. Replace tubes as required to maintain efficiency. Tubes should be removed once slopes/surfaces have been adequately stabilized and all permanent erosion and runoff control structures have been completed. Tubes shall be disposed of off-site unless they can be destroyed and broadcasted over restored areas and existing vegetated areas and the netting disposed of properly.

5. Stormwater Control Measures

5.1 Erosion and Sediment Control

5.1.1 Soil Stabilization and Protection

Stockpiles

Construction of temporary stockpiles may be necessary during the project when soil or aggregate from an off-Site source is delivered or when soil excavated from on-Site areas requires temporary relocation. The designated soil stockpile area is indicated on Figure 3. The soil stockpile area will be established outside of any water flow pathways and physically separated from other stormwater controls implemented. Stockpiling of the soil or aggregate at the Site will be task-specific, but will be maintained to minimize impacts to stormwater by utilizing, at a minimum, hay bales, perimeter silt fence, or compost wattles (filter tubes). Temporary covers (i.e., plastic sheeting, tarps, erosion control matting, or loam/seed/mulch) should also be used to isolate the stockpiles from erosive forces caused by significant precipitation. Stockpile stabilization measures will be initiated within 7 days when stockpile activities have permanently ceased on any portion of the Site, or temporarily ceased on any portion of the Site, and will not resume for a period exceeding 30 calendar days.

If needed, sheeting used to cover stockpiles will be strong enough for the intended function of the cover. At a minimum, polyethylene sheeting of at least 6-mil thickness will be used over stockpiled soil materials. Multiple sheets used to cover a stockpile should overlap and be anchored by a suitable weight sufficient to maintain the security and integrity of the cover for the duration of its use. Stockpiles may be underlain by sheeting, depending on the nature of the materials being placed in the stockpile.

Disturbed Areas

Where existing vegetation is removed and soil is exposed, UI will use procedures intended to minimize erosions susceptibility of the materials. These procedures will include compaction and smooth grading (or rolling) of exposed materials to shed precipitation, and/or grading materials in a manner that lessens the potential adverse effects of runoff and minimizes the creation of sediment-laden overland flow that could enter nearby drainage systems. Exposed soil materials will be stabilized to the best of the contractor's capabilities within 7 calendar days whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any

portion of the Site. Exposed areas that will remain disturbed beyond the seeding season will have long-term non-vegetative stabilization implemented. Inspections will continue as described in Section 6.0, until final stabilization occurs.

Another option of stabilizing these disturbs areas is the placement of stone, gravel, or other less-erodible material on the ground surface on or around excavations and soil placement areas to limit stormwater contact with disturbed soil. Temporary stabilization may also include the use of temporary covers such as tarps to shed water from exposed soil. In general, the installation of permanent ground covers (i.e., asphalt pavement, or loam and seed) over disturbed areas is expected to occur such that time of exposure of disturbed areas to the elements is minimized.

Work is anticipated to be localized and straightforward to control with regard to stormwater quality issues. Sediment and erosion control practices will also be localized and adapted to the Site-specific conditions where erosion or deposition of sediment into a drainage structure could potentially occur.

5.1.2 Structural Measures

UI does not intend to use temporary structural measures to divert flows away from exposed soils; however a hydrodynamic separator and detention basin will be permanently installed as part of the post-construction stormwater control. These units are described further in Section 5.4.

5.1.3 Maintenance

All sediment and erosion controls installed during the project will remain operational and to the best of the contractors capabilities be protected from activities that reduce their effectiveness throughout the duration of coverage under the Permit. UI's consultant will inspect all pollutant-generating activities and sediment and erosion controls weekly to document conditions observed and respond appropriately to findings. If sediment and erosion controls need to be replaced, repaired or maintained, UI will:

1. For any repairs to sediment and erosion controls UI's contractor will initiate work to fix the issue as soon as possible after discovering the problem,
2. Where these actions result in changes (corrective actions) to any of the pollutant prevention controls or procedures documented is the SWPCP, UI will modify the SWPCP accordingly within 7 calendar days of completing this work.

5.2 Dewatering Wastewaters

Significant excavation and trenching into the water table is not expected to occur for the Project and therefore, significant dewatering activities are not anticipated. However, if dewatering becomes necessary, the dewatering wastewaters will be discharged in a manner as not to cause scouring or erosion, or contains suspended solids in amounts that could be reasonably expected to cause pollution to surface waters. Dewatering wastewaters will not be discharged without a valid permit.

5.3 Post-Construction Stormwater Management

The Permit requires the design of the Site redevelopment to incorporate control measures that are technologically available, economically practicable and achievable in light of best industry practice to retain Water Quality Volume (WQV) of stormwater, as calculated. If this volume is not able to be

retained on Site, the design shall retain the largest volume possible using available control measures.

The WQV is a factor of the size of the Site, percent imperviousness and the standard of a 1-inch rainfall amount. The current Site is developed with a 14 percent effective impervious cover, with a minimal increase of 4 percent post-development.

UI considered several runoff and Low Impact Design (LID) control measures such as rain gardens, retention basins, and bioretention basins; however, due to Site constraints was limited to the installation of a vegetated swale and the use of pervious crushed rock in the final design. See Section 5.4.1 for further information. UI's property is surrounded by mostly developed commercial property to the east and west, Stratford Avenue to the south and a railroad on the northern boundary. The footprint of the existing substation and the new proposed addition comprise the vast majority of the available land. Additionally, the post-development runoff characteristics will not differ significantly from the pre-development conditions.

To retain the maximum volume of stormwater, UI is finishing the expanded portion of the substation with a pervious cover of crushed rock. UI is also removing a portion of the existing paved parking lot asphalt cover on the eastern portion of the Site and developing the area as a vegetated swale. The swale will discharge stormwater to natural grade on the southeast portion of the Site, with an overflow connection to the storm sewer system on Stratford Avenue. A series of strategically placed catchbasins in the central and southern portion of the Site will capture runoff from the paved asphalt driveway to be installed and the surrounding substation area, and will direct runoff to a sediment removal unit and detention basin before ultimately discharging to the storm sewer system on Stratford Avenue. These units are further described in Section 5.4. Runoff from the portions of the Site on the north side of the railroad line is towards the pervious crushed rock that currently exists beneath the railroad bed.

5.4 Post-Construction Control Measures

5.4.1 Runoff Reduction and Low Impact Development (LID) Practices

To promote groundwater recharge and minimize post-construction impacts to stormwater, UI will incorporate LID in the post-construction design of the Site. A vegetated swale will be constructed on the eastern boundary of the Site which will capture runoff from the existing paved parking area east of the Site. The vegetated swale will collect stormwater from the eastern portion of the Site with an overflow connection to the storm sewer system on Stratford Avenue.

To further promote infiltration, UI will also finish the majority of the substation footprint with a pervious cover of crushed rock (refer to Figure 5). Additionally, the portion of the Site north of the railroad tracks is also currently finished with a pervious cover of crushed rock.

5.4.2 Suspended Solids and Floatables Removal

Suspended solids and floatables (i.e., oil and grease, other floatable liquids, floatable trash, etc.) are not expected to be present in the runoff from the paved driveway. Trash and oil staining on the paved drive will be removed during routine inspections and by practicing good housekeeping after construction is complete.

UI will incorporate sediment removal measures capable of removing of 80 percent of the annual sediment load from the stormwater discharge. The final treatment unit will be chosen based on engineering design, accessibility, and financial considerations. Specifications will be included with this SWPCP when construction begins in Appendix A. Additionally; post-construction design includes all disturbed areas to be seeded, and covered with gravel or asphalt which will reduce suspended solids in the stormwater discharge.

5.4.3 Velocity Dissipation

Velocity dissipation devices are not expected to be necessary in the post-construction design at the discharge location of the tie-in with the existing State of Connecticut stormwater system. The drive is paved with curbing which directs flow to catchbasins, therefore there will be no natural physical or biological characteristics to maintain and/or protect from velocity flow waters.

5.5 Other Controls

5.5.1 Waste Disposal

Litter, debris, building materials or other domestic and construction waste will be placed in appropriate containers that prevent release and properly disposed of off Site or segregated and properly reused. A sediment removal unit will be installed as part of the post-construction design which will capture trash and debris in the stormwater discharge. Portable toilets containing sanitary wastes will be secured to prevent them from being tipped over. Routine inspections and good housekeeping measures will minimize the potential of a release of waste to surface water.

5.5.2 Washout Areas

UI will construct a washout area on the existing paved parking lot in the eastern portion of the Site for the washout of applicators, containers and equipment. All washwaters will be contained such that no overflow will occur during a rainfall event. During construction the washout station will be inspected at least once per week to ensure structural integrity, adequate holding capacity and to check for leaks or overflows. If a deficiency is noted, the washout station will be repaired prior to further use. Hardened concrete waste will be removed whenever hardened concrete has accumulated to a height of ½ of the container or as necessary to avoid overflows.

UI's consultant will inspect the washout area at least once per week and deficiencies and maintenance noted on the inspection form.

5.5.3 Off-Site Vehicle Tracking

UI will minimize the off-Site vehicle tracking of sediments during construction by installing a vehicle track pad at each entrance and exit of the Site.

In addition to the installation of a vehicle track pad, UI will use wet dust control measures such as the spraying water or a dust suppressant to control the offsite migration of any sediment. The volume of water or dust suppressant sprayed for controlling dust will be used in quantities as not to cause runoff. UI will also, to the extent practicable, to minimize the surface area of the exposed/disturbed areas and also the length of time of exposure to limit dust generation potential. The application of spray water or dust suppressant will be determined by both day to day observations and weekly inspections.

6. Inspections

Initial Inspection

Within the first 30 days of commencement of construction activity at the Site, a qualified soil erosion and sediment control professional (QSESCP) or a qualified professional engineer (QPE) will inspect the Site at least once but no more than three times during the first 90 days to confirm compliance with the Permit and proper implementation of sediment and erosion control measures. The QSESCP or QPE cannot be an employee of UI as defined by the International Revenue Service (IRS) in IRS Code of 1986 and have no ownership interest in the project. Documentation of the qualifications of the QSESCP or QPE shall be kept in Appendix B. Results of inspections shall be kept in Appendix C.

Routine Inspections

UI's consultant will properly install and maintain a rain gauge on-Site to document rainfall amounts. Once per week and within 24 hours of the end of a storm that generates a discharge, UI will inspect the following areas (at a minimum) for evidence of pollutants entering the drainage system:

1. Disturbed areas of the construction activity that have not been finally stabilized
2. All structural control measures at the Site
3. Soil stockpile areas
4. Washout areas and locations where vehicles enter or exit the Site
5. Erosion and sediment controls at the Site
6. Areas of stabilization

Locations where vehicles enter or exit the Site will also be inspected for evidence of off-Site sediment tracking. For storms that end of a holiday, weekend or other time after which normal working hours will not commence with 24 hours, an inspection will be performed within 24 hours only for storms that exceed 0.5 inches. For storms less than 0.5 inches, UI will inspect the Site immediately upon the start of the subsequent normal working hours.

When the Site has been temporarily or permanently stabilized, inspections will be conducted at least once every month for three months until the site is permanently stabilized. UI's consultant will continue inspecting the Site until a Notice of Termination is submitted to the CT DEEP. The inspection form is included as Appendix C.

7. Monitoring

UI's consultant will sample the stormwater discharge runoff from the Site on a monthly basis for turbidity, until final stabilization of the drainage area associated with the Site is achieved. Sampling should occur during normal working hours and if it is discontinued due to the end of normal working hours, UI's consultant will resume sampling the following morning (or following work day) as long as discharge continues. Sampling should be discontinued in hazardous weather conditions. If no discharge occurs during the month, sampling is not required.

A sample will be collected from a storm event that occurs at least 24 hours after the previous storm event generating a stormwater discharge. Samples will be grab samples taken at least three times during the storm event. The first sample will be taken within the first hour of stormwater discharge from the Site. If discharge begins outside of normal working hours, the first sample will be taken at the start of normal working hours.

Prior to the construction and utilization of the two stormwater outfall structures on the Site, the sample location will be the discharge of runoff from the Site on the western boundary on the slope to the existing substation property, as identified in Figure 1. When the stormwater structures are installed and connected to the storm sewer system on Stratford Avenue, the two outfalls will also be sampled in a location to be determined to be safe and representative of the discharge at that time. Samples will be analyzed for turbidity by 40 CFR Part 136.

Reporting

The turbidity value for the sampling point will be reported on a Stormwater Monitoring Report (SMR) within 30 days following the end of the each month. To turbidity value is determined by averaging the results of all the grab samples collected (minimum of three). If there was no discharge during the month or sampling was suspended or limited due to hazardous conditions, it will be indicated on the SMR.

The SMR can be submitted to CT DEEP electronically via NetDMR or mailed directly to:

Bureau of Materials Management and Compliance Assurance

Water Permitting and Enforcement Division (Attn: DMR Processing)

Connecticut Department of Energy and Environmental Protection

79 Elm Street

Hartford, CT 06106-5127

Note: to submit paper SMRs, an Opt-Out Request must be submitted to CT DEEP. Information on registering for NetDMR or submitting Opt-Out Requests is found in the Permit. A copy of a blank SMR is located in **Appendix D** or at www.ct.gov/deep/stormwater.

8. Plan Amendments

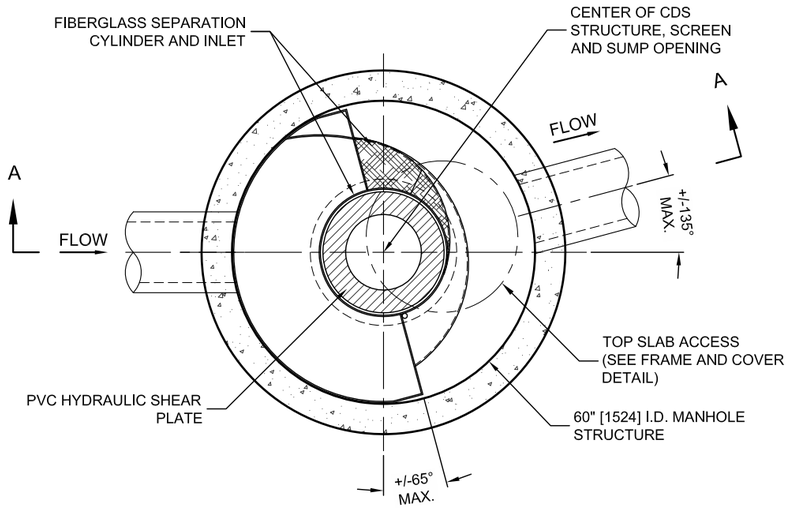
UI and its consultant will amend the SWPCP if there is a change in contractors or subcontractors at the Site, or a change in design, construction, operation or maintenance at the Site which has the potential for the discharge of pollutants as a result of stormwater runoff. UI and its consultant will also amend the SWPCP if control measures utilized at the Site fail to prevent stormwater runoff pollution.

The CT DEEP may notify UI at any time that the SWPCP and/or Site does not meet the requirements of the permit, and UI will be required to modify the plan within 7 days to address the concerns of CT DEEP. Within 15 days, UI will submit a written certification that the requested changes have been made to the SWPCP and implemented at the Site.

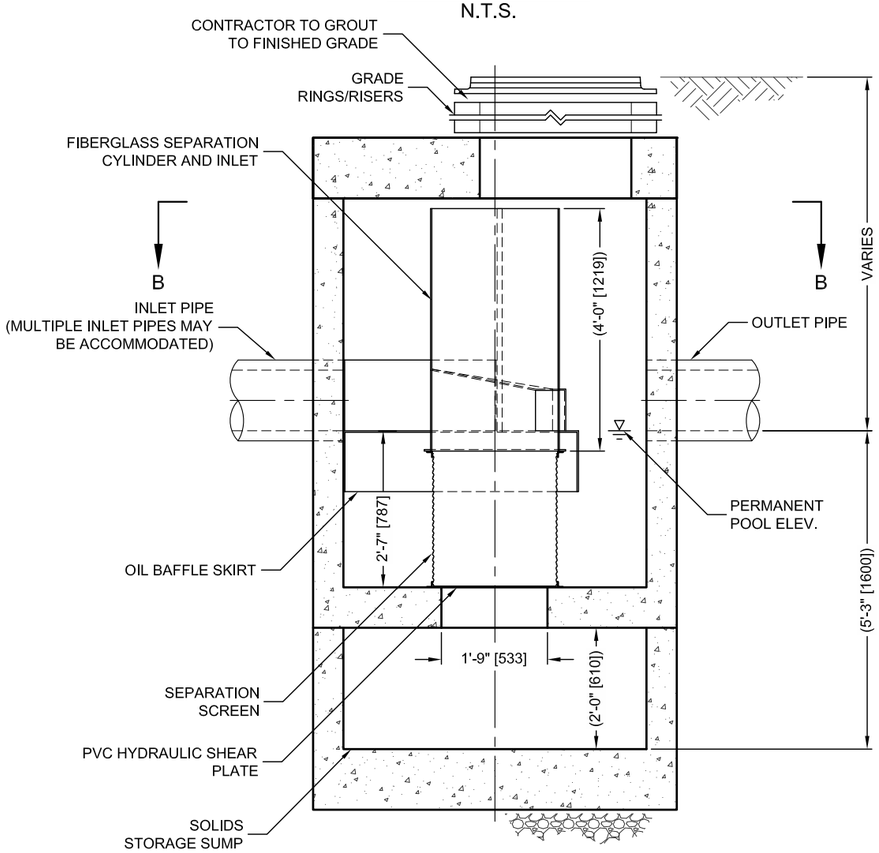
Figures

Appendices

Appendix A
Sediment Removal Specifications



PLAN VIEW B-B
N.T.S.



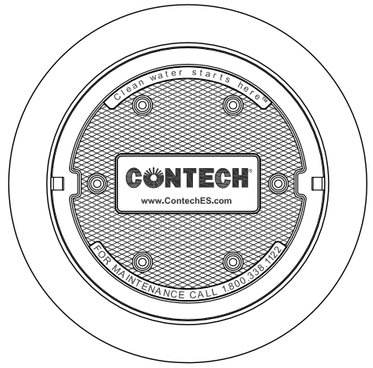
ELEVATION A-A
N.T.S.

CDS2020-5-C DESIGN NOTES

CDS2020-5-C RATED TREATMENT CAPACITY IS 1.1 CFS [31.2 L/s], OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 14.0 CFS [396 L/s]. IF THE SITE CONDITIONS EXCEED 14.0 CFS [396 L/s], AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS2020-5-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (CFS OR L/s)	*
PEAK FLOW RATE (CFS OR L/s)	*
RETURN PERIOD OF PEAK FLOW (YRS)	*
SCREEN APERTURE (2400 OR 4700)	*

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*

RIM ELEVATION	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH® ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CDS2020-5-C
INLINE CDS
STANDARD DETAIL

Appendix B
QPE CV

Jeffrey Lambert

Qualified (Education): Master of Business Administration (MBA), Bachelor of Science in Engineering (BSE)

Connected (professional affiliations): Professional Engineer (Civil): Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, Michigan; Licensed Environmental Professional: Connecticut; Licensed Site Professional: Massachusetts

Professional Summary: Jeff possesses skills that give clients confidence that their environmental risks are being carefully managed. Jeff possesses effective communication skills, good organization, and understanding client needs. His work history spans 17 years in the environmental consulting industry and experience areas encompass regulatory compliance, environmental investigation, and remedy design. More recently, Jeff has utilized academic background to conduct forensic engineering related to insurance claims associated with flooding.

Environmental Site Assessment, Investigation, and Remediation

Licensed Environmental Professional
Owens-Illinois | Waterbury, Connecticut

Jeff is the licensed environmental professional of record for an establishment subject to the Connecticut Transfer Act. Major activities included Phase I, Phase II, Phase III, coordinating with the Connecticut Department of Energy and Environmental Protection (CTDEEP), and evaluating remedial alternatives to comply with the Remediation Standard Regulations (RSRs). Currently requesting a variance from the CTDEEP which would save the client approximately $500,000 in remediation costs.

Licensed Site Professional
Progressive Insurance | Westwood, MA

Jeff was the licensed site professional of record for an Disposal Site subject to the Massachusetts Contingency Plan (MCP). Major activities included Release Abatement Measures consisting of excavation and in-situ chemical injection to remedy residual petroleum impacts. Jeff coordinated with client schedules and utilized flexibility within the MCP to meet aggressive construction schedules.

Licensed Environmental Professional
Bristol Farms Shopping Plaza | Allstate | Bristol, CT

Jeff is the licensed environmental professional of record for an establishment subject to the Connecticut Transfer Act. Major activities included Phase I, Phase II, Phase III, and soil vapor extraction remedy. Currently Jeff is evaluating quarterly groundwater monitoring data to determine technical impracticability of further remediation within the overburden and bedrock aquifers. Jeff also provided testimony as a fact witness in the action styled Allstate Life Insurance Co v. BFA Limited Partnership f/k/a State St. Cornerstone Assoc. et al.

Licensed Site Professional
Coca Cola | Needham, MA

Jeff is the licensed site professional of record for an Disposal Site subject to the MCP. A chlorinated solvent plume is located within the overburden and bedrock aquifers with significant portions of the plume extending beyond the property, including beneath a daycare. Vapor intrusion investigations are ongoing to determine if this pathway is complete.

Project Manager
Retail Petroleum | Conoco Phillips | Connecticut, Massachusetts, New Hampshire, New York, and New Jersey

Jeff was the project manager responsible for over 50 retail petroleum stations in the northeast. Jeff was able to effectively organize the investigations, remedies, and reporting aspects associated with the portfolio and close approximately 25 percent the sites within a 3-year period.

Project Manager
Arkema | Kensington, CT

Jeff is the project manager responsible for an establishment that will be subject to the Connecticut Transfer Act upon a qualifying sale. Major activities included Phase I, Phase II, Phase III, and remediation, and assisting Arkema in negotiating contractual alternatives in order to handle specific Transfer Act nuances.

Project Manager
Former Manufactured Gas Plant | Southern Connecticut Gas | Bridgeport, CT

Jeff is the project manager responsible for the operation and maintenance of an approximate 50-gallon per minute groundwater and light non-aqueous phase liquid (LNAPL) extraction system. Jeff recently conducted an asset assessment to determine a replacement schedule for aging equipment. In addition, Jeff was successful in obtaining an engineered control variance from the

Jeffrey Lambert

CTDEEP to manage soils, saving the client approximately $2 million.

Project Manager

Queen city Pontiac | Argonaut Holdings, LLC | Green Brook, NJ

Prior to the Licensed Site Remediation Professional (LSRP) program in New Jersey, Jeff was the subsurface evaluator responsible for the investigation and remediation of leaking underground storage tanks at a car dealership. Jeff effectively managed the investigation of the groundwater plume in the overburden and bedrock aquifers, culminating in a Classification Exception Area (CEA). Current activities include field activities associated with in-situ chemical oxidation to address residual petroleum impacts to the groundwater.

Project Manager

TurfCare | Hatfield, MA

Jeff was responsible for maintaining environmental compliance including conducting an audit, arc flash hazard analysis, stormwater dye testing, and air permit modifications.

Project Manager

Due Diligence | Shell | Maryland

Jeff assisted Shell in determining environmental liabilities at over 60 locations in Maryland prior to divestiture. Schedule was very aggressive, but Jeff was able to effectively plan and coordinate activities to meet client's demands with no loss time injuries.

Engineer of Record

Engineer of Record

Flood Damage Assessments | Multiple Insurance clients | New England

Jeff was the engineer of record for over 150 flood damage assessments conducted following Hurricane Irene and Hurricane Sandy. Assessments were primarily residential structures, but also included multi-story commercial properties.

Engineer of Record

Booster Station Replacement | Rhode Island Resource Recovery | Johnston, RI

Jeff was the engineer of record for a booster station replacement and associated water line improvements. The work is being conducted to allow future expansion of the landfill. Jeff worked closely with the client, regulatory agencies, and design engineers to produce a deliverable that was ultimately approved for construction.

Engineer of Record

Thurston Pond Dam and Long Meadow Pond Dam | Chemtura | Naugatuck, CT

Jeff was the engineer of record for dam safety inspections pursuant to the Connecticut regulations. The findings and recommendations were submitted to the CTDEEP.

Engineer of Record

Former Settling Lagoon and Beaverdam Brook | RACER Trust | Framingham, MA

Jeff was the engineer of record for a remedial design that included the excavation and off-site disposal of lead impacted sediments. Jeff also presented at various Conservation Commission hearings in support of the Order of Conditions associated with the project.

Work history

1998 – present	Associate, GHD (formerly Conestoga-Rovers & Associates), Plainville, CT Named Associate, 2007

Other related areas of interest

Recognized (Certifications/Trainings)

- OSHA 40-hour HAZWOPER training, 1997
- OSHA 8-hour HAZWOPER refreshers, annually, as required
- OSHA 8-hour Hazardous Waste Supervisor, 2006

Appendix C
Inspections

ROUTINE INSPECTION FORM

UNITED ILLUMINATING COMPANY
BAIRD SUBSTATION EXPANSION
STRATFORD, CT

Inspector Name: _____ **Date**: _____

Inspection Type (Check): __ Weekly __ Storm Event **Measured Rainfall _____ (inches)**

Weather Conditions: _____
_____

Certification

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with section 22a-6 of the Connecticut General Statutes, pursuant to section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

_____
Signature

Area Inspected	Condition	In Compliance with Permit? (Y/N)	Description of Corrective Action or Maintenance Needed	Date Corrective Action Completed and Initials
Disturbed Areas				
Stabilization Measures • Effective? • Good condition?				
Soil Stockpiles • Evidence of soil migration?				
Washout Areas				
Entrance/Exit • Evidence of sediment tracking?				
Catchbasins on Stratford Ave. • Inserts working properly? • Trash around grates?				

Appendix D
SMR

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

General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, issued 8/21/13, effective 10/1/13
Stormwater Monitoring Report

SITE INFORMATION

Permittee: _____

Mailing Address: _____

Business Phone: _____ ext.: _____ Fax: _____

Contact Person: _____ Title: _____

Site Name: _____

Site Address: _____

Receiving Water (name, basin): _____

Stormwater Permit No. GSN _____

SAMPLING INFORMATION (Submit a separate form for each outfall)

Outfall Designation: _____ Date/Time Collected: _____

Outfall Location(s) (lat/lon or map link): _____

Person Collecting Sample: _____

Storm Magnitude (inches): _____ Storm Duration (hours): _____

Size of Disturbed Area at any time: _____

MONITORING RESULTS

Sample #	Parameter	Method	Results (units)	Laboratory (if applicable)
1	Turbidity			
2	Turbidity			
3	Turbidity			
4	Turbidity			

(provide an attachment if more than 4 samples were taken for this outfall) Avg =

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: _____

Signature: _____ Date: _____

Please send completed form to:

DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
BUREAU OF MATERIALS MANAGEMENT AND COMPLIANCE ASSURANCE
79 ELM STREET
HARTFORD, CT 06106-5127
ATTN: NEAL WILLIAMS

www.ghd.com

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

Bureau of Materials Management and Compliance Assurance

Notice of Permit Authorization

April 20, 2016

RICHARD REED
THE UNITED ILLUMINATING COMPANY
180 Marsh Hill Rd
Orange, CT 06477

Subject: General Permit Registration for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities
Application No.: 201602275

RICHARD REED:

The Department of Energy and Environmental Protection, Water Permitting and Enforcement Division of the Bureau of Materials Management and Compliance Assurance, has completed the review of the 1746 Stratford Avenue (located at 1746 Stratford Ave in Stratford) registration for the **General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective 10/1/13 (general permit)**. The project is compliant with the requirements of the general permit and the discharge(s) associated with this project is (are) authorized to commence as of the date of this letter. Permit No. GSN003011 has been assigned to authorize the stormwater discharge(s) from this project.

Questions can be emailed to deep.stormwater@ct.gov.

APPENDIX C

D&M PLAN CHECKLIST FOR BAIRD SUBSTATION
(Regulations of Connecticut State Agencies Sections 16-50j-60, -61 and -62)

R.C.S.A SECTION	DESCRIPTION	LOCATION ADDRESSED IN D&M PLAN (SECTION NO.)
16-50j-60	**Requirements for a D&M Plan**	
(a)	**Purpose.** The Council may require the preparation of full or partial D&M Plans for proposed energy facilities, modifications to existing energy facilities, or where the preparation of such a plan would help significantly in balancing the need for adequate and reliable utility services at the lowest reasonable cost to consumers with the need to protect the environment and the ecology of the state.	**Section 1**
(b)	**When required.** A partial or full D&M plan shall be prepared in accordance with this regulation and shall include the information described in Sections 16-50j-61 to 16-50j-62, inclusive, of the Regulations of Connecticut State Agencies, for any proposed energy facility for which the Council issues a certificate of environmental compatibility and public need, except where the Council provides otherwise at the time it issues the certificate. Relevant information in the Council's record may be referenced.	**Section 1**
(c)	**Procedure for preparation**. The D&M plan shall be prepared by the certificate holder or the owner or operator of the proposed facility or modification to an existing facility. The preparer may consult with the staff of the Council to prepare the D&M plan.	**Section 1**
(d)	**Timing of plan.** The D&M plan shall be submitted to the Council in one or more sections, and the Council shall approve, modify, or disapprove each section of the plan not later than 60 days after receipt of it. If the Council does not act to approve, modify or disapprove the plan or a section thereof within 60 days after receipt of it, the plan shall be deemed approved. Except as otherwise authorized by the Council, no clearing or construction shall begin prior to approval of applicable sections of the D&M plan by the Council.	**Section 1**
16-50j-61	**Elements of D&M Plan**	
(a)	**Key map.** The D&M plan shall include a key map for the entire line that is a reproduction at a scale of 1" in = 2,000 ft of the most recent USGS topographic maps for its route	**Section 3; Appendix A**
(a)	**Plan Drawings**, 1"=100' or larger, and supporting documents, which shall contain the following information:	**Section 3; Appendix A**

R.C.S.A SECTION	DESCRIPTION	LOCATION ADDRESSED IN D&M PLAN (SECTION NO.)
1.	Edges of the proposed site and any existing site contiguous to or crossing the site, portions of the site owned by the company in fee, and the identity of property owners of record of the portions of the site not owned by the company in fee	**Section 3**
2.	Public roads and public land crossings or adjoining the site	**Section 3**
3.	Location of 50' contours along the site	**Section 3; Appendix A**
4.	Probable location, type, and height of the proposed facility and components (including each new transmission structure, position of guys, description of foundations, and locations of any utility or other structures to remain on the site or to be removed	**Sections 2 and 3; Appendix A**
5.	Probable points of access to the site, and the route and likely nature of accessways, including alternatives	**Sections 2, 3 and 4; Appendix A**
6.	Edges of existing and proposed clearing areas, the type of proposed clearing along each part of the site, and the location and species identification of vegetation that would remain for aesthetic and wildlife value	**Section 3; Appendix A**
7.	Identification of sensitive areas and conditions within and adjoining the site, including but not limited to:	**Section 3; Appendix C**
	A. Wetland and watercourse areas regulated under C.G.S. Chapter 440 and any locations where construction may create drainage problems	**Section 3**
	B. Areas of high erosion potential	**N/A (refer to Section 3)**
	C. Critical habitats or areas identified as having rare, endangered, or threatened, or special concern plant or animal species listed by the state or federal government	**N/A (refer to Section 3); Appendix J**
	D. Location of known underground utilities or resources to be crossed (electric lines, fuel lines, drainage systems and natural or artificial public or private water resources)	**Section 3**
	E. Significant environmental, historic and ecological features (significantly large or old trees, buildings, monuments, stone walls or features of local interest)	**N.A (refer to Section 3)**
(c)	**Supplemental Information**	
1.	Plans (if any) to salvage marketable timber, restore habitat and maintain snag trees within or adjoining the site	**N/A**
2.	All construction and rehabilitation procedures with reasonable mitigation that shall be taken to protect areas and conditions identified in 7(b), above, including but not limited to: A. Construction techniques at wetland and watercourse crossings	**Section 3** **N/A**

R.C.S.A SECTION	DESCRIPTION	LOCATION ADDRESSED IN D&M PLAN (SECTION NO.)
	B. S & E control and rehabilitation procedures, consistent with the CT Guidelines for Soil Erosion and Sediment Control, as updated and amended for areas of high erosion potential	**Appendix B**
	C. Precautions and all reasonable mitigation measures to be taken in areas within or adjoining the site to minimize any adverse impacts of such actions or modifications on E, T, or special concern plant or animal species listed by federal or state agencies and critical habitats that are in compliance with federal and state recommended standards and guidelines, as amended	**Appendix A & B**
	D. Plans for modification and rehabilitation of surface, drainage, and other hydrologic features	**Appendix A**
	E. Plans for watercourse bank restoration in accordance with Chapter 440 of the C.G.S.	**N/A**
	F. Plans for the protection of historic and archaeological resources with review and comment from a state historic preservation officer of the CT DECD or its successor agency	**N/A**
3.	Plans for the method and type of vegetation clearing and maintenance to be used within or adjacent to the site	**Section 3**
4.	Location of public recreation areas or activities known to exist or being proposed in or adjacent to the site, together with copies of agreements between the company and public agencies authorizing the public recreation use of the site to the extent of the company's rights thereto	**N/A**
5.	Plans for ultimate disposal of excess excavated material, stump removal, and periodic maintenance of the site	**Section 3**
6.	Locations of areas where blasting is anticipated	**N/A**
7.	Rehabilitation plans, including but not limited to reseeding and topsoil restoration	**Section 3**
8.	Contact information for the personnel of the contractor assigned to the project	**Section 3**
9.	Such site-specific information as the CSC may require	**Section 3**
(d)	**Notice** A copy, or notice of the filing, of the D&M Plan, or a copy, or notice of the filing of any changes to the D&M Plan, or any section thereof, shall be provided to the service list and the property owner of record, if applicable, at the same time the plan, or any section thereof, is submitted to the CSC	**N/A**
(e)	**Changes to the Plan** The CSC may order changes to the D&M plan, including but not limited to vegetative screening, paint color, or fence design at any time during the preparation of the plan	**N/A**

R.C.S.A SECTION	DESCRIPTION	LOCATION ADDRESSED IN D&M PLAN (SECTION NO.)
16-50j-62	**Supplemental Reporting Requirements**	
(a)	**Site Testing and Staging Areas** The certificate holder, or facility owner or operator, shall provide the CSC with written notice of the location and size of all areas to be accessed or used for site testing or staging areas. If such an area is to be used prior to approval of the D&M plan, the CSC may approve such use on terms as it deems appropriate.	**Section 3**
(b)	**Notice**	**Section 5**
1.	The certificate holder, or facility owner or operator, shall provide the CSC, in writing with a minimum of two weeks advance notice of the beginning of:	
	A. Clearing and access work in each successive portion of the site, and	
	B. Facility construction in that same portion	
2.	The certificate holder, or facility owner or operator, shall provide the CSC with advance written notice whenever a significant change of the approved D&M plan is necessary. If advance written notice is impractical, verbal notice shall be provided to the CSC immediately and shall be followed by written notice not later than 48 hours after the verbal notice. Significant changes to the approved D&M plan shall include, but not be limited to, the following:	
	A. The location of wetland or watercourse crossing	
	B. The location of an accessway or structure in a regulated wetland or watercourse area	
	C. The construction or placement of any temporary structures or equipment	
	D. A change in structure type or location including, but not limited to, towers, guy wires, associated equipment or other facility structures	
	E. Utilization of additional mitigation measure, or elimination of mitigation measures. The CSC or its designee shall promptly review the changes and shall approve, modify, or disapprove the changes in accordance with subsection (d) of Section 16-50j-60 of the RCSA	
	F. Residences or businesses within or adjoining the site that may be disrupted during construction	
3.	The certificate holder, or facility owner or operator, shall provide the CSC with a monthly construction progress report or a	

R.C.S.A SECTION	DESCRIPTION	LOCATION ADDRESSED IN D&M PLAN (SECTION NO.)
	construction progress report at intervals determined by the CSC or its designee, indicating changes and deviations from the approved D&M Plan. The CSC may approve changes and deviations, request corrections, or require mitigation measures.	
4.	The certificate holder, or facility owner or operator, shall provide the CSC with written notice of completion of construction and site rehabilitation.	
(c)	**Final Report** The certificate holder, or facility owner or operator, shall provide the CSC with a final report for the facility not later than 180 days after completion of all site construction and site rehabilitation. The report shall identify:	
1.	All agreements with abutters or other property owners regarding special maintenance precautions	
2.	Significant changes of the D&M plan that were required because of property rights of underlying and adjoining owners for other reasons	
3.	The location of construction materials which have been left in place including, but not limited to, culverts, erosion control structures along watercourses and steep slopes, and corduroy roads in regulated wetlands	
4.	The location of areas where special planting and reseeding have been done	
5.	The actual construction cost of the facility, including but not limited to the following costs:	
	A. Clearing and access	
	B. Construction of the facility and associated equipment	
	C. Rehabilitation; and	
	D. Property acquisition for the site or access to the site	
(d)	**Protective Order** The certificate holder, or facility owner or operator, may file a motion for protective order pertaining to commercial or financial information related to the site or access to the site.	**N/A**

APPENDIX D

CT DEEP BEST MANAGEMENT PRACTICES FOR DISPOSAL OF SNOW ACCUMULATIONS FROM ROADWAYS AND PARKING LOTS

Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots

Purpose: These guidelines have been developed to clarify DEEP recommendations to state and municipal officials, and others regarding the removal and disposal of snow accumulations from roadways and parking lots. For purposes of this guidance snow accumulations refers to snow banks and snowpiles that are removed by front-end loader or by loading on trucks for disposal. This guidance does not apply to normal snow plowing operations that must, inevitably, discharge some snow into wetlands and watercourses.

Implementation: While following these guidelines does not constitute a permit or authorization, the Department recognizes there is a considerable need for flexibility in implementation of this policy, particularly in emergency situations. There is no intent to interfere with snow plowing operations. Where trucking and snow dumping operations are undertaken the Department recommends these guidelines be followed.

Problem: Current road maintenance activities include removal of snow accumulations from bridges, roads and parking areas for the purpose of providing more space for subsequent snow storms and for ease of travel and parking. Sometimes this snow is moved by truck or with a front-end loader and deposited directly into surface waters of the state including streams, wetlands and Long Island Sound. This practice is not recommended due to the presence of dirt, salt, litter and other debris, which are routinely mixed in the accumulated snow.

Under normal conditions of snowmelt, the majority of these contaminants remains on or next to the paved surface or may be captured in stormwater catch basins. These contaminants can then be swept from streets and bridges or vacuumed from catch basin sumps. However, when accumulated snow is collected and dumped into surface waters, this mixture of snow, sand and debris may smother aquatic life in the bottom of streams and rivers and degrade the aesthetics of the surface water with silt plumes and litter. Large quantities of snow (and the sand and debris) may also cause blockage of storm drainage systems, resulting in increased chance for localized flooding.

Recommended Management Practice: Snow accumulations removed from roadways, bridges, and parking lots should be placed in upland areas only, where sand and other debris will remain after snowmelt for later removal. Care must be exercised not to deposit snow in the following areas:

- freshwater or tidal wetlands or in areas immediately adjacent to such areas where sand and debris may be flushed during rainstorms;
- on top of storm drain catch basins;
- in storm drainage swales;
- on stream or river banks which slope toward the water, where sand and debris can get into the watercourse; and
- in areas immediately adjacent (within at least 100 feet) of private or public drinking water well supplies (due to the possible presence of road salt).

For Governmental Entities: In normal winter conditions, governmental entities should follow the recommended management practices outlined above. In extraordinary winter conditions, the commissioner may, upon public notification, offer governmental entities the flexibility of limited in-water disposal. When such flexibility is offered, governmental entities who have determined that extraordinary circumstances exist where all upland, land-based disposal options have been fully exhausted (i.e., disposal capacity is not available) and snow needs to be removed to meet public safety demands (i.e., clear access ways for police, emergency medical and fire responders), may use certain waterways for snow disposal in accordance with the following conditions:

- Upland storage and disposal of snow (i.e., athletic fields, parks and other flat, open-field sites) and other snow management methods (i.e., snow melting equipment) must be the first alternatives explored and exhausted. Environmentally sensitive areas must be avoided;
- This guidance applies only to snow and ice which is not visibly contaminated with material other than salt and sand from road clearing activities;
- For coastal communities, preference should be given to snow disposal in salt water where available;
- Disposal in rivers or streams must be limited to those water bodies that have adequate flow and mixing and are not prone to ice jams;
- The disposal must occur only in open water in areas that will not interfere with navigation;
- Disposal must be conducted in a manner so as to prevent ice dam formation or damage to bridges, docks or other structures;
- Disposal in ponds and lakes is discouraged;
- There shall be no disposal in coastal or freshwater wetlands, eelgrass beds, vegetated shallows, vernal pools, shellfish beds mudflats, public water supply reservoirs and their tributaries, or others areas designated as being environmentally sensitive;
- The activity must comply with local laws and requirements;
- Precautions must be taken to avoid shoreline or stream bank damage or erosion from truck/equipment activity; and
- Governmental entities must notify the Department by email (address email to kevin.sowa@ct.gov) prior to disposing of snow and ice in waterways or, if advance notification is not possible, then the Department must be contacted as soon as possible after snow disposal has begun.

Notification: Notification can be made by addressing an email to Kevin Sowa at: kevin.sowa@ct.gov. The notification must include the following: (1) the name of the governmental entity making the notification; (2) contact information for the governmental entity including name, email address and phone number; (3) the street address where the snow disposal activity will occur; (4) the name of the waterbody where the snow will be disposed; (5) the estimated quantity of snow to be disposed; (6) the dates during which the disposal activity will occur; and (7) a statement that the governmental entity has exhausted all disposal alternatives and snow management methods and will make best efforts to adhere to these snow disposal guidelines.

Information: For further information please call the Water Permitting and Enforcement Division Engineer of the Day at 860-424-3025.

DEP-PED-GUID-002 Revised 02/04/11

APPENDIX E

PROJECT TEAM CONTACT INFORMATION

APPENDIX E.PROJECT TEAM CONTACT INFORMATION

Name	Role	Organization	Office Phone	Cell Phone	Email
Martin Malin	Project Manager	UI	203-926-4861	203-521-0657	Martin.Malin@uinet.com
Jim Rasile	Construction Manager Transmission	UI	203-499-3895	203-627-5526	James.Rasile@uinet.com
Benito Acampora	Construction Manager Substation	UI	203-499-3432	203-535-7432	Benito.acampora@uinet.com
Shawn Crosbie	Environmental Analyst	UI	203-926-4595	860-904-8551	Shawn.Crosbie@uinet.com
Jeremy Shroyer	Project Manager	B&V	913-458-2011	816-305-5982	ShroyerJB@bv.com
TBD	Construction Manager	B&V			

APPENDIX F

SECTION 404 ACOE CATEGORY I PERMIT

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO ATTENTION OF

June 21, 2016

Regulatory Division
CENAE-R

Mr. Rich Reed
United Illuminating Co.
180 Marsh Hill Road
Orange, CT 06477

Dear Mr. Reed:

Project Name & Location of Work: **new Baird Substation/1771 Stratford Avenue, Stratford, CT**

We received your Connecticut General Permit (CT GP) Appendix 1A form indicating that you plan to conduct work within our jurisdiction under Category 1 of the GP. We have assigned this file number **NAE-2016-01375.** Please reference this number in any future correspondence with us.

We have recorded this project as permittee self-certification of Category 1 of the CT GP in our database. You are responsible for ensuring the work meets the terms and conditions of the CT GP.

If you have any questions, please contact me at (978) 318-8879.

Diane M. Ray

For: Robert DeSista
Chief, Permits and Enforcement Branch

Copy furnished:
email: Mr. Rich Reed – United Illuminating Co.
email: Mr. Robert Gilmore - CTDEEP

NAE-2016-01375
6/21/16
JUN17'16 REG DIV

US Army Corps of Engineers
New England District

Appendix 1A: Category 1 Certification Form
(Required for all Inland Projects in Connecticut)

Submit this form **before** work commences to the following addresses:

U.S. Army Corps of Engineers, Permits & Enforcement Branch B (CT), 696 Virginia Road, Concord, MA 01742-2751

CT DEP, Inland Water Resources Division, 79 Elm Street, Hartford, CT 06106-5127 (not required if work is done within exterior boundaries of Mashantucket)

Permittee Name & Address: The United Illuminating Company, 180 Marsh Hill Rd., Orange, CT 06477

Phone number & Email address: Rich Reed, V.P. of EPE, rich.reed@uinet.com

Work Location/Address: 1771 Stratford Ave., Stratford, CT 06615

Latitude/Longitude coordinates: 41.185205/-73.143085

Waterway name: N/A

Contractor Name & Address: Black & Veatch , 11401 Lamar Ave., Overland Park, KS 66211

Phone number & Email address: 913-458-2011, ShroyerJB@bv.com

Proposed Work Dates: Start: Dec 2016 Finish: March 2018

Work will be done within Inland Waters & Wetlands under the following categories – refer to Appendix 1 (check all that apply):

X 1.A. New Fill and/or Fill Associated with Excavation

_____ 1.B. Stream Bank Stabilization

_____ 1.C. Repair & Maintenance of Existing Authorized or Grandfathered Fill.

Wetland impact: 654 square feet (sf) Waterway impact: _____sf and/or _____ linear feet

Brief Project Description Construct and operate a new 115/13.8 kv substation in Startford, CT
The New Baird Substation is a replacement to the existing Baird Substation directly abutting one another.

Project purpose: Address certain compliance concerns, replace aging infrastructure, and support localized electric grid

Secondary Impacts include but are not limited to impacts to inland waters or wetlands drained, dredged, flooded, cleared or degraded resulting from a single and complete project. See General Condition 3.

Does your project include any of these secondary impacts? Y/N – If yes, please describe them:
No

Your signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions of Category 1 of this Connecticut General Permit.

Permittee Signature: _____ **Date:** 6/14/16

Updated: June 20, 2011

APPENDIX G

CULTURAL RESOURCES REVIEW

HERITAGE CONSULTANTS, LLC

INTEGRATED HISTORIC PRESERVATION PLANNING

February 23, 2015

Stuart Manley, LEP, CHMM
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville, Connecticut 06062

RE: Cultural Resources Review of the Proposed Expansion of an United Illuminating Substation at the Intersection of Stratford Avenue and Honeyspot Road in Stratford, Connecticut

Mr. Manley:

Heritage Consultants, LLC, is pleased to have this opportunity to provide Conestoga-Rovers & Associates, in support of United Illuminating, with the following archeological assessment of the proposed expansion to an existing electrical substation located at the Intersection of Stratford Avenue and Honeyspot Road in Stratford, Connecticut (Figure 1). The existing substation will increase in size and it will be expanded to the east. The current project entailed completion of an existing conditions cultural resources summary based on the examination of GIS data obtained from the Connecticut State Historic Preservation Office, as well as historical data, aerial photographs, and topographic quadrangles maintained by Heritage Consultants, LLC. This investigation did not consider the effects of the proposed construction upon built resources, and it is based upon project location information provided to Heritage Consultants, LLC by Conestoga-Rovers & Associates. The objectives of this study were to gather and present data regarding previously identified cultural resources situated within the vicinity of the existing substation and to investigate the proposed project parcel in terms of its natural and historical characteristics so that the need for completing additional cultural resources investigations could be evaluated.

Figures 2 and 3, historic maps from 1856 and 1867, respectively, show that although there were roads and residences in the project region by the mid to late nineteenth century, the area surrounding the existing substation remained rural in character, and the centers of population were located to the southwest and east of the Area of Potential Effect (APE). Figures 2 and 3 also show that this portion of Stratford was characterized by wetlands, marshes, and tributaries of the Housatonic River and Long Island Sound. The economy of this portion of Connecticut at that time was focused on a mixture of commerce, small scale agriculture, and local industry. As seen in Figure 4, an aerial image dating from 1934, agricultural pursuits in this portion of town were abandoned during the early twentieth century in favor of the build out of the city and construction of additional industrial buildings. At that time, the substation location was situated adjacent to southern edge of an existing railroad track that is now associated with Metro North. Figures 5 and 6, aerial images taken in 1965 and 1990, respectively, also confirm the developed nature of the area containing the substation during the middle to later portions of the twentieth century. Additional industrial facilities were constructed immediately to the south of the substation location, and the area acquired an overwhelmingly urban appearance by 1990. Figures 7 and 8, aerial image captured in 2004 and 2012, respectively, show the APE in its essentially modern state. The footprint of the existing

P.O. Box 310249 • Newington, Connecticut 06131
Phone (860) 667-3001 • Fax (860) 667-3008
Email: info@heritage-consultants.com

substation and its proximity to the southern limits of the Metro North railroad tracks remained unchanged. Overall, this portion of Stratford has been well developed and as a result little unaltered land remains in the area.

In addition, a review of previously recorded cultural resources on file with the Connecticut State Historic Preservation Office revealed that no previously identified archaeological sites or National Register of Historic Places properties exist within the APE (Figures 10 and 11). Further, analysis of soils data for the area demonstrates that the parcel of land containing the existing substation and the proposed expansion area has been classified wholly as Urban Land Complex soils. These soils are generated as a result of cutting, filling, and smoothing. Consequently, no intact soils remain in the area. Given the lack of previously identified cultural resources in the area, the highly developed nature of the region, and the presence of disturbed soils throughout the proposed project parcel, it is the professional opinion of Heritage Consultants, LLC that the substation area and its immediate surroundings, retain little possibility, if any, to yield intact cultural deposits. As a result, no additional archaeological research is recommended prior to expansion of the existing substation facilities.

If you have any questions regarding this Technical Memorandum, or if we may be of additional assistance with this or any other projects you may have, please do not hesitate to call us at 860-667-3001 or email us info@heritage-consultants.com. We are at your service.

Sincerely,

David R. George

David R. George, M.A., R.P.A.

P.O. Box 310249 • Newington, Connecticut 06131
Phone (860) 667-3001 • Fax (860) 667-3008
Email: info@heritage-consultants.com

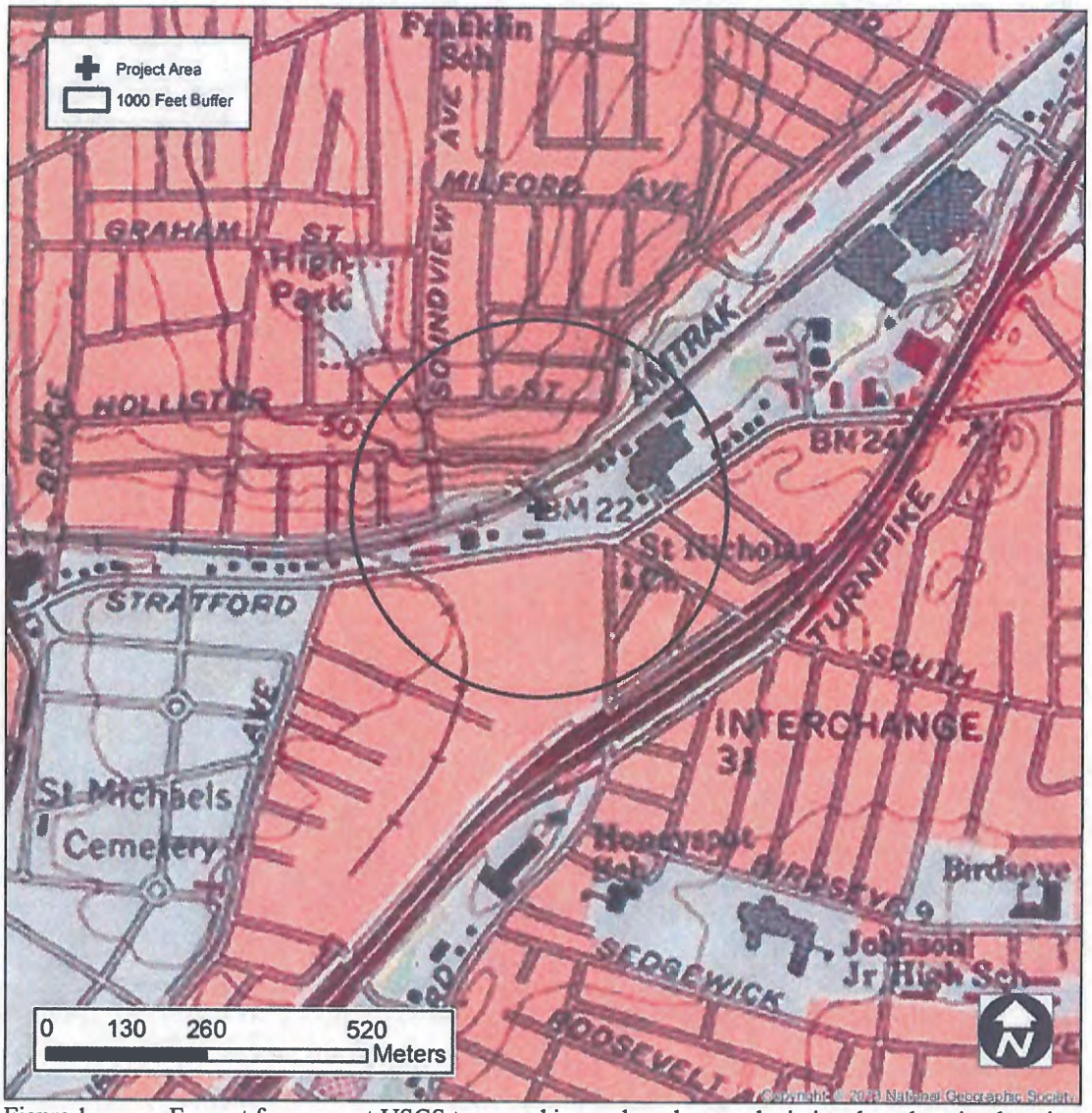


Figure 1. Excerpt from recent USGS topographic quadrangle map depicting the substation location in Stratford, Connecticut.

Figure 2. Excerpt from a 1856 historic map depicting the substation in Stratford, Connecticut.

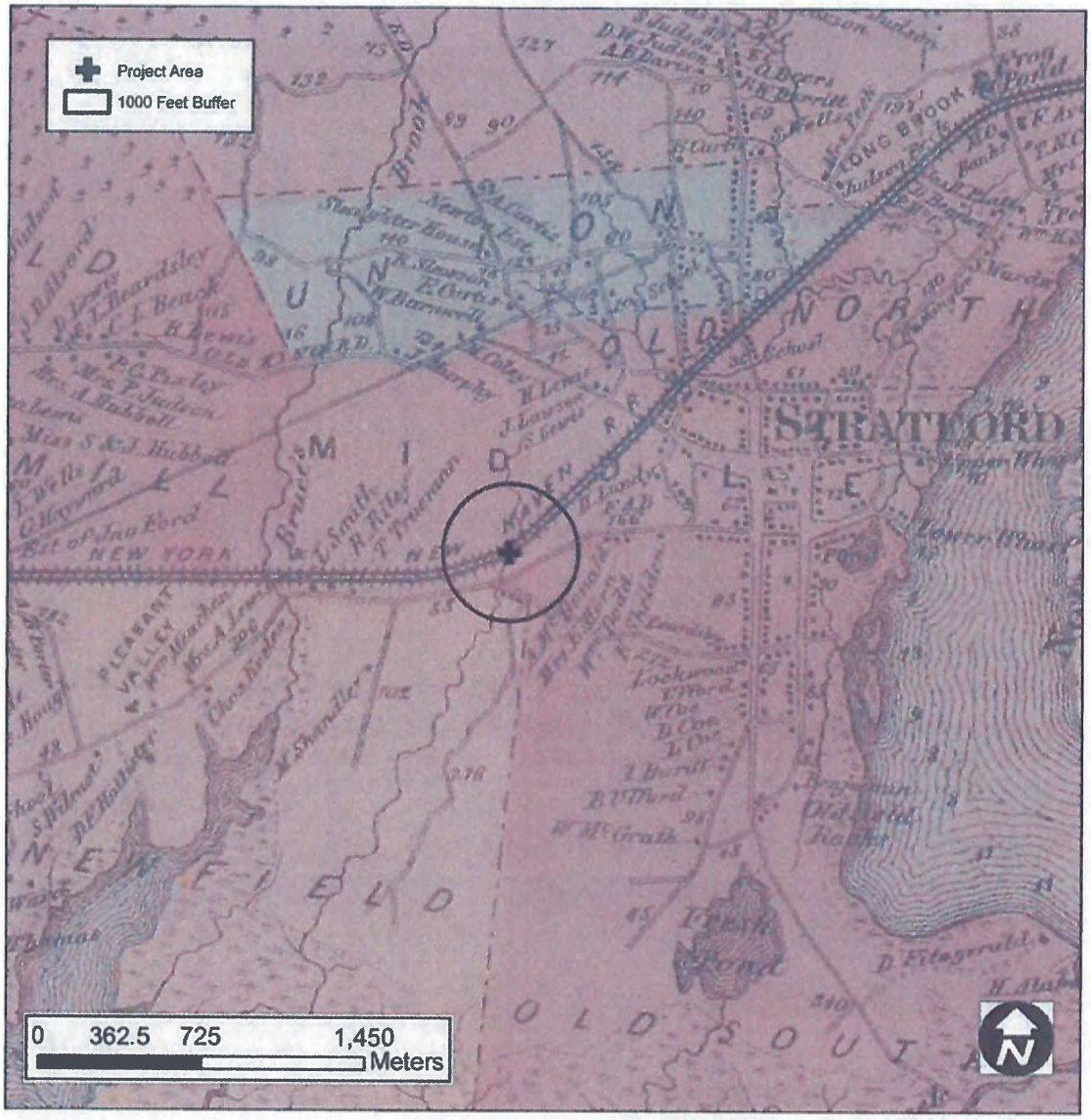


Figure 3. Excerpt from an 1867 historic map depicting the substation in Stratford, Connecticut.

Figure 4. Excerpt from a 1934 aerial image depicting the substation in Stratford, Connecticut.

Figure 5. Excerpt from a 1965 aerial image depicting the substation in Stratford, Connecticut.

Figure 6. Excerpt from a 1990 aerial image depicting the substation in Stratford, Connecticut.

Figure 7. Excerpt from a 2004 aerial image depicting the substation in Stratford, Connecticut.

Figure 8. Excerpt from a 2012 aerial image depicting the substation in Stratford, Connecticut.

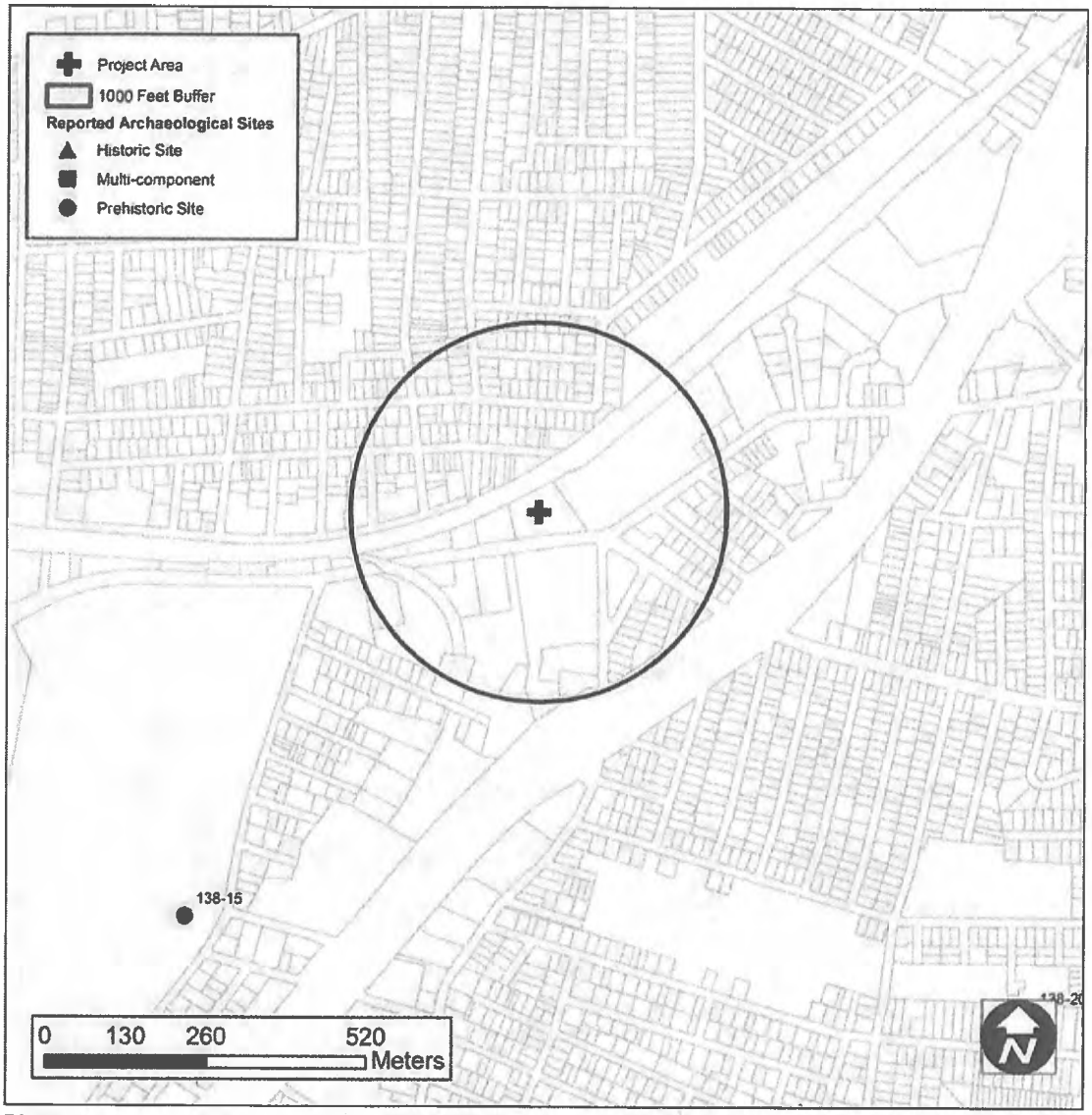


Figure 9. Digital map depicting the locations of previously recorded archaeological sites in the vicinity of the substation in Stratford, Connecticut.

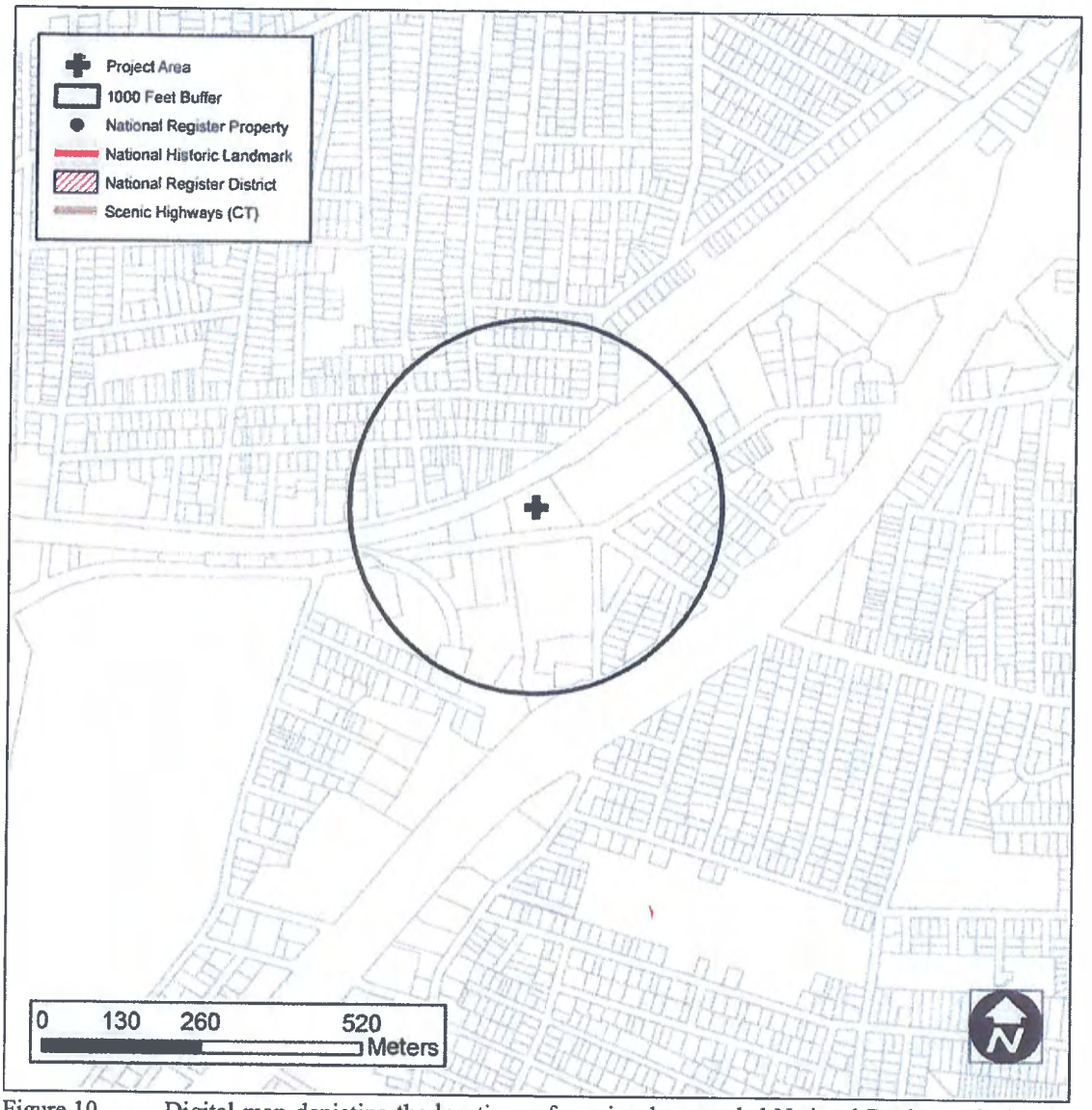


Figure 10. Digital map depicting the locations of previously recorded National Register of Historic Places properties in the vicinity of the substation in Stratford, Connecticut.

APPENDIX H

CONNECTICUT STATE HISTORICAL PRESERVATION OFFICE – PROJECT REVIEW FORM

Department of Economic and Community Development

Connecticut
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State Historic Preservation Office

One Constitution Plaza | Hartford, CT 06103 | 860.256.2800 | Culturecandtourism.org

PROJECT REVIEW COVER FORM

1. **This information relates to a previously submitted project.** ☐ You do not need to complete the rest of the form if you have been previously issued a SHPO Project Number. Please attach information to this form and submit

SHPO Project Number _____
(Not all previously submitted projects will have project numbers)

Project Address Intersection of Stratford Avenue and Honeyspot Road in Stratford, Connecticut
(Street Address and City or Town)

2. **This is a new Project.** ☐ If you have checked this box, it is necessary to complete ALL entries on this form .

Project Name Baird Substation Expansion Project

Project Location Intersection of Stratford Avenue and Honeyspot Road
Include street number, street name, and or Route Number. If no street address exists give closest intersection.

City or Town Stratford, Connecticut
In addition to the village or hamlet name (if appropriate), the municipality must be included here.

County Fairfield
If the undertaking includes multiple addresses, please attach a list to this form.

Date of Construction (for existing structures)_____

PROJECT DESCRIPTION SUMMARY (include full description in attachment):

United Illuminating plans to expand the footprint of the existing substation at this location to encompass additional land to the east.

TYPE OF REVIEW REQUESTED

a. Does this undertaking involve funding or permit approval from a State or Federal Agency?

[x] Yes [ ] No

Agency Name/Contact	Type of Permit/Approval	State	Federal
CT SHPO		[x]	[ ]
		[ ]	[ ]
		[ ]	[ ]

	Yes	No
b. Have you consulted the SHPO and UCONN Dodd Center files to determine the presence or absence of previously identified cultural resources within or adjacent to the project area?	[x]	[ ]
If yes: Was the project site wholly or partially located within an identified archeologically sensitive area?	[ ]	[x]
Does the project site involve or is it substantially contiguous to a property listed or recommended for listing in the CT State or National Registers of Historic Places?	[ ]	[x]
Does the project involve the rehabilitation, renovation, relocation, demolition or addition to any building or structure that is 50 years old or older?	[ ]	[x]

Department of Economic and Community Development

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State Historic Preservation Office

One Constitution Plaza | Hartford, CT 06103 | 860.256.2800 | Cultureandtourism.org

PROJECT REVIEW COVER FORM

The Historic Preservation Review Process in Connecticut Cultural Resource Review under the National Historic Preservation Act – Section 106 http://www.achp.gov/106summary.html involves providing technical guidance and professional advice on the potential impact of publicly funded, assisted, licensed or permitted projects on the state's historic, architectural and archaeological resources. This responsibility of the State Historic Preservation Office (SHPO) is discharged in two steps: (1) identification of significant historic, architectural and archaeological resources; and (2) advisory assistance to promote compatibility between new development and preservation of the state's cultural heritage.

Project review is conducted in two stages. First, the SHPO assesses affected properties to determine whether or not they are listed or eligible for listing in the Connecticut State or National Registers of Historic Places. If so, it is deemed "historic" and worthy of protection and the second stage of review is undertaken. The project is reviewed to evaluate its impact on the properties significant materials and character. Where adverse effects are identified, alternatives are explored to avoid, or reduce project impacts; where this is unsuccessful, mitigation measures are developed and formal agreement documents are prepared stipulating these measures. For more information and guidance, please see our website at: http://www.cultureandtourism.org/cct/cwp/view.asp?a=3933&q=293820

ALL PROJECTS SUBMITTED FOR REVIEW MUST INCLUDE THE FOLLOWING MATERIALS*:

[x] **PROJECT DESCRIPTION** Please attach a full description of the work that will be undertaken as a result of this project. Portions of environmental statements or project applications may be included. The project boundary of the project should be clearly defined**

[x] **PROJECT MAP** This should include the precise location of the project – preferably a clear color image showing the nearest streets or roadways as well as all portions of the project. Tax maps, Sanborn maps and USGS quadrangle maps are all acceptable, but Bing and Google Earth are also accepted if the information provided is clear and well labeled. The project boundary should be clearly defined on the map and affected legal parcels should be identified.

[ ] **PHOTOGRAPHS** Clear, current images of the property should be submitted. Black and white photocopies will not be accepted. Include images of the areas where the proposed work will take place. May require: exterior elevations, detailed photos of elements to be repaired/replaced (windows, doors, porches, etc.) All photos should be clearly labeled.

For Existing Structures	Yes	N/A	Comments
Property Card	☐	☐	
For New Construction	**Yes**	**N/A**	**Comments**
Project plans or limits of construction (if available)	☐	☐	
If project is located in a Historic District include renderings or elevation drawings of the proposed structure	☐	☐	
Soils Maps http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm	☐	☐	
Historic Maps http://magic.lib.uconn.edu/	☐	☐	
For non-building-related projects (dams, culverts, bridge repair, etc)	**Yes**	**N/S**	**Comments**
Property Card	☐	☐	
Soils Map (see above)	☐	☐	
Historic Maps (see above)	[x]	☐	

STAFF REVIEW AREA	Above	Date	Below	Date
Indicate date of Review and Initials of Reviewer				

PROJECT CONTACT

Name Mr. Shawn Crosbie Title Environmental Analyst

Firm/Agency United Illuminating Holdings Corporation

Address 180 Marsh Hill Road

City Orange State CT Zip 06477

Phone 203.926.4595 Cell 203.915.2573 Fax

Email shawn.crosbie@uinet.com

*Note that he SHPO's ability to complete a timely project review depends largely on the quality of the materials submitted.

** Please be sure to include the project name and location on *each page* of your submission.

Department of Economic and Community Development

Connecticut
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State Historic Preservation Office
One Constitution Plaza | Hartford, CT 06103 | 860.256.2800 | Culturcandtourism.org

PROJECT REVIEW COVER FORM

SHPO USE ONLY

Based on our review of the information provided to the State Historic Preservation Office, it is our opinion that:

☒ No historic properties will be affected by this project. No further review is requested.

☐ This project will cause no adverse effects to the following historic properties. No further review is requested:

☐ This project will cause no adverse effects to the following historic properties, conditional upon the stipulations included in the attached letter:

☐ Additional information is required to complete our review of this project. Please see the attached letter with our requests and recommendations.

☐ This project will adversely affect historic properties as it is currently designed or proposed. Please see the attached letter for further details and guidance.

Laura A. Mancuso 5.14.15

Daniel T. Forrest Laura L. Mancuso Date
Deputy State Historic Preservation Officer

Department of Economic and Community Development

Connecticut
still revolutionary

April 2, 2015

Mr. Shawn Crosbie
UIL Holdings Corporation
180 Marsh Hill Road
Orange, CT 06477

Subject: Intersection of Stratford Avenue and Honeyspot Road
Stratford, CT

Dear Mr. Crosbie:

The State Historic Preservation Office has reviewed the information submitted for the above-named property pursuant to the provisions of Section 106 of the National Historic Preservation Act of 1966 and the Connecticut Environmental Policy Act.

It is our opinion that the property located at Intersection of Stratford Avenue and Honeyspot Road does not appear to be eligible for listing on the National Register of Historic Places. Based on the information provided to this office, no historic properties will be affected.

The State Historic Preservation Office appreciates the opportunity to review and comment upon this project. These comments are provided in accordance with the Connecticut Environmental Policy Act and Section 106 of the National Historic Preservation Act. For further information please contact Todd Levine, Environmental Reviewer, at (860) 256-2759 or todd.levine@ct.gov.

Sincerely,

Mary B. Dunne

Mary B. Dunne
Deputy State Historic Preservation Officer

State Historic Preservation Office
One Constitution Plaza | Hartford, CT 06103 | P: 860.256.2800 | Culturcandtourism.org

APPENDIX I

SOIL & GROUNDWATER MANAGEMENT PLAN

SOIL & GROUNDWATER MANAGEMENT PLAN

FOR

BAIRD SUBSTATION PROJECT

STRATFORD, CONNECTICUT

Revision: 6/29/2016

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Background

Prior to the commencement of the project, UIL Holding Corporation (UIL) requires that actions must be taken to assure the proper handling and evaluation of excavated soils prior to their re-use or disposal. As such, the Contractor is required to follow all items described in the below soil management plan (SMP).

The project consists of the installation of a new 13.8/115 kv bulk substation and equipment associated with operation of that substation. From May 4, 2015 through May 11, 2015 both soils and groundwater were tested to assess the management of this material during construction. At each location a composite soil sample was taken of the total depth of the boring/test pit. One groundwater sample was taken via low-flow sampling methodology. If a sample was unsuccessful through low-flow methods a grab sample was retrieved in order to properly assess groundwater conditions.

1.2 Purpose and Scope

The purpose of this Soil Management Plan (SMP) is to define a program for handling, segregating, testing, reusing, and disposing of excessive spoils and managing groundwater. Specifically, the SMP outlines the handling, transportation and disposal requirements for soils excavated during the performance of the work. The SMP will also help minimize impacts to the environment and minimize the potential for human exposure during construction activities.

The information presented in this SMP provides general guidelines for soil and dewatering management during the project's civil construction activities. The specific details and logistics of implementing this SMP shall be developed by UIL in collaboration with the Contractor and those administering construction in accordance with the contract documents. This plan is not intended to provide detail with regard to site-specific health and safety procedures. For the purpose of this plan, at all times, work shall be conducted in a manner that safeguards the health, safety and welfare of site workers, the general public, and the environment. Specific information regarding health and safety procedures and protective measures will be described in Health and Safety Plans (HASPs) prepared by the Contractor.

1.3 Employee Training

Prior to the initiation of the project, employees and subcontractors for the Contractor should receive a briefing based upon the contents of this plan. This briefing will include at a minimum the following items:

- Verbal description of the project and potential hazards that might be present.

- A chemical hazard briefing.
- If required, the Contractor will provide the appropriate training and/or certifications.
- The location of the nearest emergency communications, emergency facilities and emergency telephone numbers.
- Emergency procedures.
- The inspection and use of personal safety equipment.
- A discussion of the location of safe areas if emergency evacuation is necessary.
- How to detect/eliminate/prevent hazards through the use of monitoring and control measures.
- Decontamination procedures for equipment used for excavation.

Prior to the beginning of daily work activities, the Contractor will instruct their workers of the following:

- Current conditions
- Hazards pertaining to hazardous soil conditions
- Visual and olfactory signs of contaminated soils
- Recognition of potentially hazardous conditions such as buried containers, drums, tanks and utilities
- When to suspend excavation
- Who to notify upon discovery of contaminated soils of hazardous conditions

1.4 Project Team

The purpose of this section is to identify certain key roles and responsibilities relating to the soils and materials management aspect of this project

TEAM MEMBER	ROLE	CONTACT
UI Project Management	Management	Martin Malin
UIL Environmental	Environmental Support	Shawn Crosbie
GHD	Environmental Consultant	Jeff Lambert
TBD	Environmental Contractor	TBD
TBD	Contractor	TBD

1.5 Roles and Responsibilities

Various members of the Project team will be required to conduct specific tasks during construction/excavation activities. The following is an outline of certain key tasks relating to the soils and groundwater management aspect of this

project. The listing is not intended to be comprehensive, but rather includes those items that are critical to the safe and successful execution of this project.

A. The Contractor shall be responsible for the following:
   a. Work with UI project team to determine project schedule, construction sequencing, and other construction parameters on the project
   b. Oversee all construction work for the project.
   c. Remove all material(s) from excavation(s), stockpile, manage stockpile and load trucks.
   d. Remove groundwater from excavation and transport to onsite treatment unit.
   e. Comply with all Job Hazard Analysis ("JHA") which will be on file with UI and all other applicable local, state, and federal health and safety standards pertaining to work scope.
   f. Protect the health of workers, other on-site personnel, the general public, and minimize impacts to the environment.
   g. Ensure that the streets surrounding the site are kept clean during construction.

B. UI Project Management/UIL Environmental Services shall be responsible for the following:
   a. Review, ensure and make recommendations regarding overall compliance on internal UI Procedures, Local, State and Federal environmental requirements, guidelines, permits, approvals, and authorizations along with this SMP to the Contractor, Environmental Contractor and Soil Management Facility.
   b. Assist in the development of waste characterization and profile development.
   c. Identification and selection process for appropriate, licensed, and permitted transporters and Soil Management Facility or Facilities for waste disposal.
   d. Coordinate with the Contractor for the proper relocation or segregation of material based upon screening and/or sampling results.
   e. Work with Contractor and Environmental Contractor on the loading, transportation and disposal of all spoils or waste generated on the project.

C. Environmental Consultant shall be responsible for the following:
   a. Perform characterization on groundwater and soil.
   b. Submit groundwater and soil samples to laboratory.
   c. Work with Environmental Contractor for the submission of any registrations or permits related to management the waste(s) generated during the project.
   d. Update UIL Environmental Group on all conditions

D. The Environmental Contractor shall be responsible for the following:
   a. Develop soil profile with landfill,
   b. Work with UIL Environmental and Contractor for setting up the loading, transportation and disposal of all soil developed during project.

c. Work with Environmental Consultant for the submission of any registrations or permits related to managing the waste(s).
d. Operate and maintain groundwater treatment system.

1.6 Special Conditions and Notice

This SMP dictates that the handling, storage, testing, and disposal of soils shall be conducted in accordance with local, state, and federal safety and environmental regulations, requirements, and guidelines. Some of which include (but are not limited to) the Connecticut Department of Energy and Environmental Protection (CTDEEP) Remediation Standard Regulations (RSRs) and Guidance for Utility Company Excavation (http://dep.state.ct.us/wtr/remediation/utilitycomp.htm. In complying with this SMP, the Contractor shall use its best efforts to protect workers and the public and avoid schedule delays.

The Contractor shall immediately (within 24 hours of occurrence) notify the Owner of any discrepancy, inconsistency, conflict, or ambiguity with respect to all or any portion of this Plan. The Owner's interpretation shall prevail in the event of any such discrepancy, inconsistency, conflict, or ambiguity.

2.0 SUBSURFACE CHARACTERIZATION

2.1 Groundwater & Soil Pre-Characterization

From May 4, 2016 through May 11, 2015 GHD of Plainville, CT and UI personnel conducted a thorough soil and groundwater assessment for the project. A total of 15 soil borings and 1 temporary groundwater monitoring well was executed. A summary of the analytical data generated from a sample from each location can be seen in Attachment(s) 2 and 3.

3.0 MATERIALS HANDLING

3.1 Planned Excavation Activities

At a minimum, the soil management activities described in this SMP will be employed during the handling of impacted material.

During excavation of soil onsite, the Contractor and/or their Subcontractors shall:

a) Observe excavation for visual or olfactory evidence of changes in excavated materials.
b) Employ engineering control measures to minimize airborne dust, odors, and volatile emissions and maintain levels below the action levels shown in either the JHA or Health and Safety Plan (HASP).
c) Periodically inspect equipment for leakage of fluids to verify that work areas are not being contaminated by equipment and that off-site areas are not being contaminated during waste transport.

d) Based on the analytical soil results the Contractor will be responsible for decontaminating their own equipment.
e) Should non-uniform conditions based off of the original characterization event be identified, the Contractor shall suspend work in the area and notify UI PM of conditions. UI PM will engage UI Environmental Group and begin developing future course of actions. These conditions include, but are not limited to: buried containers, drums or tanks, or explosive conditions due to contaminated vapors, etc. The Contractor will secure the area to protect against health risk or release into the environment. The Contractor will also amend the existing JHA or HASP as necessary.

3.2 Soil Handling Classifications

3.2.1 Soil Classified as Natural

A classification of "natural" refers to soil for which the analytical data indicates that the concentrations are below applicable CT RSR guidelines and below laboratory detection limits (i.e. non-naturally occurring) The CTDEEP does not place special management or disposal requirements on soil classified as natural; however, the reuse of soil that has been classified as natural should be limited to such purposes as commercial fill or road base.

The soils characterized in SB-02, SB-03, SB-04, SB-08, SB-12 and SB-13 is classified as natural based on the analytical data received from the May 2015 sampling event. Should the material not be able to be re-used onsite the material will need to be transported to an approved aggregate facility. A summary of results can be seen in Attachment 2.

3.2.2 Soil Classified as Polluted

A classification of "polluted" refers to one or more non-natural chemical compounds at a concentration above both a statistically derived background concentration and the lower of the regulatory concentrations listed in the RSRs for the following:

- Direct exposure criteria (I/C DEC) for industrial or commercial properties.
- Pollutant mobility criteria (GB PMC)
- Pollutant mobility criteria (GA/GAA PMC)

The soil characterized in SB-05, SB-11 and SB-14 is classified as polluted based on the analytical data received from the May 2015 sampling event. Should the material not be able to be re-used onsite the material will need to be transported to an approved disposal facility. A summary of results can be seen in Attachment 2.

3.2.3 Soil Classified as Contaminated

A classification of "contaminated" refers to material which exhibits concentrations of certain constituents exceeding the regulatory criteria. The following are the regulatory groupings which the Elm West analytical data was compared to:

- Direct exposure criteria (I/C DEC) for industrial or commercial properties.
- Pollutant mobility criteria (GB PMC)

The soil characterized in SB-06, SB-07, SB-09, SB-10, SB-15 and SB-15 is classified as contaminated based on the analytical data received from the May 2015 sampling event. Therefore all soil generated in and around these locations during construction must be disposed of at an approved landfill. A summary of results can be seen in Attachment 2.

3.2.3 Soil Classified as Hazardous/PCB

A classification of "Hazardous" or "PCB" includes soil containing regulated levels of PCBs and/or soil that are classified as a hazardous waste. Hazardous waste refers to soil that is impacted with a federally listed hazardous waste (s) or is characteristically hazardous due to ignitability, corrosivity, reactivity, and/or toxicity or is listed as a hazardous waste, pursuant to RCSA Title 22a, Part 449 (c) or 40 CFR 260-299. Hazardous waste and soil containing PCB must be disposed of in accordance with State and Federal Regulations.

Based on the May 2015 soil characterization event the results indicated that there is not a presence of hazardous constituents or PCBs in the areas which were sampled.

3.3 Material Loading and Transportation

The Environmental Consultant and/or Environmental Contractor shall work with the Contractor and observe the following provisions when transporting excavated materials:

a) Non-hazardous manifests and/or Material Shipping and Record Logs (MSRLs) must be documented with the site specific information and signed off by a UI representative
b) Provisions must be made to prevent debris from spilling off of construction equipment when loading soil on to trucks for transport.
c) All material loaded into trucks must be free of any free-draining liquids.*
d) Trucks must travel with their loads covered.
e) Any soil on roadways must be swept up or into trenches in a timely manner.
f) An anti-tracking pad must be available at the Soil Management Facility in order to minimize off-site migration of environmentally impacted soil.

4.0 GROUND WATER

4.1 Ground Water Characterization for Dewatering

Due to the proposed depth of civil construction dewatering activities may be necessary. Therefore on May 8, 2015 groundwater was characterized to fully understand if contamination is present. Based on the analytical data received from the sampling event contamination is present and the groundwater must be treated in accordance with the State of Connecticut requirements. Due to these sample results exceeding the regulatory limit(s) UI will develop a localized treatment system and obtain a registration with the State of Connecticut under General Permit: Groundwater Remediation to Sanitary Sewer (DEP-WD-GP-007) or 2). In addition, UI will also work with the local authorities to obtain the necessary license, permits or registrations in order to discharge to the local sanitary sewer infrastructure.

groundwater was identified at a depth of 7 feet below ground surface

5.0 ENVIRONMENTAL/ENGINEERING CONTROLS DURING EXCAVATION ACTIVITIES

5.1 Dust Control

Construction activities should be conducted so as to minimize the creation and dispersion of dust. The following are engineering controls and mitigation techniques which can be used to minimize dust migration:

- Apply water while excavating, loading, and backfilling as needed.
- Minimize drop heights while excavating or loading.
- Keeps work area free of nuisance/excessive soils, minimizing spreading.

5.2 Vapor and Odor Control

The work area shall be monitored in accordance with the requirements of the HASP. In the event that excavation or other site activities generate excessive contaminants, vapors, or odors, as determined by air monitoring and/or direct observations, the Contractor shall employ control measures necessary to minimize the generation of these contaminants, vapors and/or odors.

5.3 Stormwater Management and Sedimentation Control

Based on the footprint of construction activities on the Baird Substation Project a registration under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities" (DEP-PERD-GP-015) and Stormwater Pollution Control Plan (SWPCP) will be submitted to CT DEEP. Prior to any construction the appropriate sediment and erosion controls

will need to be installed per the approved SWPCP in order to eliminate/reduce any sediment from migrating offsite.

5.3.1 Stormwater Required Best Management Applications

All stormwater associated with minor excavation activities shall follow the conditions set forth in in the SWPCP and section 6 of the CT DEEP General Permit DEP-PERD-GP-015. The following is a high level list of conditions:

- Maintain clean and neat soil stockpile area.
- Apply erosion and sediment controls as necessary.
- If using silt sacks disposal will be within accordance with appropriate waste stream management.

6.0 DISPOSAL

6.1 Disposal Facilities

Based upon the analytical data, all the excess material generated during the Project will be classified and managed appropriately with respect to both internal procedures and local, state and federal regulations. No specific disposal facility has been chosen for the management of the spoils.

Refer to Section 1.5 Roles and Responsibilities for further information. If there are any questions during the project that cannot be answered through this SMP please contact either the UI Project Manager or Environmental Department.

6.2 Transportation

All transportation of spoils will be coordinated with the onsite UI Construction Supervisor, Environmental Contractor and the UIL Environmental Group. Transportation of excess material must be conducted using properly licensed drivers and trucks. Trucks shall be well maintained, have proper placards, and meet all applicable state and federal Department of Transportation (DOT) requirements.

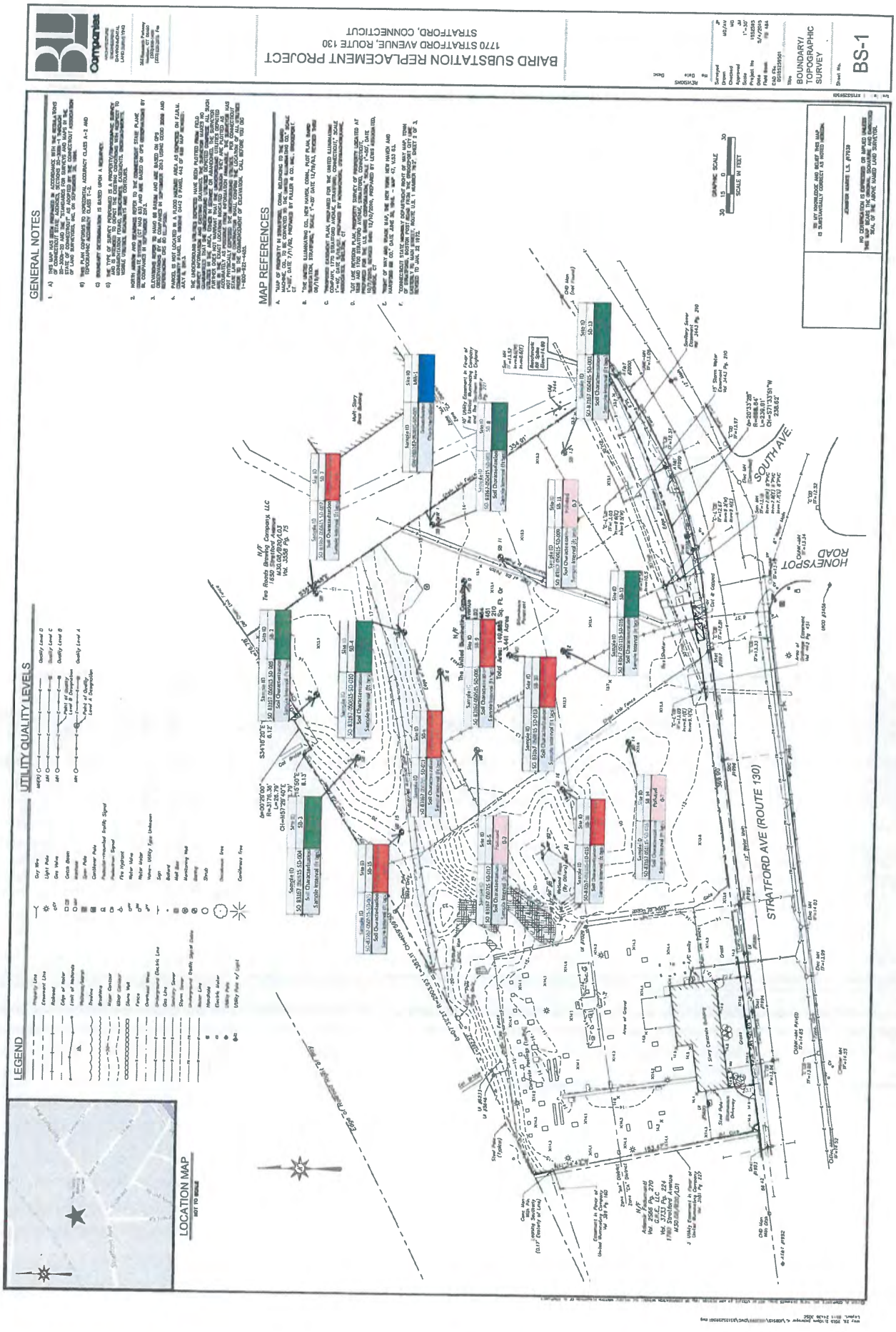
In the event of transporting hazardous waste, licensed hazardous waste transporters will be utilized to transport and dispose of the hazardous wastes generated from project activities. The necessary documents, including hazardous waste manifests, shall be completed and accompany each truck driver to the disposal facility. These documents must be immediately accessible in case of emergency. Trucks carrying non-hazardous material will also carry proper documentation, including material sheet record logs, bills of lading, or manifests.

6.3 Disposal Records and Documentation

UI shall be designated as the "Generator" of any excess material transferred to a disposal facility. All paperwork, documentation and waste tracking records will be sent to UIL Environmental Department to maintain accurate records.

Attachment 1

Site Plan


BAIRD SUBSTATION REPLACEMENT PROJECT
1770 STRATFORD AVENUE, ROUTE 130
STRATFORD, CONNECTICUT
BS-1
BOUNDARY/ TOPOGRAPHIC SURVEY
GENERAL NOTES
MAP REFERENCES
LEGEND
UTILITY QUALITY LEVELS
LOCATION MAP
NOT TO SCALE
GRAPHIC SCALE
SCALE IN FEET
STRATFORD AVE (ROUTE 130)
SOUTH AVE.
HONEYSPOT ROAD

Attachment 2

Soil Table

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		*IC*	*Res*	*GA*	*SB-1*	*SB-2*	*SB-3*	*SB-4*	*SB-5*	*SB-6*
Sample ID:		*DEC*	*DEC*	*PMC*	*SO-83167-050815-SD-014*	*SO-83167-050515-SD-005*	*SO-83167-050515-SD-004*	*SO-83167-050615-SD-010*	*SO-83167-050715-SD-012*	*SO-83167-050715-SD-011*
Sample Date:					*5/8/2015*	*5/5/2015*	*5/5/2015*	*5/6/2015*	*5/7/2015*	*5/7/2015*
Sample Depth:					*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*
Parameters	*Units*	*a*	*b*	*c*						
VOCs										
1,1,1,2-Tetrachloroethane	ug/kg	220000	24000	20	4.3 U	4 U	4.5 U	3.9 U	3.7 U	2.2 U
1,1,1-Trichloroethane	ug/kg	1000000	500000	4000	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,1,2,2-Tetrachloroethane	ug/kg	29000	3100	10	1.1 U	0.99 U	1.1 U	0.97 U	0.93 U	1.1 U
1,1,2-Trichloroethane	ug/kg	100000	11000	100	4.3 U	4 U	4.5 U	3.9 U	3.7 U	2.2 U
1,1-Dichloroethane	ug/kg	1000000	500000	1400	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,1-Dichloroethene	ug/kg	9500	1000	140	4.3 U	4 U	4.5 U	3.9 U	3.7 U	4.5 U
1,1-Dichloropropene	ug/kg				4.3 U	4 U	4.5 U	3.9 U	3.7 U	2.2 U
1,2,3-Trichlorobenzene	ug/kg				2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,2,3-Trichloropropane	ug/kg				2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,2,4-Trichlorobenzene	ug/kg	2500000	680000	1400	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,2,4-Trimethylbenzene	ug/kg	1000000	500000	7000	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	4100	440		2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	67	7	10	1.1 U	0.99 U	1.1 U	0.97 U	0.93 U	1.1 U
1,2-Dichlorobenzene	ug/kg	1000000	500000	3100	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,2-Dichloroethane	ug/kg	63000	6700	20	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,2-Dichloropropane	ug/kg	84000	9000	100	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,3,5-Trimethylbenzene	ug/kg	1000000	500000	7000	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,3-Dichlorobenzene	ug/kg	1000000	500000	12000	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
1,3-Dichloropropane	ug/kg				1.1 U	0.99 U	1.1 U	0.97 U	0.93 U	1.1 U
1,4-Dichlorobenzene	ug/kg	240000	26000	1500	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
2,2-Dichloropropane	ug/kg				4.3 U	4 U	4.5 U	3.9 U	3.7 U	2.2 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	1000000	500000	8000	43 U	40 U	45 U	39 U	37 U	45 U
2-Chlorotoluene	ug/kg	1000000	500000		2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
2-Hexanone	ug/kg				21 U	20 U	22 U	19 U	19 U	22 U
2-Phenylbutane (sec-Butylbenzene)	ug/kg	1000000	500000		2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
4-Chlorotoluene	ug/kg	1000000	500000		2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	1000000	500000	7000	21 U	20 U	22 U	19 U	19 U	22 U
Acetone	ug/kg	1000000	500000	14000	110 U	99 U	110 U	97 U	93 U	110 U
Acrylonitrile	ug/kg	11000	1100	10	6.4 U	5.9 U	6.7 U	5.8 U	5.6 U	6.7 U
Benzene	ug/kg	200000	21000	20	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Bromobenzene	ug/kg				2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Bromodichloromethane	ug/kg	92000	9900	11	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Bromoform	ug/kg	720000	78000	80	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Bromomethane (Methyl bromide)	ug/kg	1000000	95000	200	11 U	9.9 U	11 U	9.7 U	9.3 U	11 U
Carbon disulfide	ug/kg	1000000	500000	14000	43 U	40 U	45 U	39 U	37 U	6.7 U
Carbon tetrachloride	ug/kg	44000	4700	100	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Chlorobenzene	ug/kg	1000000	500000	2000	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Chloroethane	ug/kg				21 U	20 U	22 U	19 U	19 U	22 U
Chloroform (Trichloromethane)	ug/kg	940000	100000	120	4.3 U	4 U	4.5 U	3.9 U	3.7 U	4.5 U
Chloromethane (Methyl chloride)	ug/kg	440000	47000	54	11 U	9.9 U	11 U	9.7 U	9.3 U	11 U
cis-1,2-Dichloroethene	ug/kg	1000000	500000	1400	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
cis-1,3-Dichloropropene	ug/kg	32000	3400	10	1.1 U	0.99 U	1.1 U	0.97 U	0.93 U	1.1 U
Cymene (p-Isopropyltoluene)	ug/kg				2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Dibromochloromethane	ug/kg	68000	7300	10	4.3 U	4 U	4.5 U	3.9 U	3.7 U	1.1 U
Dibromomethane	ug/kg				2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Dichlorodifluoromethane (CFC-12)	ug/kg				21 U	20 U	22 U	19 U	19 U	22 U
Ethylbenzene	ug/kg	1000000	500000	10100	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Hexachlorobutadiene	ug/kg	73000	7900	1000	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Isopropyl benzene	ug/kg	1000000	500000	600	4.3 U	4 U	4.5 U	3.9 U	3.7 U	2.2 U
m&p-Xylenes	ug/kg				4.3 U	4 U	4.5 U	3.9 U	3.7 U	4.5 U
Methyl tert butyl ether (MTBE)	ug/kg	1000000	500000	2000	4.3 U	4 U	4.5 U	3.9 U	3.7 U	4.5 U
Methylene chloride	ug/kg	760000	82000	100	21 U	20 U	22 U	19 U	19 U	22 U

TABLE 1

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STRATFORD, CONNECTICUT

Sample Location:		*IC*	*Res*	*GA*	*SB-1*	*SB-2*	*SB-3*	*SB-4*	*SB-5*	*SB-6*
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Sample Depth:					*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*
Parameters	***Units***	***a***	***b***	***c***						
Naphthalene	ug/kg	2500000	1000000	5600	4.3 U	4 U	4.5 U	3.9 U	3.7 U	33
N-Butylbenzene	ug/kg	1000000	500000	1400	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
N-Propylbenzene	ug/kg	1000000	500000	1400	4.3 U	4 U	4.5 U	3.9 U	3.7 U	2.2 U
o-Xylene	ug/kg				2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Styrene	ug/kg	1000000	500000	2000	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
tert-Butylbenzene	ug/kg	1000000	500000	1400	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
Tetrachloroethene	ug/kg	110000	12000	100	4.3 U	4 U	4.5 U	3.9 U	3.7 U	2.2 U
Tetrahydrofuran	ug/kg				11 U	9.9 U	11 U	9.7 U	9.3 U	11 U
Toluene	ug/kg	1000000	500000	20000	2.1 U	2 U	2.2 U	1.9 U	1.9 U	2.2 U
trans-1,2-Dichloroethene	ug/kg	1000000	500000	2000	4.3 U	4 U	4.5 U	3.9 U	3.7 U	2.2 U
trans-1,3-Dichloropropene	ug/kg	32000	3400	10	4.3 U	4 U	4.5 U	3.9 U	3.7 U	1.1 U
trans-1,4-Dichloro-2-butene	ug/kg				4.3 U	4 U	4.5 U	3.9 U	3.7 U	4.5 U
Trichloroethene	ug/kg	520000	56000	100	4.3 U	4 U	4.5 U	3.9 U	3.7 U	2.2 U
Trichlorofluoromethane (CFC-11)	ug/kg	1000000	500000	26000	11 U	9.9 U	11 U	9.7 U	9.3 U	11 U
Trifluorotrichloroethane (Freon 113)	ug/kg				11 U	9.9 U	11 U	9.7 U	9.3 U	11 U
Vinyl chloride	ug/kg	3000	320	40	11 U	9.9 U	11 U	9.7 U	9.3 U	11 U
SVOCs										
1,2,4,5-Tetrachlorobenzene	ug/kg		20000		380 U	390 U	370 U	390 U	380 U	370 U
1,2,4-Trichlorobenzene	ug/kg	2500000	680000	1400	380 U	390 U	370 U	390 U	380 U	370 U
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg				380 U	390 U	370 U	390 U	380 U	370 U
2,4,5-Trichlorophenol	ug/kg	2500000	1000000	14000	380 U	390 U	370 U	390 U	380 U	370 U
2,4,6-Trichlorophenol	ug/kg	520000	56000	1000	380 U	390 U	370 U	390 U	380 U	370 U
2,4-Dichlorophenol	ug/kg		203000		380 U	390 U	370 U	390 U	380 U	370 U
2,4-Dimethylphenol	ug/kg	2500000	1000000	2800	380 U	390 U	370 U	390 U	380 U	370 U
2,4-Dinitrophenol	ug/kg	2500000	140000	1650	730 U	750 U	720 U	750 U	730 U	730 U
2,4-Dinitrotoluene	ug/kg	2500000	140000	1000	380 U	390 U	370 U	390 U	380 U	370 U
2,6-Dinitrotoluene	ug/kg	2000000	68000	1000	380 U	390 U	370 U	390 U	380 U	370 U
2-Chloronaphthalene	ug/kg	2500000	1000000	11000	380 U	390 U	370 U	390 U	380 U	370 U
2-Chlorophenol	ug/kg	2500000	339000	1000	380 U	390 U	370 U	390 U	380 U	370 U
2-Methylnaphthalene	ug/kg	2500000	474000	980	190 U	190 U	190 U	190 U	190 U	190 U
2-Methylphenol	ug/kg	2500000	1000000	7000	380 U	390 U	370 U	390 U	380 U	370 U
2-Nitroaniline	ug/kg	1200000	4100	1650	380 U	390 U	370 U	390 U	380 U	370 U
2-Nitrophenol	ug/kg	2500000	540000	1100	380 U	390 U	370 U	390 U	380 U	370 U
3&4-Methylphenol	ug/kg	2500000	340000	700	380 U	390 U	370 U	390 U	380 U	370 U
3,3'-Dichlorobenzidine	ug/kg	13000	1400	330	190 U	190 U	190 U	190 U	190 U	190 U
3-Nitroaniline	ug/kg	2500000	200000	1650	380 U	390 U	370 U	390 U	380 U	370 U
4,6-Dinitro-2-methylphenol	ug/kg				380 U	390 U	370 U	390 U	380 U	370 U
4-Bromophenyl phenyl ether	ug/kg	1000000	500000	8200	380 U	390 U	370 U	390 U	380 U	370 U
4-Chloro-3-methylphenol	ug/kg				730 U	750 U	720 U	750 U	730 U	730 U
4-Chloroaniline	ug/kg	2500000	270000	1000	730 U	750 U	720 U	750 U	730 U	730 U
4-Chlorophenyl phenyl ether	ug/kg	1000000	500000	8200	380 U	390 U	370 U	390 U	380 U	370 U
4-Nitroaniline	ug/kg	2500000	200000	1000	380 U	390 U	370 U	390 U	380 U	370 U
4-Nitrophenol	ug/kg				730 U	750 U	720 U	750 U	730 U	730 U
Acenaphthene	ug/kg	2500000	1000000	8400	190 U	190 U	190 U	190 U	190 U	190 U
Acenaphthylene	ug/kg	2500000	1000000	8400	190 U	190 U	190 U	190 U	200	190 U
Acetophenone	ug/kg				--	--	--	--	--	--
Aniline	ug/kg		107000		380 U	390 U	370 U	390 U	380 U	370 U
Anthracene	ug/kg	2500000	1000000	40000	190 U	190 U	190 U	190 U	220	190 U
Benzidine	ug/kg				--	--	--	--	--	--
Benzo(a)anthracene	ug/kg	7800	1000	1000	190 U	190 U	190 U	190 U	980	360
Benzo(a)pyrene	ug/kg	1000	1000	1000	190 U	190 U	190 U	190 U	610	240

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		*IC*	*Res*	*GA*	*SB-1*	*SB-2*	*SB-3*	*SB-4*	*SB-5*	*SB-6*
Sample ID:		*DEC*	*DEC*	*PMC*	*SO-83167-050815-SD-014*	*SO-83167-050515-SD-005*	*SO-83167-050515-SD-004*	*SO-83167-050615-SD-010*	*SO-83167-050715-SD-012*	*SO-83167-050715-SD-011*
Sample Date:					*5/8/2015*	*5/5/2015*	*5/5/2015*	*5/6/2015*	*5/7/2015*	*5/7/2015*
Sample Depth:					*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*
Parameters	***Units***	***a***	***b***	***c***						
Benzo(b)fluoranthene	ug/kg	7800	1000	1000	190 U	190 U	190 U	190 U	840	340
Benzo(g,h,i)perylene	ug/kg	2500000	1000000	4200	190 U	190 U	190 U	190 U	380	190 U
Benzo(k)fluoranthene	ug/kg	78000	8400	1000	190 U	190 U	190 U	190 U	340	190 U
Benzoic acid	ug/kg	2500000	1000000	10000000	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg				380 U	390 U	370 U	390 U	380 U	370 U
bis(2-Chloroethyl)ether	ug/kg	5200	1000	1000	380 U	390 U	370 U	390 U	380 U	370 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	410000	44000	1000	380 U	390 U	370 U	390 U	380 U	370 U
Butyl benzylphthalate (BBP)	ug/kg	2500000	1000000	20000	380 U	390 U	370 U	390 U	380 U	370 U
Carbazole	ug/kg	290000	31000	1000	190 U	190 U	190 U	190 U	190 U	190 U
Chrysene	ug/kg	780000	84000	1000	190 U	190 U	190 U	190 U	1000	350
Dibenz(a,h)anthracene	ug/kg	1000	1000	1000	190 U	190 U	190 U	190 U	190 U	190 U
Dibenzofuran	ug/kg	2500000	270000	1000	380 U	390 U	370 U	390 U	380 U	370 U
Diethyl phthalate	ug/kg	1000000	1000000	110000	380 U	390 U	370 U	390 U	380 U	370 U
Dimethyl phthalate	ug/kg	1000000	1000000	110000	380 U	390 U	370 U	390 U	380 U	370 U
Di-n-butylphthalate (DBP)	ug/kg	2500000	1000000	14000	380 U	390 U	370 U	390 U	380 U	370 U
Di-n-octyl phthalate (DnOP)	ug/kg	2500000	1000000	2000	380 U	390 U	370 U	390 U	380 U	370 U
Fluoranthene	ug/kg	2500000	1000000	5600	190 U	190 U	190 U	190 U	2400	760
Fluorene	ug/kg	2500000	1000000	5600	190 U	190 U	190 U	190 U	200	190 U
Hexachlorobenzene	ug/kg	3600	1000	1000	380 U	390 U	370 U	390 U	380 U	370 U
Hexachlorobutadiene	ug/kg	73000	7900	1000	380 U	390 U	370 U	390 U	380 U	370 U
Hexachlorocyclopentadiene	ug/kg	2500000	470000	1000	380 U	390 U	370 U	390 U	380 U	370 U
Hexachloroethane	ug/kg	410000	44000	1000	380 U	390 U	370 U	390 U	380 U	370 U
Indeno(1,2,3-cd)pyrene	ug/kg	7800	1000	1000	190 U	190 U	190 U	190 U	400	190 U
Isophorone	ug/kg	2500000	640000	1000	380 U	390 U	370 U	390 U	380 U	370 U
Naphthalene	ug/kg	2500000	1000000	5600	190 U	190 U	190 U	190 U	190 U	190 U
Nitrobenzene	ug/kg	1000000	34000	1000	380 U	390 U	370 U	390 U	380 U	370 U
N-Nitrosodimethylamine	ug/kg				--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	1000	1000	1000	380 U	390 U	370 U	390 U	380 U	370 U
N-Nitrosodiphenylamine	ug/kg	1200000	130000	1000	380 U	390 U	370 U	390 U	380 U	370 U
Pentachloronitrobenzene	ug/kg		2400		380 U	390 U	370 U	390 U	380 U	370 U
Pentachlorophenol	ug/kg	48000	5100	1000	380 U	390 U	370 U	390 U	380 U	370 U
Phenanthrene	ug/kg	2500000	1000000	4000	190 U	190 U	190 U	190 U	2900	830
Phenol	ug/kg	2500000	1000000	80000	380 U	390 U	370 U	390 U	380 U	370 U
Pyrene	ug/kg	2500000	1000000	4000	190 U	190 U	190 U	190 U	3000	950
Pyridine	ug/kg		7000		380 U	390 U	370 U	390 U	380 U	370 U
Total Metals										
Arsenic	mg/kg	10	10		6.1	2.8 U	2.7 U	7.1	2.8 U	2.7 U
Barium	mg/kg	140000	4700		97	15	45	31	23	11
Cadmium	mg/kg	1000	34		0.7	0.28 U	0.27 U	0.4	0.28 U	0.31
Chromium	mg/kg	100	100		13	6.9	11	11	6.1	7
Lead	mg/kg	1000	400		210	3.2	5.5	28	14	6.3
Mercury	mg/kg	610	20		0.055	0.029 U	0.026 U	0.028 U	0.027 U	0.026 U
Selenium	mg/kg	10000	340		5.6 U	5.7 U	5.3 U	5.6 U	5.6 U	5.5 U
Silver	mg/kg	10000	340		0.56 U	0.57 U	0.53 U	0.56 U	0.56 U	0.55 U
TCLP Metals										
Arsenic	mg/L			0.05	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Barium	mg/L			1	0.12	0.24	0.15	0.087	0.36	0.1
Cadmium	mg/L			0.005	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Chromium	mg/L			0.05	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		IC	Res	GA	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6
Sample ID:		DEC	DEC	PMC	SO-83167-050815-SD-014	SO-83167-050515-SD-005	SO-83167-050515-SD-004	SO-83167-050615-SD-010	SO-83167-050715-SD-012	SO-83167-050715-SD-011
Sample Date:					5/8/2015	5/5/2015	5/5/2015	5/6/2015	5/7/2015	5/7/2015
Sample Depth:					(0-7) ft BGS	(0-7) ft BGS	(0-7) ft BGS	(0-7) ft BGS	(0-7) ft BGS	(0-7) ft BGS
Parameters	**Units**	**a**	**b**	**c**						
Lead	mg/L			0.015	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.23[c]
Mercury	mg/L			0.002	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Selenium	mg/L			0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Silver	mg/L			0.036	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg				0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Aroclor-1221 (PCB-1221)	mg/kg				0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Aroclor-1232 (PCB-1232)	mg/kg				0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Aroclor-1242 (PCB-1242)	mg/kg				0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Aroclor-1248 (PCB-1248)	mg/kg				0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Aroclor-1254 (PCB-1254)	mg/kg				0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Aroclor-1260 (PCB-1260)	mg/kg				0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Aroclor-1262 (PCB-1262)	mg/kg				0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Aroclor-1268 (PCB-1268)	mg/kg				0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Total PCBs	mg/kg	10	1							
Pesticides										
4,4'-DDD	mg/kg	24	2.6		0.0046 U	0.0046 U	0.0044 U	0.0045 U	0.021 U	0.0042 U
4,4'-DDE	mg/kg	17	1.8		0.0046 U	0.0046 U	0.0044 U	0.0045 U	0.021 U	0.0042 U
4,4'-DDT	mg/kg	17	1.8		0.011	0.0046 U	0.0044 U	0.0045 U	0.021 U	0.0042 U
Alachlor	mg/kg	72	7.7	0.23	0.023 U	0.023 U	0.022 U	0.023 U	0.11 U	0.021 U
Aldrin	mg/kg	0.34	0.036		0.0057 U	0.0058 U	0.0055 U	0.0057 U	0.027 U	0.0052 U
alpha-BHC	mg/kg	0.91	0.097		0.0057 U	0.0058 U	0.0055 U	0.0057 U	0.027 U	0.0052 U
beta-BHC	mg/kg	3.2	0.34		0.0057 U	0.0058 U	0.0055 U	0.0057 U	0.027 U	0.0052 U
Chlordane	mg/kg	2.2	0.49	0.066	0.023 U	0.023 U	0.022 U	0.023 U	0.11 U	0.021 U
delta-BHC	mg/kg	0.91	0.097		0.0057 U	0.0058 U	0.0055 U	0.0057 U	0.027 U	0.0052 U
Dieldrin	mg/kg	0.36	0.038	0.007	0.0046 U	0.0046 U	0.0044 U	0.0045 U	0.021 U	0.0042 U
Endosulfan I	mg/kg	1200	410	0.84	0.0057 U	0.0058 U	0.0055 U	0.0057 U	0.027 U	0.0052 U
Endosulfan II	mg/kg	1200	410	0.84	0.0092 U	0.0092 U	0.0088 U	0.0091 U	0.043 U	0.0084 U
Endosulfan sulfate	mg/kg	1200	410	0.84	0.0092 U	0.0092 U	0.0088 U	0.0091 U	0.043 U	0.0084 U
Endrin	mg/kg	610	20		0.0092 U	0.0092 U	0.0088 U	0.0091 U	0.043 U	0.0084 U
Endrin aldehyde	mg/kg	610	20		0.0092 U	0.0092 U	0.0088 U	0.0091 U	0.043 U	0.0084 U
Endrin ketone	mg/kg	610	20		0.0092 U	0.0092 U	0.0088 U	0.0091 U	0.043 U	0.0084 U
gamma-BHC (lindane)	mg/kg	610	20	0.02	0.0023 U	0.0023 U	0.0022 U	0.0023 U	0.011 U	0.0021 U
Heptachlor	mg/kg	1.3	0.14	0.013	0.0057 U	0.0058 U	0.0055 U	0.0057 U	0.027 U	0.0052 U
Heptachlor epoxide	mg/kg	0.63	0.067	0.02	0.0057 U	0.0058 U	0.0055 U	0.0057 U	0.027 U	0.0052 U
Hexachlorobenzene	mg/kg	3.6	1	1	0.0069 U	0.0069 U	0.0066 U	0.0068 U	0.032 U	0.0063 U
Methoxychlor	mg/kg	10000	340	0.8	0.057 U	0.058 U	0.055 U	0.057 U	0.27 U	0.052 U
Toxaphene	mg/kg	5.2	0.56	0.33	0.11 U	0.12 U	0.11 U	0.11 U	0.53 U	0.1 U
Herbicides										
2,4,5-T	mg/kg				0.0029 U	0.0029 U	0.0027 U	0.0029 U	0.0027 U	0.0028 U
2,4,5-TP (Silvex)	mg/kg				0.0029 U	0.0029 U	0.0027 U	0.0029 U	0.0027 U	0.0028 U
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/kg	20000	680	1.4	0.029 U	0.029 U	0.027 U	0.029 U	0.027 U	0.028 U
Dalapon	mg/kg				0.071 U	0.071 U	0.069 U	0.072 U	0.068 U	0.069 U
Dicamba	mg/kg				0.0029 U	0.0029 U	0.0027 U	0.0029 U	0.0027 U	0.0028 U
Total Petroleum Hydrocarbons										
Total Petroleum Hydrocarbons	mg/kg	2500	500	500	15	11 U	11 U	11 U	62	51

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		*IC*	*Res*	*GA*	*SB-1*	*SB-2*	*SB-3*	*SB-4*	*SB-5*	*SB-6*
Sample ID:		*DEC*	*DEC*	*PMC*	*SO-83167-050815-SD-014*	*SO-83167-050515-SD-005*	*SO-83167-050515-SD-004*	*SO-83167-050615-SD-010*	*SO-83167-050715-SD-012*	*SO-83167-050715-SD-011*
Sample Date:					*5/8/2015*	*5/5/2015*	*5/5/2015*	*5/6/2015*	*5/7/2015*	*5/7/2015*
Sample Depth:					*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*
Parameters	***Units***	***a***	***b***	***c***						
General Chemistry										
Conductance, specific	umhos/cm				--	--	--	--	3.9	--
Cyanide (total)	mg/kg	41000	1400	4	--	--	--	--	0.47 U	--
Flash point (closed cup)	Deg F				--	--	--	--		--
pH, lab	s.u.				--	--	--	--	4.6	--
Reactive cyanide	mg/kg				--	--	--	--	4 U	--
Reactive sulfide	mg/kg				--	--	--	--	20 U	--

Footnotes:
Data compared to Remediation Standard Regulations (June 27, 2013), inclusive of Additional Polluting Substances
I/C DEC - Industrial/Commercial Direct Exposure Criteria
Res DEC - Residential Direct Exposure Critera
GA PMC - Pollutant Mobility Criteria for areas classified GA
U - Not detected at the associated reporting limit.

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		*SB-7*	*SB-8*	*SB-9*	*SB-10*	*SB-11*	*SB-12*	*SB-13*
Sample ID:		*SO-83167-050615-SD-007*	*SO-83167-050415-SD-002*	*SO-83167-050515-SD-006*	*SO-83167-050815-SD-013*	*SO-83167-050615-SD-008*	*SO-83167-050615-SD-009*	*SO-83167-050415-SD-001*
Sample Date:		*5/6/2015*	*5/4/2015*	*5/5/2015*	*5/8/2015*	*5/6/2015*	*5/6/2015*	*5/4/2015*
Sample Depth:		*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*
Parameters	***Units***							
VOCs								
1,1,1,2-Tetrachloroethane	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
1,1,1-Trichloroethane	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,1,2,2-Tetrachloroethane	ug/kg	1 U	1.2 U	1.1 U	0.89 U	1.1 U	0.98 U	1.1 U
1,1,2-Trichloroethane	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
1,1-Dichloroethane	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,1-Dichloroethene	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
1,1-Dichloropropene	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
1,2,3-Trichlorobenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,2,3-Trichloropropane	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,2,4-Trichlorobenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,2,4-Trimethylbenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	1 U	1.2 U	1.1 U	0.89 U	1.1 U	0.98 U	1.1 U
1,2-Dichlorobenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,2-Dichloroethane	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,2-Dichloropropane	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,3,5-Trimethylbenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,3-Dichlorobenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
1,3-Dichloropropane	ug/kg	1 U	1.2 U	1.1 U	0.89 U	1.1 U	0.98 U	1.1 U
1,4-Dichlorobenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
2,2-Dichloropropane	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	40 U	50 U	42 U	35 U	44 U	39 U	42 U
2-Chlorotoluene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
2-Hexanone	ug/kg	20 U	25 U	21 U	18 U	22 U	20 U	21 U
2-Phenylbutane (sec-Butylbenzene)	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
4-Chlorotoluene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	20 U	25 U	21 U	18 U	22 U	20 U	21 U
Acetone	ug/kg	100 U	120 U	110 U	89 U	110 U	98 U	110 U
Acrylonitrile	ug/kg	6 U	7.4 U	6.3 U	5.3 U	6.5 U	5.9 U	6.3 U
Benzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Bromobenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Bromodichloromethane	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Bromoform	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Bromomethane (Methyl bromide)	ug/kg	10 U	12 U	11 U	8.9 U	11 U	9.8 U	11 U
Carbon disulfide	ug/kg	40 U	50 U	42 U	35 U	44 U	39 U	42 U
Carbon tetrachloride	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Chlorobenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Chloroethane	ug/kg	20 U	25 U	21 U	18 U	22 U	20 U	21 U
Chloroform (Trichloromethane)	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
Chloromethane (Methyl chloride)	ug/kg	10 U	12 U	11 U	8.9 U	11 U	9.8 U	11 U
cis-1,2-Dichloroethene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
cis-1,3-Dichloropropene	ug/kg	1 U	1.2 U	1.1 U	0.89 U	1.1 U	0.98 U	1.1 U
Cymene (p-Isopropyltoluene)	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Dibromochloromethane	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
Dibromomethane	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Dichlorodifluoromethane (CFC-12)	ug/kg	20 U	25 U	21 U	18 U	22 U	20 U	21 U
Ethylbenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Hexachlorobutadiene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Isopropyl benzene	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
m&p-Xylenes	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
Methyl tert butyl ether (MTBE)	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
Methylene chloride	ug/kg	20 U	25 U	21 U	18 U	22 U	20 U	21 U

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		*SB-7*	*SB-8*	*SB-9*	*SB-10*	*SB-11*	*SB-12*	*SB-13*
Sample ID:		*SO-83167-050615-SD-007*	*SO-83167-050415-SD-002*	*SO-83167-050515-SD-006*	*SO-83167-050815-SD-013*	*SO-83167-050615-SD-008*	*SO-83167-050615-SD-009*	*SO-83167-050415-SD-001*
Sample Date:		*5/6/2015*	*5/4/2015*	*5/5/2015*	*5/8/2015*	*5/6/2015*	*5/6/2015*	*5/4/2015*
Sample Depth:		*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*
Parameters	***Units***							
Naphthalene	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
N-Butylbenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
N-Propylbenzene	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
o-Xylene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Styrene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
tert-Butylbenzene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
Tetrachloroethene	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
Tetrahydrofuran	ug/kg	10 U	12 U	11 U	8.9 U	11 U	9.8 U	11 U
Toluene	ug/kg	2 U	2.5 U	2.1 U	1.8 U	2.2 U	2 U	2.1 U
trans-1,2-Dichloroethene	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
trans-1,3-Dichloropropene	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
trans-1,4-Dichloro-2-butene	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
Trichloroethene	ug/kg	4 U	5 U	4.2 U	3.5 U	4.4 U	3.9 U	4.2 U
Trichlorofluoromethane (CFC-11)	ug/kg	10 U	12 U	11 U	8.9 U	11 U	9.8 U	11 U
Trifluorotrichloroethane (Freon 113)	ug/kg	10 U	12 U	11 U	8.9 U	11 U	9.8 U	11 U
Vinyl chloride	ug/kg	10 U	12 U	11 U	8.9 U	11 U	9.8 U	11 U
SVOCs								
1,2,4,5-Tetrachlorobenzene	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
1,2,4-Trichlorobenzene	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
2,4,5-Trichlorophenol	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
2,4,6-Trichlorophenol	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
2,4-Dichlorophenol	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
2,4-Dimethylphenol	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
2,4-Dinitrophenol	ug/kg	780 U	780 U	730 U	750 U / 3700 U	770 U	730 U	760 U
2,4-Dinitrotoluene	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
2,6-Dinitrotoluene	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
2-Chloronaphthalene	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
2-Chlorophenol	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
2-Methylnaphthalene	ug/kg	200 U	200 U	190 U	960 U / 240	200 U	190 U	200 U
2-Methylphenol	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
2-Nitroaniline	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
2-Nitrophenol	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
3&4-Methylphenol	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
3,3'-Dichlorobenzidine	ug/kg	200 U	200 U	190 U	190 U / 960 U	200 U	190 U	200 U
3-Nitroaniline	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
4,6-Dinitro-2-methylphenol	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
4-Bromophenyl phenyl ether	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
4-Chloro-3-methylphenol	ug/kg	780 U	780 U	730 U	3700 U / 750 U	770 U	730 U	760 U
4-Chloroaniline	ug/kg	780 U	780 U	730 U	3700 U / 750 U	770 U	730 U	760 U
4-Chlorophenyl phenyl ether	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
4-Nitroaniline	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
4-Nitrophenol	ug/kg	780 U	780 U	730 U	750 U / 3700 U	770 U	730 U	760 U
Acenaphthene	ug/kg	200 U	200 U	190 U	960 U / 200	200 U	190 U	200 U
Acenaphthylene	ug/kg	200 U	200 U	190 U	1100 / 740	200 U	190 U	200 U
Acetophenone	ug/kg	--	--	--	--	--	--	--
Aniline	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
Anthracene	ug/kg	220	200 U	330	1100 / 820	200 U	190 U	200 U
Benzidine	ug/kg	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/kg	800	200 U	1200[bc]	3300[bc] / 3600[bc]	200 U	190 U	200 U
Benzo(a)pyrene	ug/kg	670	200 U	790	2700[abc] / 2900[abc]	200 U	190 U	200 U

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		*SB-7*	*SB-8*	*SB-9*	*SB-10*	*SB-11*	*SB-12*	*SB-13*
Sample ID:		*SO-83167-050615-SD-007*	*SO-83167-050415-SD-002*	*SO-83167-050515-SD-006*	*SO-83167-050815-SD-013*	*SO-83167-050615-SD-008*	*SO-83167-050615-SD-009*	*SO-83167-050415-SD-001*
Sample Date:		*5/6/2015*	*5/4/2015*	*5/5/2015*	*5/8/2015*	*5/6/2015*	*5/6/2015*	*5/4/2015*
Sample Depth:		*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*
Parameters	***Units***							
Benzo(b)fluoranthene	ug/kg	950	200 U	1200[bc]	3600[bc] / 3700[bc]	230	190 U	200 U
Benzo(g,h,i)perylene	ug/kg	380	200 U	530	1800 / 1900	200 U	190 U	200 U
Benzo(k)fluoranthene	ug/kg	370	200 U	470	1500[c] / 1200[c]	200 U	190 U	200 U
Benzoic acid	ug/kg	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
bis(2-Chloroethyl)ether	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
Butyl benzylphthalate (BBP)	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
Carbazole	ug/kg	200 U	200 U	190 U	960 U / 400	200 U	190 U	200 U
Chrysene	ug/kg	860	200 U	1200[c]	4000[c] / 3700[c]	200 U	190 U	200 U
Dibenz(a,h)anthracene	ug/kg	200 U	200 U	190 U	550 / 960 U	200 U	190 U	200 U
Dibenzofuran	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
Diethyl phthalate	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
Dimethyl phthalate	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
Di-n-butylphthalate (DBP)	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
Di-n-octyl phthalate (DnOP)	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
Fluoranthene	ug/kg	2000	200 U	2700	7100[c] / 8800 E[c]	440	190 U	200 U
Fluorene	ug/kg	200 U	200 U	230	750 / 960 U	200 U	190 U	200 U
Hexachlorobenzene	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
Hexachlorobutadiene	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
Hexachlorocyclopentadiene	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
Hexachloroethane	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
Indeno(1,2,3-cd)pyrene	ug/kg	420	200 U	570	1700[bc] / 1700[bc]	200 U	190 U	200 U
Isophorone	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
Naphthalene	ug/kg	200 U	200 U	190 U	190 U / 960 U	200 U	190 U	200 U
Nitrobenzene	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
N-Nitrosodimethylamine	ug/kg	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
N-Nitrosodiphenylamine	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
Pentachloronitrobenzene	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
Pentachlorophenol	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
Phenanthrene	ug/kg	1400	200 U	3200	9600 E[c] / 8300[c]	220	190 U	200 U
Phenol	ug/kg	400 U	400 U	370 U	1900 U / 380 U	400 U	380 U	390 U
Pyrene	ug/kg	2300	200 U	2800	11000 E[c] / 7500[c]	530	190 U	200 U
Pyridine	ug/kg	400 U	400 U	370 U	380 U / 1900 U	400 U	380 U	390 U
Total Metals								
Arsenic	mg/kg	3.1	3 U	2.7 U	2.8 U	3 U	2.8 U	2.8 U
Barium	mg/kg	23	26	18	18	13	16	37
Cadmium	mg/kg	0.32	0.3 U	0.27 U	0.28 U	0.3 U	0.28 U	0.28 U
Chromium	mg/kg	6	9.9	7.8	5.8	4.3	4.8	9.8
Lead	mg/kg	24	8.1	17	4.8	2.4	1.6	3
Mercury	mg/kg	0.11	0.03 U	0.026 U	0.027 U	0.03 U	0.027 U	0.028 U
Selenium	mg/kg	5.9 U	5.9 U	5.3 U	5.6 U	6 U	5.7 U	5.7 U
Silver	mg/kg	0.59 U	0.59 U	0.53 U	0.56 U	0.6 U	0.57 U	0.57 U
TCLP Metals								
Arsenic	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Barium	mg/L	0.81	0.18	0.099	0.15	0.16	0.12	0.13
Cadmium	mg/L	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Chromium	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		*SB-7*	*SB-8*	*SB-9*	*SB-10*	*SB-11*	*SB-12*	*SB-13*
Sample ID:		*SO-83167-050615-SD-007*	*SO-83167-050415-SD-002*	*SO-83167-050515-SD-006*	*SO-83167-050815-SD-013*	*SO-83167-050615-SD-008*	*SO-83167-050615-SD-009*	*SO-83167-050415-SD-001*
Sample Date:		*5/6/2015*	*5/4/2015*	*5/5/2015*	*5/8/2015*	*5/6/2015*	*5/6/2015*	*5/4/2015*
Sample Depth:		*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*	*(0-7) ft BGS*
Parameters	***Units***							
Lead	mg/L	0.02[c]	0.012	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Mercury	mg/L	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Selenium	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Silver	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
PCBs								
Aroclor-1016 (PCB-1016)	mg/kg	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Aroclor-1221 (PCB-1221)	mg/kg	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Aroclor-1232 (PCB-1232)	mg/kg	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Aroclor-1242 (PCB-1242)	mg/kg	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Aroclor-1248 (PCB-1248)	mg/kg	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Aroclor-1254 (PCB-1254)	mg/kg	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Aroclor-1260 (PCB-1260)	mg/kg	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Aroclor-1262 (PCB-1262)	mg/kg	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Aroclor-1268 (PCB-1268)	mg/kg	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Total PCBs	mg/kg							
Pesticides								
4,4'-DDD	mg/kg	0.023 U	0.0048 U	0.0044 U	0.0045 U	0.0049 U	0.0042 U	0.0046 U
4,4'-DDE	mg/kg	0.023 U	0.0048 U	0.0044 U	0.0045 U	0.0049 U	0.0042 U	0.0046 U
4,4'-DDT	mg/kg	0.023 U	0.0048 U	0.0044 U	0.0045 U	0.0049 U	0.0042 U	0.0046 U
Alachlor	mg/kg	0.11 U	0.024 U	0.022 U	0.022 U	0.024 U	0.021 U	0.023 U
Aldrin	mg/kg	0.028 U	0.006 U	0.0055 U	0.0056 U	0.0061 U	0.0053 U	0.0057 U
alpha-BHC	mg/kg	0.028 U	0.006 U	0.0055 U	0.0056 U	0.0061 U	0.0053 U	0.0057 U
beta-BHC	mg/kg	0.028 U	0.006 U	0.0055 U	0.0056 U	0.0061 U	0.0053 U	0.0057 U
Chlordane	mg/kg	0.11 U	0.024 U	0.022 U	0.022 U	0.024 U	0.021 U	0.023 U
delta-BHC	mg/kg	0.028 U	0.006 U	0.0055 U	0.0056 U	0.0061 U	0.0053 U	0.0057 U
Dieldrin	mg/kg	0.023 U	0.0048 U	0.0044 U	0.0045 U	0.0049 U	0.0042 U	0.0046 U
Endosulfan I	mg/kg	0.028 U	0.006 U	0.0055 U	0.0056 U	0.0061 U	0.0053 U	0.0057 U
Endosulfan II	mg/kg	0.045 U	0.0096 U	0.0088 U	0.009 U	0.0097 U	0.0084 U	0.0091 U
Endosulfan sulfate	mg/kg	0.045 U	0.0096 U	0.0088 U	0.009 U	0.0097 U	0.0084 U	0.0091 U
Endrin	mg/kg	0.045 U	0.0096 U	0.0088 U	0.009 U	0.0097 U	0.0084 U	0.0091 U
Endrin aldehyde	mg/kg	0.045 U	0.0096 U	0.0088 U	0.009 U	0.0097 U	0.0084 U	0.0091 U
Endrin ketone	mg/kg	0.045 U	0.0096 U	0.0088 U	0.009 U	0.0097 U	0.0084 U	0.0091 U
gamma-BHC (lindane)	mg/kg	0.011 U	0.0024 U	0.0022 U	0.0022 U	0.0024 U	0.0021 U	0.0023 U
Heptachlor	mg/kg	0.028 U	0.006 U	0.0055 U	0.0056 U	0.0061 U	0.0053 U	0.0057 U
Heptachlor epoxide	mg/kg	0.028 U	0.006 U	0.0055 U	0.0056 U	0.0061 U	0.0053 U	0.0057 U
Hexachlorobenzene	mg/kg	0.034 U	0.0072 U	0.0066 U	0.0067 U	0.0073 U	0.0063 U	0.0068 U
Methoxychlor	mg/kg	0.28 U	0.06 U	0.055 U	0.056 U	0.061 U	0.053 U	0.057 U
Toxaphene	mg/kg	0.56 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Herbicides								
2,4,5-T	mg/kg	0.003 U	0.003 U	0.0027 U	0.0028 U	0.003 U	0.0028 U	0.0029 U
2,4,5-TP (Silvex)	mg/kg	0.003 U	0.003 U	0.0027 U	0.0028 U	0.003 U	0.0028 U	0.0029 U
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/kg	0.03 U	0.03 U	0.027 U	0.028 U	0.03 U	0.028 U	0.029 U
Dalapon	mg/kg	0.074 U	0.074 U	0.068 U	0.07 U	0.076 U	0.069 U	0.072 U
Dicamba	mg/kg	0.003 U	0.003 U	0.0027 U	0.0028 U	0.003 U	0.0028 U	0.0029 U
Total Petroleum Hydrocarbons								
Total Petroleum Hydrocarbons	mg/kg	320	12 U	42	490	12 U	11 U	12 U

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		***SB-7***	***SB-8***	***SB-9***	***SB-10***	***SB-11***	***SB-12***	***SB-13***
Sample ID:		***SO-83167-050615-SD-007***	***SO-83167-050415-SD-002***	***SO-83167-050515-SD-006***	***SO-83167-050815-SD-013***	***SO-83167-050615-SD-008***	***SO-83167-050615-SD-009***	***SO-83167-050415-SD-001***
Sample Date:		***5/6/2015***	***5/4/2015***	***5/5/2015***	***5/8/2015***	***5/6/2015***	***5/6/2015***	***5/4/2015***
Sample Depth:		***(0-7) ft BGS***	***(0-7) ft BGS***	***(0-7) ft BGS***	***(0-7) ft BGS***	***(0-7) ft BGS***	***(0-7) ft BGS***	***(0-7) ft BGS***
Parameters	***Units***							
General Chemistry								
Conductance, specific	umhos/cm	5.5	2.6	--	--	--	--	--
Cyanide (total)	mg/kg	0.45 U	0.51 U	--	--	--	--	--
Flash point (closed cup)	Deg F			--	--	--	--	--
pH, lab	s.u.	7.6	6.2	--	--	--	--	--
Reactive cyanide	mg/kg	4 U	4 U	--	--	--	--	--
Reactive sulfide	mg/kg	20 U	20 U	--	--	--	--	--

Footnotes:
Data compared to Remediation Standard Regulations (June 27, 2013), inclusive of
I/C DEC - Industrial/Commercial Direct Exposure Criteria
Res DEC - Residential Direct Exposure Critera
GA PMC - Pollutant Mobility Criteria for areas classified GA
U - Not detected at the associated reporting limit.

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		*SB-14*	*SB-15*	*SB-16*
Sample ID:		*SO-83167-051115-SD-016*	*SO-83167-050515-SD-003*	*SO-83167-051115-SD-015*
Sample Date:		*5/11/2015*	*5/5/2015*	*5/11/2015*
Sample Depth:		*(0-7) ft BGS*	*(0-1.5) ft BGS*	*(0-7) ft BGS*
Parameters	***Units***			
VOCs				
1,1,1,2-Tetrachloroethane	ug/kg	4.2 U	5.7 U	3.5 U
1,1,1-Trichloroethane	ug/kg	2.1 U	2.8 U	1.7 U
1,1,2,2-Tetrachloroethane	ug/kg	1 U	1.4 U	0.86 U
1,1,2-Trichloroethane	ug/kg	4.2 U	5.7 U	3.5 U
1,1-Dichloroethane	ug/kg	2.1 U	2.8 U	1.7 U
1,1-Dichloroethene	ug/kg	4.2 U	5.7 U	3.5 U
1,1-Dichloropropene	ug/kg	4.2 U	5.7 U	3.5 U
1,2,3-Trichlorobenzene	ug/kg	2.1 U	2.8 U	1.7 U
1,2,3-Trichloropropane	ug/kg	2.1 U	2.8 U	1.7 U
1,2,4-Trichlorobenzene	ug/kg	2.1 U	2.8 U	1.7 U
1,2,4-Trimethylbenzene	ug/kg	2.1 U	2.8 U	1.7 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	2.1 U	2.8 U	1.7 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	1 U	1.4 U	0.86 U
1,2-Dichlorobenzene	ug/kg	2.1 U	2.8 U	1.7 U
1,2-Dichloroethane	ug/kg	2.1 U	2.8 U	1.7 U
1,2-Dichloropropane	ug/kg	2.1 U	2.8 U	1.7 U
1,3,5-Trimethylbenzene	ug/kg	2.1 U	2.8 U	1.7 U
1,3-Dichlorobenzene	ug/kg	2.1 U	2.8 U	1.7 U
1,3-Dichloropropane	ug/kg	1 U	1.4 U	0.86 U
1,4-Dichlorobenzene	ug/kg	2.1 U	2.8 U	1.7 U
2,2-Dichloropropane	ug/kg	4.2 U	5.7 U	3.5 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	42 U	57 U	35 U
2-Chlorotoluene	ug/kg	2.1 U	2.8 U	1.7 U
2-Hexanone	ug/kg	21 U	28 U	17 U
2-Phenylbutane (sec-Butylbenzene)	ug/kg	2.1 U	2.8 U	1.7 U
4-Chlorotoluene	ug/kg	2.1 U	2.8 U	1.7 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	21 U	28 U	17 U
Acetone	ug/kg	100 U	140 U	86 U
Acrylonitrile	ug/kg	6.3 U	8.5 U	5.2 U
Benzene	ug/kg	2.1 U	2.8 U	1.7 U
Bromobenzene	ug/kg	2.1 U	2.8 U	1.7 U
Bromodichloromethane	ug/kg	2.1 U	2.8 U	1.7 U
Bromoform	ug/kg	2.1 U	2.8 U	1.7 U
Bromomethane (Methyl bromide)	ug/kg	10 U	14 U	8.6 U
Carbon disulfide	ug/kg	42 U	57 U	35 U
Carbon tetrachloride	ug/kg	2.1 U	2.8 U	1.7 U
Chlorobenzene	ug/kg	2.1 U	2.8 U	1.7 U
Chloroethane	ug/kg	21 U	28 U	17 U
Chloroform (Trichloromethane)	ug/kg	4.2 U	5.7 U	3.5 U
Chloromethane (Methyl chloride)	ug/kg	10 U	14 U	8.6 U
cis-1,2-Dichloroethene	ug/kg	2.1 U	2.8 U	1.7 U
cis-1,3-Dichloropropene	ug/kg	1 U	1.4 U	0.86 U
Cymene (p-Isopropyltoluene)	ug/kg	2.1 U	2.8 U	1.7 U
Dibromochloromethane	ug/kg	4.2 U	5.7 U	3.5 U
Dibromomethane	ug/kg	2.1 U	2.8 U	1.7 U
Dichlorodifluoromethane (CFC-12)	ug/kg	21 U	28 U	17 U
Ethylbenzene	ug/kg	2.1 U	2.8 U	1.7 U
Hexachlorobutadiene	ug/kg	2.1 U	2.8 U	1.7 U
Isopropyl benzene	ug/kg	4.2 U	5.7 U	3.5 U
m&p-Xylenes	ug/kg	4.2 U	5.7 U	3.5 U
Methyl tert butyl ether (MTBE)	ug/kg	4.2 U	5.7 U	3.5 U
Methylene chloride	ug/kg	21 U	28 U	17 U

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		***SB-14***	***SB-15***	***SB-16***
Sample ID:		***SO-83167-051115-SD-016***	***SO-83167-050515-SD-003***	***SO-83167-051115-SD-015***
Sample Date:		***5/11/2015***	***5/5/2015***	***5/11/2015***
Sample Depth:		***(0-7) ft BGS***	***(0-1.5) ft BGS***	***(0-7) ft BGS***
Parameters	***Units***			
Naphthalene	ug/kg	4.2 U	5.7 U	3.5 U
N-Butylbenzene	ug/kg	2.1 U	2.8 U	1.7 U
N-Propylbenzene	ug/kg	4.2 U	5.7 U	3.5 U
o-Xylene	ug/kg	2.1 U	2.8 U	1.7 U
Styrene	ug/kg	2.1 U	2.8 U	1.7 U
tert-Butylbenzene	ug/kg	2.1 U	2.8 U	1.7 U
Tetrachloroethene	ug/kg	4.2 U	5.7 U	3.5 U
Tetrahydrofuran	ug/kg	10 U	14 U	8.6 U
Toluene	ug/kg	2.1 U	2.8 U	1.7 U
trans-1,2-Dichloroethene	ug/kg	4.2 U	5.7 U	3.5 U
trans-1,3-Dichloropropene	ug/kg	4.2 U	5.7 U	3.5 U
trans-1,4-Dichloro-2-butene	ug/kg	4.2 U	5.7 U	3.5 U
Trichloroethene	ug/kg	4.2 U	5.7 U	3.5 U
Trichlorofluoromethane (CFC-11)	ug/kg	10 U	14 U	8.6 U
Trifluorotrichloroethane (Freon 113)	ug/kg	10 U	14 U	8.6 U
Vinyl chloride	ug/kg	10 U	14 U	8.6 U
SVOCs				
1,2,4,5-Tetrachlorobenzene	ug/kg	360 U	490 U	400 U / 1600 U
1,2,4-Trichlorobenzene	ug/kg	360 U	490 U	400 U / 1600 U
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	360 U	490 U	400 U / 1600 U
2,4,5-Trichlorophenol	ug/kg	360 U	490 U	1600 U / 400 U
2,4,6-Trichlorophenol	ug/kg	360 U	490 U	1600 U / 400 U
2,4-Dichlorophenol	ug/kg	360 U	490 U	400 U / 1600 U
2,4-Dimethylphenol	ug/kg	360 U	490 U	1600 U / 400 U
2,4-Dinitrophenol	ug/kg	700 U	940 U	770 U / 3100 U
2,4-Dinitrotoluene	ug/kg	360 U	490 U	1600 U / 400 U
2,6-Dinitrotoluene	ug/kg	360 U	490 U	1600 U / 400 U
2-Chloronaphthalene	ug/kg	360 U	490 U	1600 U / 400 U
2-Chlorophenol	ug/kg	360 U	490 U	1600 U / 400 U
2-Methylnaphthalene	ug/kg	180 U	350	790 U / 340
2-Methylphenol	ug/kg	360 U	490 U	1600 U / 400 U
2-Nitroaniline	ug/kg	360 U	490 U	1600 U / 400 U
2-Nitrophenol	ug/kg	360 U	490 U	1600 U / 400 U
3&4-Methylphenol	ug/kg	360 U	1300[c]	1600 U / 400 U
3,3'-Dichlorobenzidine	ug/kg	180 U	240 U	790 U / 200 U
3-Nitroaniline	ug/kg	360 U	490 U	400 U / 1600 U
4,6-Dinitro-2-methylphenol	ug/kg	360 U	490 U	400 U / 1600 U
4-Bromophenyl phenyl ether	ug/kg	360 U	490 U	400 U / 1600 U
4-Chloro-3-methylphenol	ug/kg	700 U	940 U	3100 U / 770 U
4-Chloroaniline	ug/kg	700 U	940 U	770 U / 3100 U
4-Chlorophenyl phenyl ether	ug/kg	360 U	490 U	400 U / 1600 U
4-Nitroaniline	ug/kg	360 U	490 U	400 U / 1600 U
4-Nitrophenol	ug/kg	700 U	940 U	3100 U / 770 U
Acenaphthene	ug/kg	180 U	240 U	380 / 790 U
Acenaphthylene	ug/kg	180 U	240 U	790 U / 490
Acetophenone	ug/kg	360 U	--	400 U / 1600 U
Aniline	ug/kg	360 U	490 U	1600 U / 400 U
Anthracene	ug/kg	180 U	240 U	1700 / 2000
Benzidine	ug/kg	700 U	--	770 U / 3100 U
Benzo(a)anthracene	ug/kg	180 U	240 U	5100[bc] / 4200[bc]
Benzo(a)pyrene	ug/kg	180 U	240 U	3400[abc] / 4000[abc]

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		***SB-14***	***SB-15***	***SB-16***
Sample ID:		***SO-83167-051115-SD-016***	***SO-83167-050515-SD-003***	***SO-83167-051115-SD-015***
Sample Date:		***5/11/2015***	***5/5/2015***	***5/11/2015***
Sample Depth:		***(0-7) ft BGS***	***(0-1.5) ft BGS***	***(0-7) ft BGS***
Parameters	***Units***			
Benzo(b)fluoranthene	ug/kg	180 U	240 U	4500[bc] / 5400[bc]
Benzo(g,h,i)perylene	ug/kg	180 U	240 U	2300 / 2000
Benzo(k)fluoranthene	ug/kg	180 U	240 U	2200[c] / 1800[c]
Benzoic acid	ug/kg	1100 U	--	1200 U / 4700 U
bis(2-Chloroethoxy)methane	ug/kg	360 U	490 U	1600 U / 400 U
bis(2-Chloroethyl)ether	ug/kg	360 U	490 U	400 U / 1600 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	360 U	490 U	400 U / 1600 U
Butyl benzylphthalate (BBP)	ug/kg	360 U	490 U	1600 U / 400 U
Carbazole	ug/kg	180 U	240 U	1000 / 910
Chrysene	ug/kg	180 U	240 U	5400[c] / 4600[c]
Dibenz(a,h)anthracene	ug/kg	180 U	240 U	580 / 790 U
Dibenzofuran	ug/kg	360 U	490 U	460 / 1600 U
Diethyl phthalate	ug/kg	360 U	490 U	400 U / 1600 U
Dimethyl phthalate	ug/kg	360 U	490 U	400 U / 1600 U
Di-n-butylphthalate (DBP)	ug/kg	360 U	490 U	1600 U / 400 U
Di-n-octyl phthalate (DnOP)	ug/kg	360 U	490 U	1600 U / 400 U
Fluoranthene	ug/kg	180 U	240 U	10000 E[c] / 12000[c]
Fluorene	ug/kg	180 U	240 U	1400 / 1100
Hexachlorobenzene	ug/kg	360 U	490 U	400 U / 1600 U
Hexachlorobutadiene	ug/kg	360 U	490 U	400 U / 1600 U
Hexachlorocyclopentadiene	ug/kg	360 U	490 U	400 U / 1600 U
Hexachloroethane	ug/kg	360 U	490 U	400 U / 1600 U
Indeno(1,2,3-cd)pyrene	ug/kg	180 U	240 U	2600[bc] / 2100[bc]
Isophorone	ug/kg	360 U	490 U	1600 U / 400 U
Naphthalene	ug/kg	180 U	250	210 / 790 U
Nitrobenzene	ug/kg	360 U	490 U	1600 U / 400 U
N-Nitrosodimethylamine	ug/kg	360 U	--	1600 U / 400 U
N-Nitrosodi-n-propylamine	ug/kg	360 U	490 U	1600 U / 400 U
N-Nitrosodiphenylamine	ug/kg	360 U	490 U	1600 U / 400 U
Pentachloronitrobenzene	ug/kg	360 U	490 U	400 U / 1600 U
Pentachlorophenol	ug/kg	360 U	490 U	1600 U / 400 U
Phenanthrene	ug/kg	180 U	440	13000[c] / 11000 E[c]
Phenol	ug/kg	360 U	490 U	1600 U / 400 U
Pyrene	ug/kg	190	240 U	10000 E[c] / 12000[c]
Pyridine	ug/kg	360 U	490 U	400 U / 1600 U
Total Metals				
Arsenic	mg/kg	2.7 U	5	2.8 U
Barium	mg/kg	15	73	44
Cadmium	mg/kg	0.27 U	0.48	0.28 U
Chromium	mg/kg	5	14	11
Lead	mg/kg	7	87	28
Mercury	mg/kg	0.027 U	1	0.038
Selenium	mg/kg	5.4 U	7.1 U	5.6 U
Silver	mg/kg	0.54 U	0.71 U	0.56 U
TCLP Metals				
Arsenic	mg/L	0.01 U	0.01 U	0.01 U
Barium	mg/L	0.079	0.11	0.43
Cadmium	mg/L	0.004 U	0.004 U	0.004 U
Chromium	mg/L	0.01 U	0.01 U	0.01 U

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		***SB-14***	***SB-15***	***SB-16***
Sample ID:		***SO-83167-051115-SD-016***	***SO-83167-050515-SD-003***	***SO-83167-051115-SD-015***
Sample Date:		***5/11/2015***	***5/5/2015***	***5/11/2015***
Sample Depth:		***(0-7) ft BGS***	***(0-1.5) ft BGS***	***(0-7) ft BGS***
Parameters	***Units***			
Lead	mg/L	0.01 U	0.021[c]	0.043[c]
Mercury	mg/L	0.0001 U	0.00024	0.0001 U
Selenium	mg/L	0.05 U	0.05 U	0.05 U
Silver	mg/L	0.005 U	0.005 U	0.005 U
PCBs				
Aroclor-1016 (PCB-1016)	mg/kg	0.11 U	0.14 U	0.11 U
Aroclor-1221 (PCB-1221)	mg/kg	0.11 U	0.14 U	0.11 U
Aroclor-1232 (PCB-1232)	mg/kg	0.11 U	0.14 U	0.11 U
Aroclor-1242 (PCB-1242)	mg/kg	0.11 U	0.14 U	0.11 U
Aroclor-1248 (PCB-1248)	mg/kg	0.11 U	0.14 U	0.11 U
Aroclor-1254 (PCB-1254)	mg/kg	0.11 U	0.14 U	0.11 U
Aroclor-1260 (PCB-1260)	mg/kg	0.11 U	0.14 U	0.11 U
Aroclor-1262 (PCB-1262)	mg/kg	0.11 U	0.14 U	0.11 U
Aroclor-1268 (PCB-1268)	mg/kg	0.11 U	0.14 U	0.11 U
Total PCBs	mg/kg			
Pesticides				
4,4'-DDD	mg/kg	0.0044 U	0.0057 U	0.0045 U
4,4'-DDE	mg/kg	0.0044 U	0.0057 U	0.0045 U
4,4'-DDT	mg/kg	0.0044 U	0.0057 U	0.0091
Alachlor	mg/kg	0.022 U	0.029 U	0.022 U
Aldrin	mg/kg	0.0055 U	0.0071 U	0.0056 U
alpha-BHC	mg/kg	0.0055 U	0.0071 U	0.0056 U
beta-BHC	mg/kg	0.0055 U	0.0071 U	0.0056 U
Chlordane	mg/kg	0.022 U	0.029 U	0.022 U
delta-BHC	mg/kg	0.0055 U	0.0071 U	0.0056 U
Dieldrin	mg/kg	0.0044 U	0.0057 U	0.0045 U
Endosulfan I	mg/kg	0.0055 U	0.0071 U	0.0056 U
Endosulfan II	mg/kg	0.0088 U	0.011 U	0.009 U
Endosulfan sulfate	mg/kg	0.0088 U	0.011 U	0.009 U
Endrin	mg/kg	0.0088 U	0.011 U	0.009 U
Endrin aldehyde	mg/kg	0.0088 U	0.011 U	0.009 U
Endrin ketone	mg/kg	0.0088 U	0.011 U	0.009 U
gamma-BHC (lindane)	mg/kg	0.0022 U	0.0029 U	0.0022 U
Heptachlor	mg/kg	0.0055 U	0.0071 U	0.0056 U
Heptachlor epoxide	mg/kg	0.0055 U	0.0071 U	0.0056 U
Hexachlorobenzene	mg/kg	0.0066 U	0.0086 U	0.0067 U
Methoxychlor	mg/kg	0.055 U	0.071 U	0.056 U
Toxaphene	mg/kg	0.11 U	0.14 U	0.11 U
Herbicides				
2,4,5-T	mg/kg	0.0028 U	0.0035 U	0.003 U
2,4,5-TP (Silvex)	mg/kg	0.0028 U	0.0035 U	0.003 U
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/kg	0.028 U	0.035 U	0.03 U
Dalapon	mg/kg	0.069 U	0.088 U	0.075 U
Dicamba	mg/kg	0.0028 U	0.0035 U	0.003 U
Total Petroleum Hydrocarbons				
Total Petroleum Hydrocarbons	mg/kg	15	44 / 67	280

TABLE 1

SOIL ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:		***SB-14***	***SB-15***	***SB-16***
Sample ID:		***SO-83167-051115-SD-016***	***SO-83167-050515-SD-003***	***SO-83167-051115-SD-015***
Sample Date:		***5/11/2015***	***5/5/2015***	***5/11/2015***
Sample Depth:		***(0-7) ft BGS***	***(0-1.5) ft BGS***	***(0-7) ft BGS***
Parameters	***Units***			
General Chemistry				
Conductance, specific	umhos/cm	2.8	--	--
Cyanide (total)	mg/kg	0.39 U	--	--
Flash point (closed cup)	Deg F		--	--
pH, lab	s.u.	5.8	--	--
Reactive cyanide	mg/kg	4 U	--	--
Reactive sulfide	mg/kg	20 U	--	--

Footnotes:
Data compared to Remediation Standard Regulations (June 27, 2013), inclusive of
I/C DEC - Industrial/Commercial Direct Exposure Criteria
Res DEC - Residential Direct Exposure Critera
GA PMC - Pollutant Mobility Criteria for areas classified GA
U - Not detected at the associated reporting limit.

Attachment 3

Groundwater Table

TABLE 2

GROUNDWATER ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:						***MW-1***
Sample ID:						***GW-83167-050815-SD-001***
Sample Date:						***5/8/2015***
Parameters	***Units***	***GWPC*** ***a***	***SWPC*** ***b***	***IC GWVC*** ***c***	***Res GWVC*** ***d***	
VOCs						
1,1,1,2-Tetrachloroethane	ug/L	1		50	12	0.5 U
1,1,1-Trichloroethane	ug/L	200	62000	50000	20400	0.5 U
1,1,2,2-Tetrachloroethane	ug/L	0.5	110	100	23	0.5 U
1,1,2-Trichloroethane	ug/L	5	1260	19600	8000	0.5 U
1,1-Dichloroethane	ug/L	70		50000	34600	0.5 U
1,1-Dichloroethene	ug/L	7	96	6	1	0.5 U
1,1-Dichloropropene	ug/L					0.5 U
1,2,3-Trichlorobenzene	ug/L					0.5 U
1,2,3-Trichloropropane	ug/L					0.5 U
1,2,4-Trichlorobenzene	ug/L	70				5 U
1,2,4-Trimethylbenzene	ug/L	350				0.5 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L					0.5 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.05			4	0.5 U
1,2-Dichlorobenzene	ug/L	600	170000	50000	30500	0.5 U
1,2-Dichloroethane	ug/L	1	2970	90	21	0.5 U
1,2-Dichloropropane	ug/L	5		60	14	0.5 U
1,3,5-Trimethylbenzene	ug/L	350				0.5 U
1,3-Dichlorobenzene	ug/L	600	26000	50000	24200	0.5 U
1,3-Dichloropropane	ug/L					0.5 U
1,4-Dichlorobenzene	ug/L	75	26000	50000	50000	0.5 U
2,2-Dichloropropane	ug/L					0.5 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	400		50000	50000	5 U
2-Chlorotoluene	ug/L					0.5 U
2-Hexanone	ug/L					5 U
2-Phenylbutane (sec-Butylbenzene)	ug/L	61				1 U
4-Chlorotoluene	ug/L					0.5 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	350		50000	50000	5 U
Acetone	ug/L	700		50000	50000	5 U
Acrylonitrile	ug/L	0.5	20			2 U
Benzene	ug/L	1	710	530	215	0.5 U
Bromobenzene	ug/L					0.5 U
Bromodichloromethane	ug/L	0.56				0.5 U
Bromoform	ug/L	4	10800	3800	920	0.5 U
Bromomethane (Methyl bromide)	ug/L	9.8				1 U
Carbon disulfide	ug/L	700				5 U
Carbon tetrachloride	ug/L	5	132	40	16	0.5 U
Chlorobenzene	ug/L	100	420000	6150	1800	0.5 U
Chloroethane	ug/L					0.5 U
Chloroform (Trichloromethane)	ug/L	6	14100	710	287	0.5 U
Chloromethane (Methyl chloride)	ug/L	2.7				0.5 U
cis-1,2-Dichloroethene	ug/L	70				0.5 U
cis-1,3-Dichloropropene	ug/L	0.5	34000	25		0.5 U
Cymene (p-Isopropyltoluene)	ug/L	30				0.5 U
Dibromochloromethane	ug/L	0.5	1020			0.5 U
Dibromomethane	ug/L					0.5 U
Dichlorodifluoromethane (CFC-12)	ug/L					0.5 U
Ethylbenzene	ug/L	700	580000	50000	50000	0.5 U
Hexachlorobutadiene	ug/L	0.45				2 U
Isopropyl benzene	ug/L	30				0.5 U
m&p-Xylenes	ug/L	530		50000	21300	2 U
Methyl tert butyl ether (MTBE)	ug/L	100		50000	50000	0.5 U
Methylene chloride	ug/L	5	48000	50000	50000	5 U

TABLE 2

GROUNDWATER ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:						***MW-1***
Sample ID:						***GW-83167-050815-SD-001***
Sample Date:						***5/8/2015***
		GWPC	***SWPC***	***IC GWVC***	***Res GWVC***	
Parameters	***Units***	***a***	***b***	***c***	***d***	
Naphthalene	ug/L	280				2 U
N-Butylbenzene	ug/L	61				1 U
N-Propylbenzene	ug/L	61				1 U
o-Xylene	ug/L	530		50000	21300	1 U
Styrene	ug/L	100		2065	580	1 U
tert-Butylbenzene	ug/L	61				1 U
Tetrachloroethene	ug/L	5	88	3820	1500	1 U
Tetrahydrofuran	ug/L					10 U
Toluene	ug/L	1000	4000000	50000	23500	1 U
trans-1,2-Dichloroethene	ug/L	100				1 U
trans-1,3-Dichloropropene	ug/L	0.5	34000	25	6	0.5 U
trans-1,4-Dichloro-2-butene	ug/L					2 U
Trichloroethene	ug/L	5	2340	540	219	1 U
Trichlorofluoromethane (CFC-11)	ug/L	1300				2 U
Trifluorotrichloroethane (Freon 113)	ug/L	20000				0.5 U
Vinyl chloride	ug/L	2	15750	2	2	1 U
SVOCs						
1,2,4,5-Tetrachlorobenzene	ug/L	2				2 U
1,2,4-Trichlorobenzene	ug/L	70				5 U
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L					10 U
2,4,5-Trichlorophenol	ug/L	700				10 U
2,4,6-Trichlorophenol	ug/L	10(11)				10 U
2,4-Dichlorophenol	ug/L	20	15800			10 U
2,4-Dimethylphenol	ug/L	140				10 U
2,4-Dinitrophenol	ug/L	50				10 U
2,4-Dinitrotoluene	ug/L	14				10 U
2,6-Dinitrotoluene	ug/L	10				10 U
2-Chloronaphthalene	ug/L	560				10 U
2-Chlorophenol	ug/L	36				10 U
2-Methylnaphthalene	ug/L	49				1 U
2-Methylphenol	ug/L	350				10 U
2-Nitroaniline	ug/L	50				10 U
2-Nitrophenol	ug/L	56				10 U
3&4-Methylphenol	ug/L	35				10 U
3,3'-Dichlorobenzidine	ug/L	10				10 U
3-Nitroaniline	ug/L	50				10 U
4,6-Dinitro-2-methylphenol	ug/L					10 U
4-Bromophenyl phenyl ether	ug/L	410				10 U
4-Chloro-3-methylphenol	ug/L					10 U
4-Chloroaniline	ug/L	28				10 U
4-Chlorophenyl phenyl ether	ug/L	410				10 U
4-Nitroaniline	ug/L	21				10 U
4-Nitrophenol	ug/L					10 U
Acenaphthene	ug/L	420				0.3 U
Acenaphthylene	ug/L	420	0.3			0.3 U
Aniline	ug/L	6				5 U
Anthracene	ug/L	2000	1100000			0.2 U
Benzo(a)anthracene	ug/L	0.06	0.3			0.05 U
Benzo(a)pyrene	ug/L	0.2	0.3			0.1 U
Benzo(b)fluoranthene	ug/L	0.08	0.3			0.05 U
Benzo(g,h,i)perylene	ug/L	210				0.5 U

TABLE 2

GROUNDWATER ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:						***MW-1***
Sample ID:						***GW-83167-050815-SD-001***
Sample Date:						***5/8/2015***
		GWPC	***SWPC***	***IC GWVC***	***Res GWVC***	
Parameters	***Units***	***a***	***b***	***c***	***d***	
Benzo(k)fluoranthene	ug/L	0.5	0.3			0.2 U
bis(2-Chloroethoxy)methane	ug/L					10 U
bis(2-Chloroethyl)ether	ug/L	12	42			10 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	2				2.8[a]
Butyl benzylphthalate (BBP)	ug/L	1000				10 U
Carbazole	ug/L	10				10 U
Chrysene	ug/L	4.8				0.2 U
Dibenz(a,h)anthracene	ug/L	0.2				0.2 U
Dibenzofuran	ug/L	28				5 U
Diethyl phthalate	ug/L	5600				10 U
Dimethyl phthalate	ug/L	5600				10 U
Di-n-butylphthalate (DBP)	ug/L	700	120000			10 U
Di-n-octyl phthalate (DnOP)	ug/L	100				10 U
Fluoranthene	ug/L	280	3700			0.5 U
Fluorene	ug/L	280	140000			1 U
Hexachlorobenzene	ug/L	1	0.077			2 U
Hexachlorobutadiene	ug/L	0.45				10 U
Hexachlorocyclopentadiene	ug/L	49				10 U
Hexachloroethane	ug/L	3	89			2 U
Indeno(1,2,3-cd)pyrene	ug/L	0.2				0.2 U
Isophorone	ug/L	37				10 U
Naphthalene	ug/L	280				1 U
Nitrobenzene	ug/L	10				10 U
N-Nitrosodi-n-propylamine	ug/L	10				10 U
N-Nitrosodiphenylamine	ug/L	10				10 U
Pentachloronitrobenzene	ug/L	0.13				5 U
Pentachlorophenol	ug/L	1				5 U
Phenanthrene	ug/L	200	23			0.061
Phenol	ug/L	4000	92000000			10 U
Pyrene	ug/L	200	110000			1 U
Pyridine	ug/L	0.7				5 U
Metals						
Arsenic	mg/L	0.05	4			0.002 U
Barium	mg/L	1				0.05 U
Cadmium	mg/L	0.005	6			0.0025 U
Chromium	mg/L	0.1	110			0.005 U
Lead	mg/L	0.015	13			0.005 U
Mercury	mg/L	0.002	0.4			0.0001 U
Selenium	mg/L	0.05	50			0.025 U
Silver	mg/L	0.036	12			0.0025 U
PCBs						
Aroclor-1016 (PCB-1016)	mg/L					0.0002 U
Aroclor-1221 (PCB-1221)	mg/L					0.0002 U
Aroclor-1232 (PCB-1232)	mg/L					0.0002 U
Aroclor-1242 (PCB-1242)	mg/L					0.0002 U
Aroclor-1248 (PCB-1248)	mg/L					0.0002 U
Aroclor-1254 (PCB-1254)	mg/L					0.0002 U
Aroclor-1260 (PCB-1260)	mg/L					0.0002 U
Aroclor-1262 (PCB-1262)	mg/L					0.0002 U

TABLE 2

GROUNDWATER ANALYTICAL RESULTS SUMMARY
BAIRD SUBSTATION EXPANSION
STRATFORD, CONNECTICUT

Sample Location:						***MW-1***
Sample ID:						***GW-83167-050815-SD-001***
Sample Date:						***5/8/2015***
Parameters	***Units***	***GWPC a***	***SWPC b***	***I/C GWVC c***	***Res GWVC d***	
Aroclor-1268 (PCB-1268)	mg/L					0.0002 U
Total PCBs	mg/L	0.0005	0.0005			
Pesticides						
4,4'-DDD	mg/L	0.00015				0.00004 U
4,4'-DDE	mg/L	0.0001				0.00004 U
4,4'-DDT	mg/L	0.0001				0.00004 U
Alachlor	mg/L	0.002				0.0002 U
Aldrin	mg/L					0.00005 U
alpha-BHC	mg/L					0.00005 U
beta-BHC	mg/L					0.00005 U
Chlordane	mg/L	0.0003	0.0003			0.0002 U
delta-BHC	mg/L					0.00005 U
Dieldrin	mg/L	0.000002	0.0001			0.000002 U
Endosulfan I	mg/L	0.042				0.00005 U
Endosulfan II	mg/L	0.042				0.00008 U
Endosulfan sulfate	mg/L	0.042				0.00008 U
Endrin	mg/L		0.0001			0.00008 U
Endrin aldehyde	mg/L					0.00008 U
Endrin ketone	mg/L					0.00008 U
gamma-BHC (lindane)	mg/L	0.0002				0.00003 U
Heptachlor	mg/L	0.0004	0.00005			0.00005 U
Heptachlor epoxide	mg/L	0.0002	0.00005			0.00005 U
Hexachlorobenzene	mg/L	0.001	0.000077			0.00005 U
Methoxychlor	mg/L	0.04				0.0005 U
Toxaphene	mg/L	0.003	0.001			0.001 U
Herbicides						
2,4,5-T	mg/L					0.0001 U
2,4,5-TP (Silvex)	mg/L					0.00005 U
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L					0.0005 U
Dalapon	mg/L					0.0012 U
Dicamba	mg/L					0.00005 U
General Chemistry						
Ammonia	mg/L					0.3 U
Chloride	mg/L					80
Cyanide (amenable)	mg/L					0.01 U
Cyanide (total)	mg/L	0.2	0.052			0.01 U
Oil and grease (HEM), total	mg/L					1.6 U
Total suspended solids (TSS)	mg/L					5 U

Footnotes:
Data compared to Remediation Standard Regulations (June 27, 2013), inclusive of Additional Polluting Substances
GWPC - Groundwater Protection Critera
SWPC - Surface Water Protection Criteria
I/C GWVC - Industrial/Commercial Groundwater Volatilization Criteria
Res GWVC - Residential Groundwater Volatilization Criteria
U - Not detected at the associated reporting limit.

APPENDIX J

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION: WILDLIFE DIVISION – NATURAL DIVERSITY DATABASE CORRESPONDENCE

Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

April 22, 2016

Shawn C. Crosbie
The United Illuminating Company
180 Marsh Hill Rd
Orange, CT 06477
shawn.crosbie@uinet.com

Project: Renewal of NDDB Review Request 201501881 with No Modifications for Reconstruction of Baird Substation Located at 1746 Stratford Avenue in Stratford
NDDB Determination No.: 201605069

Dear Shawn C. Crosbie,

I have reviewed Natural Diversity Data Base (NDDB) maps and files regarding the area delineated on the map provided for the proposed Renewal of NDDB Review Request 201501881 with No Modifications for Reconstruction of Baird Substation Located at 1746 Stratford Avenue in Stratford, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for one year. Please re-submit an NDDB Request for Review if the scope of work changes or if work has not begun on this project by April 22, 2017.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay

Dawn M. McKay
Environmental Analyst 3

Natural Diversity Data Base Areas

STRATFORD, CT

June 2016

State and Federal Listed Species & Significant Natural Communities

Town Boundary

NOTE: This map shows general locations of State and Federal Listed Species and Significant Natural Communities. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a number of data sources . Exact locations of species have been buffered to produce the general locations. Exact locations of species and communities occur somewhere in the shaded areas, not necessarily in the center. A new mapping format is being employed that more accurately models important riparian and aquatic areas and eliminates the need for the upstream/downstream searches required in previous versions.

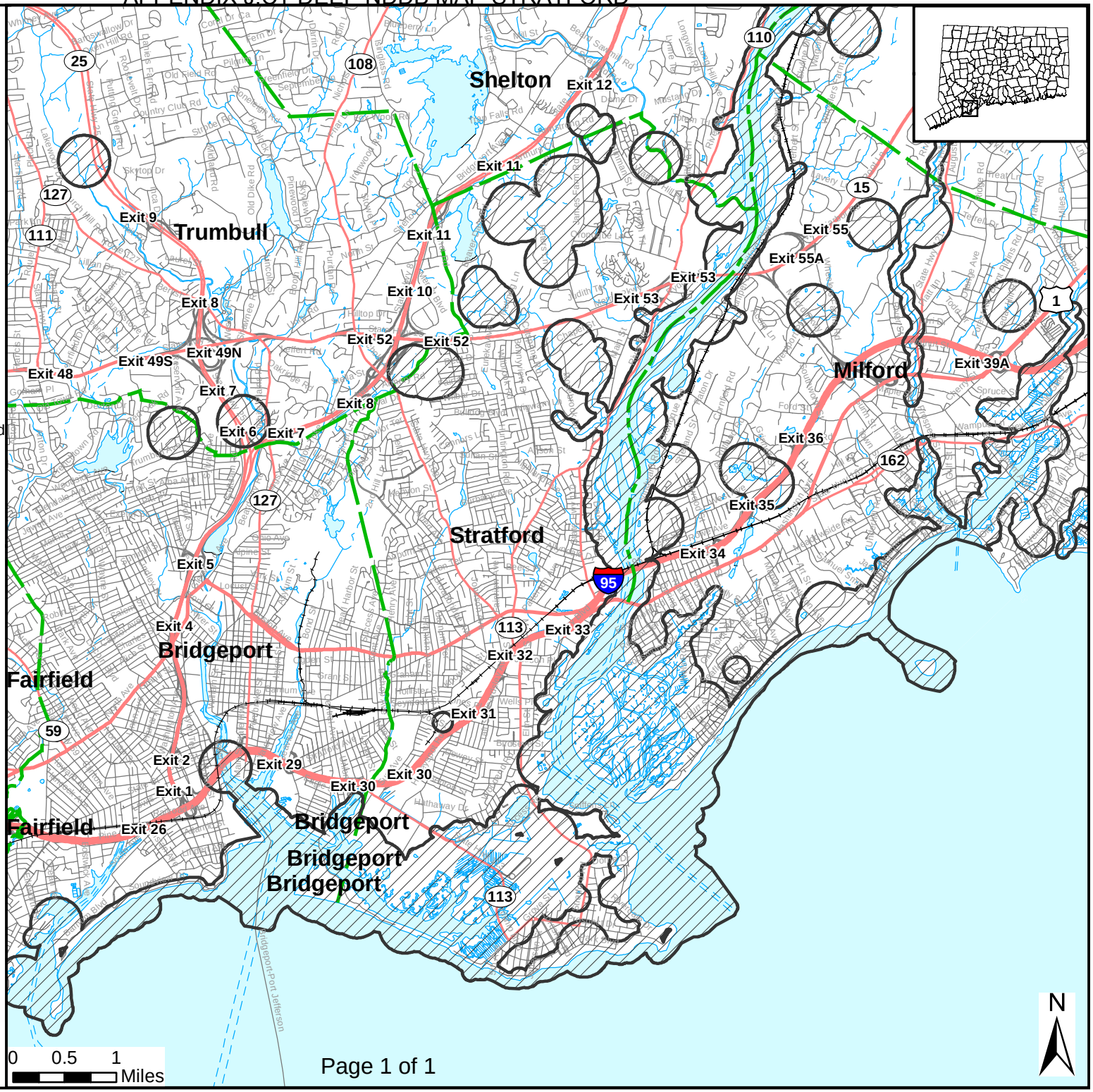
This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a shaded area there may be a potential conflict with a listed species. For more information, complete a Request for Natural Diversity Data Base State Listed Species Review form (DEP-APP-007), and submit it to the NDDB along with the required maps and information. More detailed instructions are provided with the request form on our website.

www.ct.gov/deep/nddbrequest

Use the CTECO Interactive Map Viewers at www.cteco.uconn.edu to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St., Hartford CT 06106
Phone (860) 424-3011

Connecticut Department of Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division



APPENDIX K

PRELIMINARY PLANTING PLAN

PLANTING PLAN

SCALE: 0' 15' 30'

LEGEND

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- PROPOSED EASEMENT
- EXISTING FENCE
- PROPOSED FENCE
- PROPOSED GUARDRAIL
- SUBSURFACE UTLITIES
- EXISTING VEGETATION
- PROPOSED STREET TREE
- PROPOSED EVERGREEN TREE
- LAWN OR OTHER ORNAMENTAL PLANTINGS

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, EXISTING AND PROPOSED SITE CONDITIONS TAKEN FROM A DRAWING PREPARED TRANSMISSION & SUBSTATION ENGINEERING.
2. THE LOCATION AND QUANTITY OF EXISTING VEGETATION IS APPROXIMATE AND IS BASED ON FIELD OBSERVATIONS BY WILLIAM KENNY ASSOCIATES LLC.
3. PROPOSED PLANTING INFORMATION PROVIDED BY WILLIAM KENNY ASSOCIATES LLC.

PLANT LIST

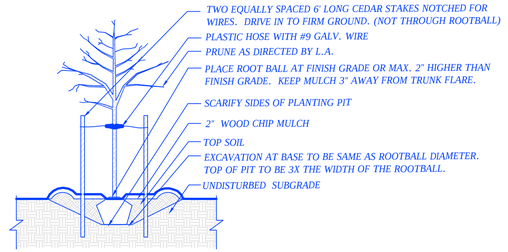
SYM.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
PROPOSED STREET TREES					
TA	7	TILIA AMERICANA 'LINCOLN'	LINCOLN LINDEN	2.5-3" CAL	B&B
TOTAL	7				
PROPOSED EVERGREEN TREES					
TO	45	THUJA OCCIDENTALIS 'SMARAGD'	AMERICAN ARBORVITAE	4'-5' HT.	B&B
TGG	5	THUJA X 'GREEN GIANT'	GREEN GIANT ARBORVITAE	12'-14' HT.	B&B
TOTAL:	50				

PLANTING NOTES

1. PROPOSED TREE LOCATIONS TO BE ADJUSTED IN FIELD AS NEEDED BASED ON FIELD CONDITIONS.
2. BOTANICAL NAMES SHALL PREVAIL OVER COMMON NAMES.
3. ALL PLANT MATERIAL SHALL BE NURSERY GROWN; NO COLLECTED MATERIALS SHALL BE ACCEPTED, UNLESS SPECIFICALLY INDICATED.
4. PLANTS SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS IN ALL WAYS INCLUDING DIMENSIONS.
5. THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REJECT ANY PLANT MATERIALS UPON DELIVERY TO THE PROJECT. SELECTION BY THE LANDSCAPE ARCHITECT DOES NOT WAIVE THE RIGHT OF REJECTION.
6. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST OR AS NECESSARY TO MATCH SURVIVING PLANTS OF THE SAME PLANTING GROUP. ALL COSTS SHALL BE BORNE BY THE LANDSCAPE CONTRACTOR EXCEPT FOR REPLACEMENTS RESULTING FROM LOSS OR DAMAGE DUE TO VANDALISM OR ACTS OF NEGLECT ON THE PART OF OTHERS, PHYSICAL DAMAGE, BY ANIMALS, VEHICLES, FIRE, ETC., AS MAY BE DETERMINED BY THE LANDSCAPE ARCHITECT.
7. ALL PLANT MATERIAL SHOULD BE PLACED, OR LOCATION STAKED, ON THE SITE AS SHOWN ON THE PLANTING PLAN PRIOR TO COMMENCEMENT OF PLANT EXCAVATION FOR THE LANDSCAPE ARCHITECT'S APPROVAL. THE CONTRACTOR MUST NOTIFY THE LANDSCAPE ARCHITECT OF ALL PLANTING OPERATIONS A MINIMUM OF 48 HOURS IN ADVANCE.
8. ALL PLANT MATERIALS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN OR AS OTHERWISE SPECIFIED. NO CONSTRUCTED BALLS SHALL BE ACCEPTED. REMOVE SYNTHETIC 'BURLAP' AND SYNTHETIC TWINES AND ROPES. REMOVE TOP 1/3 OF METAL BASKETS FROM ROOT BALLS WHEN THE ROOT BALL HAS BEEN POSITIONED IN THE PLANTING PIT. PROVIDE SUPPORT AS NECESSARY TO PROTECT THE ROOT BALL FROM INJURY DURING THIS OPERATION.

TREE PLANTING DETAIL

NOT TO SCALE



WILLIAM KENNY
ASSOCIATES LLC
SOIL SCIENCE
ECOLOGICAL SERVICES
LAND USE PLANNING
LANDSCAPE ARCHITECTURE

195 TUNXIS HILL ROAD
FAIRFIELD, CT 06825
PHONE: 203 366 0588
FAX: 203 366 0067
www.wkassociates.net

PROGRESS DRAFT

PRELIMINARY PLANTING PLAN

LOCATION:
BAIRD SUBSTATION
STRATFORD, CONNECTICUT

OWNER/APPLICANT:
THE UNITED ILLUMINATING COMPANY

DATE: JUNE 14, 2016 - DRAFT
JUNE 27, 2016 (REV. 1)
JULY 5, 2016 (REV. 2)

SCALE: AS NOTED

NORTH

REF. NO. 3448