

JANUARY, 2015

**CTDEEP BUREAU OF WATER MANAGEMENT
GENERAL PERMIT REGISTRATION FOR:**

**THE DISCHARGE OF STORMWATER AND
DEWATERING WASTEWATERS ASSOCIATED WITH
CONSTRUCTION ACTIVITIES**

STORMWATER POLLUTION CONTROL PLAN

**NEW HAVEN RAIL YARD FACILITIES
IMPROVEMENTS
State Project No. 301-0088**

**MAINTENANCE OF WAY (MOW) BUILDING
State Project No. 301-0124**

**Prepared for:
Connecticut Department of Transportation**

**Prepared by:
Parsons Brinckerhoff**

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1. INTRODUCTION

The Stormwater Pollution Control Plan (SWPCP) has been prepared in accordance with Section 22a-430b of the Connecticut General Statutes, and the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, re-issued on August 21, 2013, effective date of October 1, 2013. The SWPCP has addressed pre- and post-construction issues associated with stormwater management during construction. All actions required by this plan shall be followed by the permittee per the conditions of the General Permit.

2. SITE DESCRIPTION

2.A. Site Description:

This project consists of the construction of a new Maintenance of Way (MOW) Building and outdoor rail material storage area on parcels of land located at 1 Brewer St and 152 Water St in New Haven respectively. The purpose of this project is to replace an existing building that has reached the end of its useful life and is required to be removed for additional storage tracks. Site work includes the following:

The Maintenance of Way (MOW) Building portion of the New Haven Rail Yard Facilities Improvements Program consists of work in three primary locations. The first location is for the facility itself at 1 Brewery Street, which is on the east side of Brewery Street, immediately west of the IKEA building and just north of the New Haven Food Terminal. The facility replaces a maintenance facility building to the rail yard and is necessary to satisfy current and future demand for Metro North Railroad (MNR) and Connecticut Department of Transportation in the New Haven Rail Yard Facilities Improvements Program.

The second portion of the construction is located on the west side of Brewery Street, directly adjacent to the Component Change Out Shop (CCO). At this location the roadway and parking will be rebuilt / realigned following the removal of railroad spurs that have been decommissioned. The existing pavement in this area has deteriorated to a point where replacement is necessary.

The final portion of the construction is located at 152 Water Street, to the northeast and to the rear of a USPS facility located on Brewery Street. At this location the new outdoor material storage areas following the removal of a building, railroad spurs that have been decommissioned, and other existing features.

2.B. Estimated Disturbed Area

The total area for this project site is 7.9 acres. However approximately 9.2 acres will be disturbed by construction activities due to the fact that the project requires work on adjacent parcels of land for which rights have been obtained. The project area will include 2.45 acres of 8" stone ballast. Accounting for this surface treatment reduces the total disturbance calculation to 6.75 acres. The contractor will place stone ballast in areas disturbed by construction throughout each stage. Paving of access roads will occur primarily in the first 3 stages. This will result in making a majority of the project area non-erodible during construction.

2.C. Estimated Runoff Coefficient

The runoff coefficient assumed for pavement is 0.9 and the building's roof. For the pervious areas, a coefficient of 0.3 was assumed.

Pre Construction

$$\frac{(8.60 \text{ ac.} \times 0.9) + (2.08 \text{ ac.} \times 0.3)}{8.60 \text{ ac.} + 2.08 \text{ ac.}} = 0.78$$

8.60 ac+2.08 ac.

Post-Construction

$$\frac{(6.83 \text{ ac.} \times 0.9) + (3.85 \text{ ac.} \times 0.3)}{6.83 \text{ ac.} + 3.85 \text{ ac.}} = 0.68$$

6.83 ac+3.85 ac.

A more detailed calculation of the estimated runoff coefficients, with the corresponding watershed maps, are included within Appendix B.

2.D. Receiving Waters

The site drainage, both pre-construction and post-construction, ties into adjacent drainage systems which ultimately drain into New Haven Harbor and Long Island Sound.

2.E. Extent of Wetlands on Site

The project site does not contain wetlands or a regulatory floodway. The project site is located within coastal "A" zone floodplain areas associated with New Haven Harbor.

3. CONSTRUCTION SEQUENCING

Construction duration for the entire project is anticipated to span from May 2015 to October 2016. The suggested overall sequence of construction activities is as follows with a breakdown construction into stages provided by the Contractor:

1. Conduct a preconstruction meeting.
2. Install erosion controls at the effected inlets and at limits of disturbed slopes.
3. Perform clearing and grubbing activities.
4. Construct site improvements in the staged construction generally.

described in the following narrative.

5. Grade slopes and immediately stabilize with grass or stone ballast surface as specified on the plans. Establish turf, per plan, on all remaining disturbed areas.
6. Remove erosion controls when it is determined that disturbed areas have been stabilized. (This determination will be made by the Engineer).
7. All post-construction stormwater structures shall be cleaned of construction sediment and any remaining silt fence shall be removed prior to the filing of the "Notice of Termination Form".
8. Perform project cleanup.

Construction shall be broken into five distinct stages as indicated below:

Stage 1 – approximately 17 weeks

- a. The Contractor will install sedimentation and erosion control systems and anti-tracking pad for this stage
- b. The Contractor will construct the parking lot adjacent to the CCO and storage area at 152 Water Street. This includes track and fence removal, new pavement, installation of all temporary fencing and any other work necessary to complete the storage area and pave the parking lot to its binder course of pavement.
- c. The contractor will make temporary connections to Brewery Street for the CCO parking area at the end of this stage.
- d. Stabilize disturbed areas as noted in the general sequence above.

Stage 2 – approximately 68 weeks total (includes 2a and 2b)

- a. The Contractor will adjust/install sedimentation and erosion control and anti-tracking pads for this stage
- b. The Contractor will fill the site, construct the building and construct the MOW underground power connection.
- c. The Contractor to provide test pile program and install piles as required.
- d. The Contractor will construct site work, a portion of relocated Brewery Street, and a portion of the drainage system as part of this stage.
- e. Stabilize disturbed areas as noted in the general sequence above.

Stage 2a

- a. The Contractor will adjust/install sedimentation and erosion control systems and maintain anti-tracking pads for this stage.
- b. The Contractor will construct the MOW sanitary connection and a portion of relocated Brewery Street.

Stage 2b

- a. The Contractor will adjust/install sedimentation and erosion control systems and anti-tracking pads for this stage.
- b. The Contractor will construct a portion of relocated Brewery Street, a portion of the CCO entrance driveway, and the remainder of the drainage system.

Stage 3 – approximately 13 weeks

- a. The Contractor shall adjust/install sedimentation and erosion control systems and anti-tracking pads for this stage.
- b. The Contractor will construct the final roadway connections to divert traffic from Brewery Street to Relocated Brewery Street.
- c. The Contractor will construct the final portions of the CCO entrance driveway, the remaining portions of the CCO parking area, and associated drainage system.
- d. Stabilize disturbed areas as noted in the general sequence above.

4. CONTROL MEASURES

CT DOT will have construction inspection personnel assigned to the project in order to oversee the Contractor's operations to ensure compliance with the provisions of the Contract Specifications. Further CT DOT oversight is provided by the District # 1 Environmental Coordinator and the Office of Environmental Planning.

The following timelines will be followed for the proposed construction activities:

- If construction activities are complete or have been temporarily halted for more than seven (7) days, stabilization activities will be implemented within three (3) days.
- Areas that remain disturbed but inactive for at least 30 days shall receive temporary seeding or soil protection within seven (7) days.
- Areas that will be disturbed past the planting season will be covered with a long-term, non-vegetative stabilization method that will provide protection through the winter.
- Stabilization practices will be implemented as quickly as possible in accordance with the Guidelines.
- The Contractor shall stabilize disturbed areas with temporary or permanent measures as quickly as possible after the land is disturbed. Requirements for soil stabilization are detailed in the Best Management Practices section of the project specifications.

Soil Stabilization and Protection

The site work is phased in five stages of construction. Prior to construction work, erosion and sedimentation controls as well as anti-tracking pads will be installed. The majority of the project site consists of gravel, ballast and paved areas. Paving of access roads will occur when the roadbed is completed. This will result in making a majority of the project area non-erodible during construction.

Where construction activities have permanently ceased or have temporarily been suspended for more than seven days, or when grading is finalized on the site, stabilizing practices shall be implemented within three days. In all cases, stabilization measures shall be implemented as soon as possible in accordance with guidelines.

Temporary Stabilization Practices

Sedimentation Control System: Sedimentation Control System shall be placed at the base of embankments.

Anti-Tracking pads: Construction entrances (gravel anti-tracking pads) shall be constructed at truck access points to off-road route. Their locations will be adjusted as construction phases are completed.

Dust Control: Routine sweeping and application of dust suppression agents, including water and calcium chloride, over exposed subbase shall be completed for dust control.

Inlet Protection for Catch Basins: Inlet protection shall be installed at existing catch basins at the beginning of construction and into proposed catch basins as they are constructed.

Stabilization practices shall be implemented no more than three days after completion, as final grades are reached, or if work has been suspended for more than seven days.

Temporary seeding shall be spread over any disturbed areas which will remain inactive for at least 30 days. Areas to remain disturbed through winter shall be protected with non-vegetative stabilization measures. The Contractor must provide an Erosion and Sedimentation Control plan for each winter season during construction operations.

The Contractor may use other controls in the project as necessary if they conform to the 2002 Connecticut Erosion and Sedimentation Guidelines and are approved by the Engineer. The contractor will be required to provide the necessary details for any erosion controls not specifically called for on the project plans.

During construction, all areas disturbed by the construction activity that have not been stabilized, structural control measures, and locations where vehicles enter or exit the site shall be inspected at least once every seven calendar days. These areas shall also be inspected within 24 hours following any storm in which 0.5 inches or greater of rain occurs.

Permanent Stabilization Practices

All new embankments disturbed by construction and unpaved areas that are graded or disturbed by construction will receive stone ballast surface or topsoil and turf establishment. The Contractor may use other permanent stabilization practices approved by the Engineer and conforming to Connecticut's Erosion and Sedimentation Control Guidelines (2002).

Structural Practices

Hydrodynamic Separator: A hydrodynamic separator will be installed in the drainage system prior to its discharge to the existing drainage system.

Catch Basins with Sumps: All catch basins will have sumps and are specified to be double type II catch basins.

Total site disturbance on this project is limited to less than 9.2 acres of which 2.45 acres will be surfaced with 8" of stone ballast. Accounting for this surface treatment reduces the total disturbance calculation to 6.75 acres. During construction the Contractor will grade the work site to drain toward pervious areas. Directing storm water to drainage

structures by using temporary measures such as swales within the stone ballast will prevent migration of material.

Maintenance

Maintenance shall be performed in accordance with the contract specifications (including Section 1.10 of the Standard Specifications which has been made a part of this contract as a standalone specification, since this is a CM At Risk contract which does not use the Form 816 as a basis for specifications), and Connecticut Guidelines for Soil Erosion and Sedimentation Control. The guidelines provide descriptions of the general maintenance activities required for each of the erosion and sedimentation controls and structures controls as well as inspection recommendations. However, the contract specifications may require more stringent inspection and maintenance intervals than those specified in the guidelines. In all cases, the more stringent requirements shall govern. The Connecticut Department of Transportation has responsibility for the integrity of the project site after completion of the project. Through contractual relationships with Metro-North Railroad and other entities, the Connecticut Department of Transportation performs routine inspections, maintenance and upgrades to the site and facilities. If any environmental issues arise on the site, the Department should be contacted to coordinate remedial actions involving regulated activities.

5. DEWATERING WASTEWATERS

A Dewatering Treatment Plant for the New Haven Rail Yard will be available for work performed under this Contract. The Contractor will be responsible for conveying the dewatering water to the plant. An existing manifold piping system to the treatment plant is in place within the railyard and the Contractor may connect to it.

Operational and structural practices to be utilized for dewatering may include pumps, pumping wells, well points and/or well point systems, portable sediment tank and dewatering of earth materials. These practices shall be utilized to ensure that dewatering of wastewaters will not cause scouring or erosion or contain suspended solids in amounts which could reasonably expect to cause pollution of waters.

When dewatering is necessary, pumps shall not discharge directly into any existing drainage system. If necessary, The contractor shall furnish temporary containment of the contaminated ground water encountered during construction activities. After containment, the contractor shall transport the contaminated groundwater to the New Haven Rail Yard treatment facility.

6. POST-CONSTRUCTION STORMWATER MANAGEMENT

6.A. Post-Construction Guidelines

After the project is complete, the Department will perform the following maintenance and restorative measures:

- Litter/debris will be removed from the site regularly.
- Mowing and maintenance of the turf areas and vegetated areas will occur as needed.

- Drainage structure sumps and the hydrodynamic separator will be inspected regularly and sediment will be removed when sumps are more than half full.

6.B. Post-Construction Performance Standards

The project is being constructed on two sites that had been previously developed. Retention could not be achieved and the project plans have been developed to include low impact development practices where possible but the opportunity for this was limited since the project site will be made part of an active railyard. The project redevelops two existing industrial sites that each consisted of primarily a building surrounded by pavement. The project demolishes these two buildings and replaces them with a smaller building and only the paving that is necessary for its function. The remaining areas are surfaced with stone ballast material. The project reduces the amount of impervious area by approximately 1.8 acres. To assist with stormwater management, parking areas are curb-less where possible. To promote infiltration, the parking areas drain into adjacent ballast areas. Most catch basins have been disconnected from paved areas, and are located within the ballast where possible. The use of pervious pavement was explored but this was not used due to the truck traffic that is forecasted to use paved surfaces. Also, areas adjacent to the project site contain contaminated soil. The use of rain gardens was also explored but they were not used as MNR requires stone ballast surface on all areas within the railyard.

7. OTHER CONTROLS

Waste Disposal

Construction site waste shall be properly managed and disposed of during the entire construction period. Additionally,

- A waste collection area will be designated. The selected area will minimize truck travel through the site and will not drain directly to adjacent storm drainage systems.
- Waste collection shall be scheduled regularly to prevent the containers from overflowing.
- Spills shall be cleaned up immediately.
- Defective containers that may cause leaks or spills will be identified through regular inspection. Any found to be defective will be repaired or replaced immediately.
- Any stockpiling of materials should be confined to the designated area as defined by the engineer.

Washout Areas

Washout of applicators, containers, vehicles and equipment for concrete shall be conducted in a designated washout area with the following requirements:

- No surface discharge of washout wastewaters from the area will be allowed.
- All concrete wash water will be directed into a container or pit such that no overflows can occur.
- Washout shall be conducted in an entirely self-contained system and will be

clearly designed and flagged or signed where necessary.

- The washout area shall be located outside of any buffers and at least 50 feet from any stream, wetland or other sensitive water or natural resources as determined or designated by CTDOT Office of Environmental Planning.
- The designated area shall be designed and maintained such that no overflows can occur during rainfall or after snowmelt.
- Containers or pits shall be inspected at least once a week to ensure structural integrity, adequate holding capacity and will be repaired prior to future use if leaks are present.
- The contractor shall remove hardened concrete waste when it accumulates to a height of ½ of the container or pit or as necessary to avoid overflows.
- All concrete waste shall be disposed of in a manner consistent with all applicable laws, regulations and guidelines.

Anti-tracking Pads and Dust Control

Off-site vehicle tracking of sediments and the generation of dust shall be minimized. Temporary anti-tracking pads from the active work site to the existing pavement will be installed and maintained at the locations shown on the plans. The contractor shall:

- Maintain the entrance in a condition which will prevent tracking and washing of sediment onto paved surfaces.
- Provide periodic top dressing with additional stone or additional length as conditions demand.
- Repair any measures used to trap sediment as needed.
- Immediately remove all sediment spilled, dropped, washed or tracked onto paved surfaces.
- Ensure roads adjacent to a construction site are left clean at the end of each day.

If the construction entrance is being properly maintained and the action of a vehicle traveling over the stone pad is not sufficient to remove the majority of the sediment, then the contractor shall either:

- Increase the length of the construction entrance,
- Modify the construction access road surface, or
- Install washing racks and associated settling area or similar devices before the vehicle enters a paved surface.

For construction activities which cause airborne particulates, wet dust suppression shall be utilized. Construction site dust will be controlled by sprinkling the ground surface with water until it is moist on an as-needed basis. The volume of water sprayed shall be such that it suppresses dust yet also prevents the runoff of water.

Earth Work

The cut face of earth excavation and permanent exposed faces of fills shall not be steeper than two horizontal to one vertical (2:1). All disturbed areas in the rail yard, outside the

limit of roadway, pavement, driveways, parking areas, buildings, tracks, concrete aprons and sidewalks shall be stabilized with 8" of stone ballast. All disturbed areas in proximity to the City of New Haven Right of Way, outside the limit of roadway, pavement, driveways, parking areas, buildings, tracks, ballast areas, concrete sidewalks and sidewalks shall be stabilized with 4" of topsoil with turf establishment where specified on the plans. Provision should be made to conduct surface water safely to storm drains to prevent surface runoff from damaging cut faces and fill slopes. Following the completion of construction, the contractor shall repair all eroded areas and shall clean sediment covered stones and surfaces.

Post-Construction

Upon completion of construction activities and stabilization of the site, all post-construction stormwater structures, including catch basins, manholes, the hydrodynamic separator, shall be cleaned of construction sediment and any remaining silt fence shall be removed prior to acceptance of the project by CTDOT. Sediment shall be properly disposed of in accordance with all applicable laws, regulations and guidelines.

Maintaining and Storing Vehicles and Equipment

The contractor shall take measures to prevent any contamination to wetlands and watercourses while maintaining and storing construction equipment on the site. All chemical and petroleum containers stored on site shall be provided with impermeable containment which will hold at least 110% of the volume of the largest container, or 10% of the total volume of all containers in the area, whichever is larger, without overflow from the containment area. All chemicals and their containers shall be stored under a roofed area except for those stored in containers of 100 gallon capacity or more, in which case double-walled tanks will suffice. Fuel and other vehicle maintenance fluids shall be stored above the 100 year flood elevation or shall not be stored on site.

Throughout the duration of the work, the contractor must maintain on site a supply of absorbent pads and other approved materials needed to treat any hazardous spill or contamination. All spills or contaminations must be reported immediately to the DEEP Hazardous Materials Office as well as Local Authorities.

8. INSPECTION

All construction activities shall be inspected initially for Plan implementation, implementation of each phase of the plan and, then weekly for Routine Inspections.

During construction, all areas disturbed by the construction activity that have not been stabilized, all erosion and sedimentation control measures, all structural control measures, soil stockpile areas, washout areas and locations where vehicles enter or exit the site shall be inspected for evidence of, or the potential for, pollutants entering the

drainage system and impacts to receiving waters at least once every seven calendar days and within 24 hours of the end of a storm that generates a discharge.

For storms that end on a weekend, holiday or other time in which working hours will not commence within 24 hours, an inspection is required within 24 hours only for storms that equal or exceed 0.5 inches. For lesser storms, inspection shall occur immediately upon the start of subsequent normal working hours. Routine inspection of these areas and measures shall be made at least once every seven calendar days and within twenty-four hours of the end of a storm that is 0.1 inches or greater. For storms that end on a weekend, holiday or other time in which working hours will not commence within 24 hours, an inspection is required to within 24 hour only for storms that equal or exceed 0.5 inches.

Where sites have been temporarily or finally stabilized, such inspection shall be conducted at least once every month for three months.

Qualified personnel provided by the DOT District # 1 Office shall conduct Inspections.

Items to be inspected: the following items shall be inspected as described below:

<u>Item</u>	<u>Procedure</u>
Silt Fence	Silt fence shall be inspected to ensure that the fence line is intact with no breaks or tears. The fence shall be firmly anchored to the ground. Areas where the fence is excessively sagging or where support posts are broken or uprooted shall be noted. Depth of sediment behind the fence shall be noted.
Catch Basin Protection	Protective measures shall be inspected to ensure that sediment is not entering the catch basins. Catch basin sumps shall be monitored for sediment deposition. Hay bales shall be inspected to ensure they have not clogged.
Vehicle Entrances / Exits	Locations where vehicles enter or exit the site shall be inspected for evidence of off-site tracking.
General	Construction areas and the perimeter of the site shall be inspected for any evidence of debris that may blow or wash off site or that has blown or washed off site. Construction areas shall be inspected for any spills or unsafe storage of materials that could pollute off site waters.

9. KEEPING PLANS CURRENT

Revisions to Stormwater Pollution Control Plans

CTDOT shall amend the Plan if the actions required by the Plan fail to prevent pollution or otherwise comply with provisions of the General Permit. The Plan shall also be amended whenever there is a change in contractors or sub-contractors at the site. If the results of the inspections require modifications to the Stormwater Pollution Control Plan, the plans shall be revised as soon as practicable after the inspection. Such modifications shall provide for a timely implementation of any changes to non-engineered controls on the site within 24 hours and implementation of any changes to the plan within 3 (three) calendar days following the inspection. For Engineered measures, corrective actions shall be implemented on site within 7 (seven) days and incorporated into a revised Plan within 10 (ten) days of the date of inspection.

In no event shall the requirements to keep the Plan current or update a Plan, relieve the permittee and their contractor(s) of the responsibility to properly implement any actions required to protect the waters of the State and to comply with all conditions of the permit.

10. MONITORING REQUIREMENTS

A written report summarizing the scope of the inspection, the name(s) and qualifications of inspection personnel, the date and time of the inspection, major observations relative to the implementation of the Pollution Control Plan, and actions taken shall be completed within 24 hours of the inspection. This report shall be retained as part of the Stormwater Pollution Control Plan for at least five years after the date of the inspection.

Turbidity monitoring shall be conducted at the hydrodynamic separator location depicted on the Plan utilizing a procedure consistent with 40 CFR Part 136 (http://www.epa.gov/region9/qa/pdfs/40cfr136_03.pdf) and may be taken manually or by an in-situ turbidity probe or other automatic sampling device equipped to take individual turbidity readings. The first sample shall be taken within the first hour of stormwater discharge from the site and at least three grab samples shall be taken during a storm event and shall be representative of the flow and characteristics of the discharge. Sampling shall be conducted at least monthly when there is a discharge of stormwater from the site while construction activity is ongoing, until final stabilization of the drainage area associated with each outfall is achieved. There are no outfalls on site and sampling will be conducted at the Hydrodynamic separator unit.

Samples shall be taken during normal working hours, which for this project shall be defined as Monday through Friday, 7 am to 4 pm. If a storm continues past working hours, sampling shall resume the following morning or the morning of the next working day following a weekend or Holiday, as long as the discharge continues. Sampling may be temporarily suspended when conditions exist that may reasonably pose a threat to the safety of the person taking the sample.

Within 30 days following the end of each month, the stormwater sampling results shall be submitted on the Stormwater Monitoring Report (SMR) and submit in accordance with Net Project No. 301-0124

DMR. If there is no stormwater discharge during a month, sampling is not required, however, SMR's indicating "no discharge" shall still be submitted as required.

11. CONTRACTORS

General

This section shall identify all Contractors and Subcontractors who will perform on site actions which may reasonably be expected to cause or have the potential to cause pollution of the waters of the State.

Certification Statement

All contractors and subcontractors must sign the attached statement. All certification will be included in the Stormwater Pollution Control Plan.

State Project No. 301-0124

New Haven Rail Yard Facilities Improvements
Maintenance of Way Building
New Haven, CT

"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 associated with construction activity. I understand that as Contractor on the project, I am covered by this general permit, and must comply with the terms and conditions of this permit, including, but not limited to, the requirements of the Stormwater Pollution Control Plan prepared for this project."

GENERAL CONTRACTOR

Signed: _____

Date: _____

Title: _____

Firm: _____

Telephone: _____

Address: _____

SUBCONTRACTOR

Signed: _____

Date: _____

Title: _____

Firm: _____

Telephone: _____

Address: _____

General:

This Stormwater Pollution Control Plan (SPCP) is prepared to comply with the requirements for the General Permit for Stormwater Discharges (GPSD) from Construction Activities. Also to be considered part of the SPCP are the proposed construction plans, contract specifications, and the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and 2004 Stormwater Quality Manual.

List of applicable Figures / Plans:

Appendix A - Figures

AERIAL PHOTO	FIGURE 1
PRE-CONSTRUCTION AI CONDITIONS PAGE 1OF2	FIGURE 2
PRE-CONSTRUCTION AI CONDITIONS PAGE 2OF2	FIGURE 3
POST-CONSTRUCTION AI CONDITIONS PAGE 1OF2	FIGURE 4
POST-CONSTRUCTION AI CONDITIONS PAGE 2OF2	FIGURE 5
NRCS SOILS MAPPING	FIGURE 6

Appendix B – Drainage Calculations

OVERALL DRAINAGE AREA CALCULATIONS
WATER QUALITY COMPUTATIONS
EXISTING OVERALL WATERSHED AREA MAP 1OF2
EXISTING OVERALL WATERSHED AREA MAP 2OF2
PROPOSED OVERALL WATERSHED AREA MAP 1OF2
PROPOSED OVERALL WATERSHED AREA MAP 2OF2

Appendix C – Plan Sheets

GG-010	GENERAL LEGEND & ABBREVIATIONS
GG-011	GENERAL NOTES-1
GG-012	GENERAL NOTES-2
CE-001	SEDIMENTATION AND EROSION CONTROL PLAN-1
CE-002	SEDIMENTATION AND EROSION CONTROL PLAN-2
CE-003	SEDIMENTATION AND EROSION CONTROL PLAN-3
CE-004	SEDIMENTATION AND EROSION CONTROL PLAN-4
CE-005	SEDIMENTATION AND EROSION CONTROL PLAN-5
CC-001	GRADING PLAN-1
CC-002	GRADING PLAN-2
CC-003	GRADING PLAN-3
CC-004	GRADING PLAN-4
CC-005	GRADING PLAN-5
UD-001	DRAINAGE PLAN-1
UD-002	DRAINAGE PLAN-2
UD-003	DRAINAGE PLAN-3

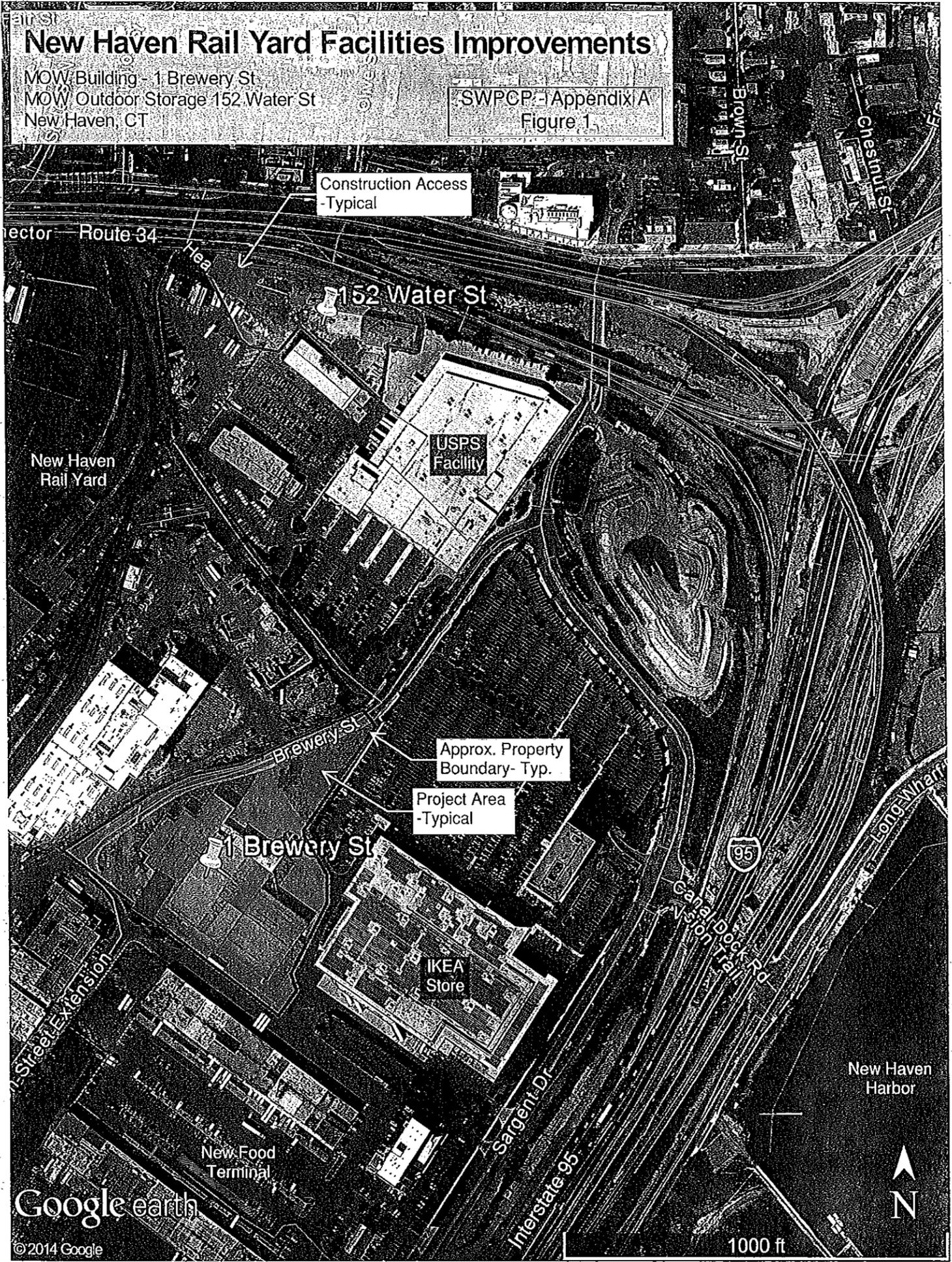
Appendix D – Stormwater Monitoring Report Form

Appendix E – Notice of Termination Form

New Haven Rail Yard Facilities Improvements

MOW Building - 1 Brewery St
MOW Outdoor Storage 152 Water St
New Haven, CT

SWPCP - Appendix A
Figure 1

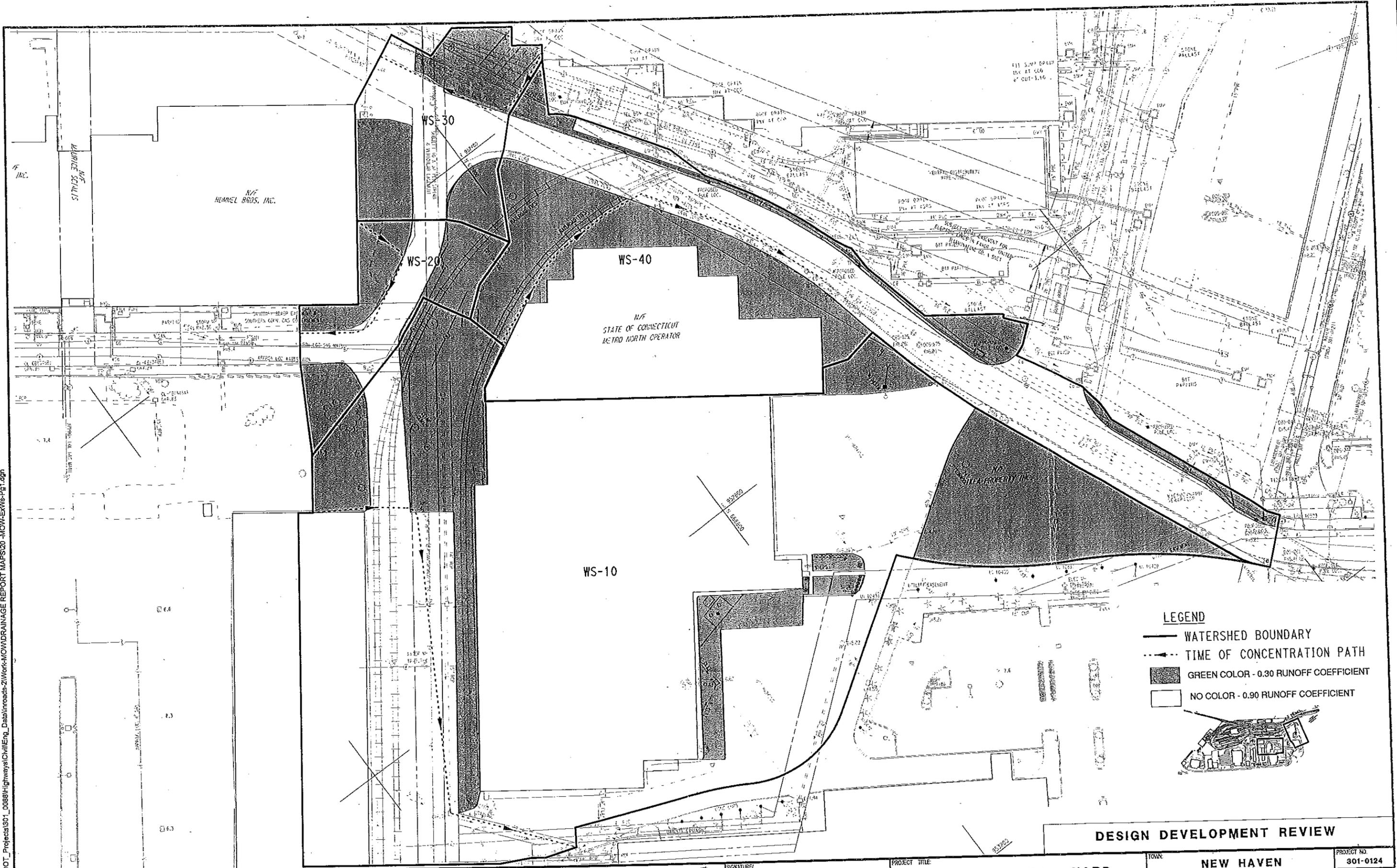


Google earth

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7/17/2014 11:52:30 AM T:\18965-NHRY\FCT\DOT_Projects\301_0088\Highways\Civil\Eng_Data\Inroads-z\Work-MOW\DRAINAGE REPORT MAPS\20-MOW-EX-WS-Pg1.dgn



- LEGEND**
- WATERSHED BOUNDARY
 - TIME OF CONCENTRATION PATH
 - GREEN COLOR - 0.30 RUNOFF COEFFICIENT
 - NO COLOR - 0.90 RUNOFF COEFFICIENT



DESIGN DEVELOPMENT REVIEW

REV	DATE	REVISION DESCRIPTION	SHEET NO.	Printed Date
				7/17/2014

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OR ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER
JFK / DCA

CHECKED BY:

SCALE IN FEET

0 40 80

SCALE 1"=40'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

SIGNATURE BLOCK:

STORMWATER POLLUTION CONTROL PLAN
APPENDIX A - FIGURE 2

PROJECT TITLE

NEW HAVEN RAIL YARD
FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN

NEW HAVEN

DRAWING TITLE:

PRE-CONSTRUCTION
AI CONDITONS

PROJECT NO.

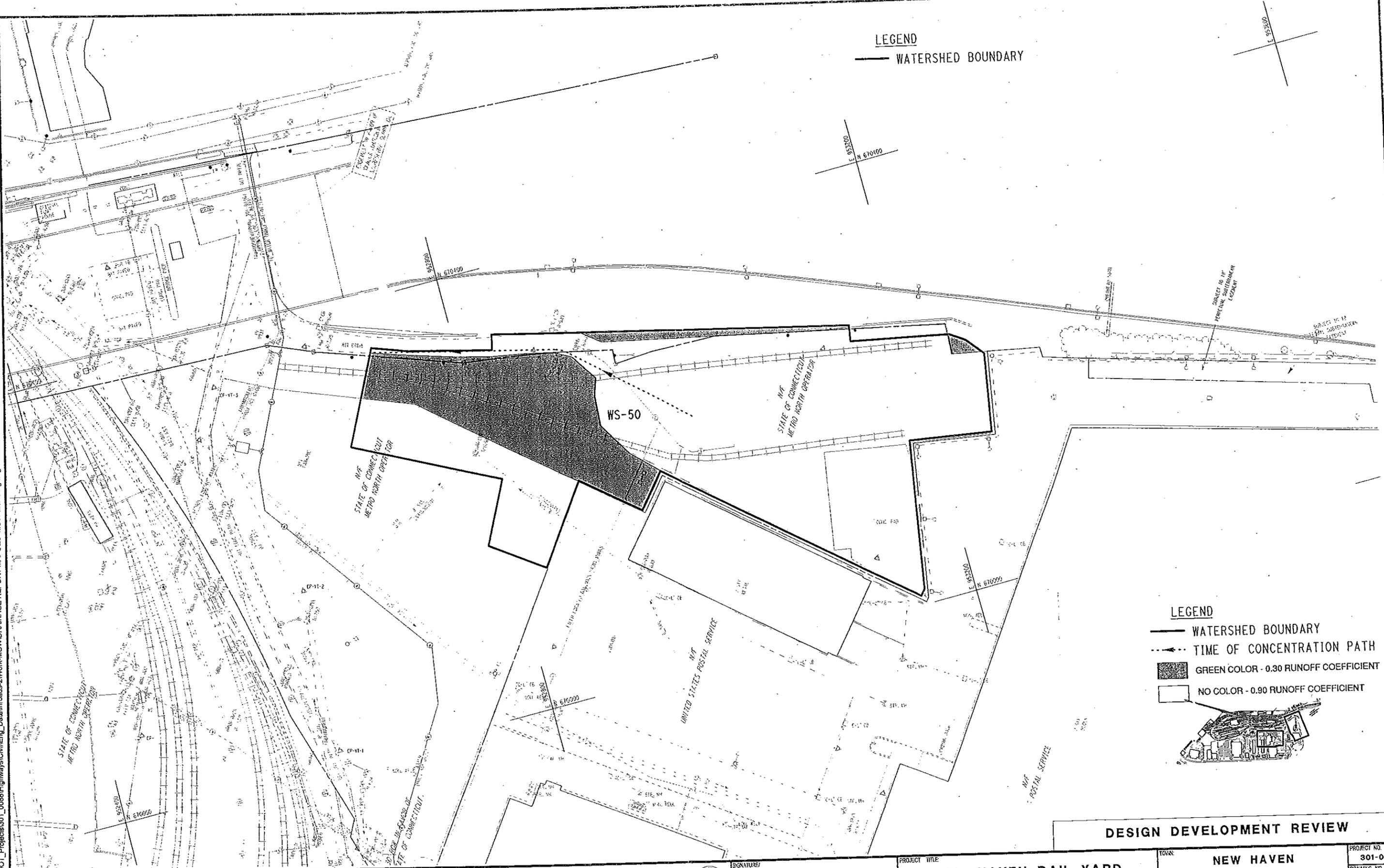
301-0124

DRAWING NO.

1 OF 2

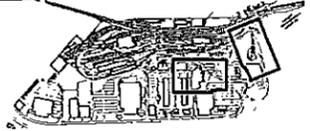
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LEGEND
 — WATERSHED BOUNDARY

LEGEND
 — WATERSHED BOUNDARY
 - - - TIME OF CONCENTRATION PATH
 [Green Box] GREEN COLOR - 0.30 RUNOFF COEFFICIENT
 [White Box] NO COLOR - 0.90 RUNOFF COEFFICIENT



DESIGN DEVELOPMENT REVIEW

REV	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER
JFK / DCA
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STATE OF CONNECTICUT
 DEPARTMENT OF TRANSPORTATION

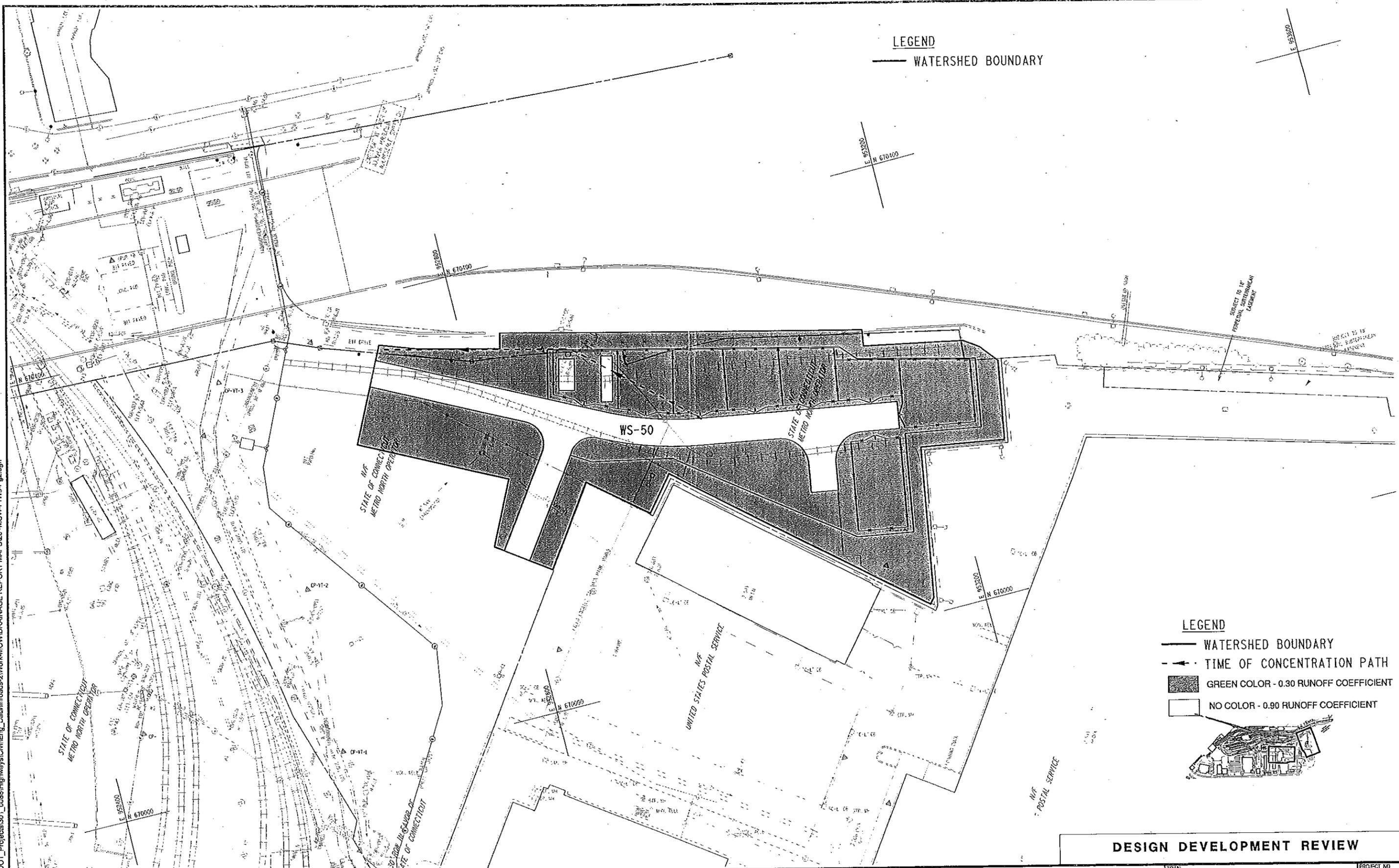
STORMWATER POLLUTION CONTROL PLAN
 APPENDIX A - FIGURE 3

PROJECT TITLE
**NEW HAVEN RAIL YARD
 FACILITIES IMPROVEMENTS
 MAINTENANCE OF WAY BUILDING**

TOWN
NEW HAVEN
 DRAWING TITLE
**PRE-CONSTRUCTION
 AI CONDITIONS**

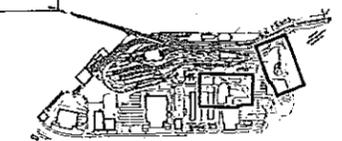
PROJECT NO.
301-0124
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LEGEND
 ——— WATERSHED BOUNDARY

LEGEND
 ——— WATERSHED BOUNDARY
 - - - - - TIME OF CONCENTRATION PATH
 [Green Box] GREEN COLOR - 0.30 RUNOFF COEFFICIENT
 [White Box] NO COLOR - 0.90 RUNOFF COEFFICIENT

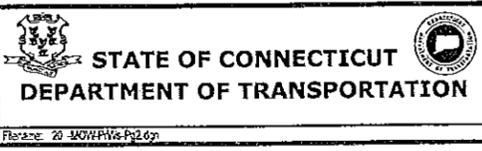


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REV	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAWER
JFK / DCA
 CHECKED BY
 SCALE IN FEET
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 SCALE 1"=40'



SIGNATURE BLOCK
 STORMWATER POLLUTION CONTROL PLAN
 APPENDIX A - FIGURE 5

PROJECT TITLE
**NEW HAVEN RAIL YARD
 FACILITIES IMPROVEMENTS
 MAINTENANCE OF WAY BUILDING**

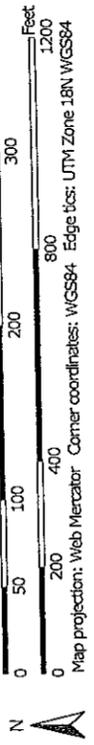
TOWN
NEW HAVEN
 DRAWING TITLE
**POST-CONSTRUCTION
 AI CONDITIONS**

PROJECT NO.
301-0124
 DRAWING NO.
2 OF 2
 SHEET NO.



Appendix A - Figure 6

Map Scale: 1:4,160 if printed on B portrait (11" x 17") sheet.



Map projection: Web Mercator; Corner coordinates: WGS84; Edge tics: UTM Zone 18N WGS84

MOW Water Quality Calculations

Cover Description	CN	Area (sq ft)	Area (acres)	Area (sq miles)	
Pavement, Concrete, Roof	98	221930.00	5.095	0.007961	0.9
Ballast	60	56525.00	1.298	0.002028	0.3
Total Area		278455.00	6.392	0.009988	
Composite CN	90				
Composite C	0.78				

IMP A(acres)	5.09
A	6.39
I	79.70
R	0.77
WQV (acre-ft)	0.41
WQV (cubic feet)	17804.98

Q (in)	0.33		
P (in)	1.00	% impervious	79.70
CN	90.29		
S (in)	1.08		
I _a (in)	0.22		
I _a /P	0.22		
T _c (hours)	0.20		
q _v (csm/in)	550		
WQF (cfs)	1.81850		

MAP LEGEND

- Area of Interest (AOI)
 - Area of Interest (AOI)
 - Soils
 - Soil Map Unit Polygons
 - Soil Map Unit Lines
 - Soil Map Unit Points
- Special Point Features
 - Blowout
 - Borrow Pit
 - Clay Spot
 - Closed Depression
 - Gravel Pit
 - Gravelly Spot
 - Landfill
 - Lava Flow
 - Marsh or swamp
 - Mine or Quarry
 - Miscellaneous Water
 - Perennial Water
 - Rock Outcrop
 - Saline Spot
 - Sandy Spot
 - Severely Eroded Spot
 - Sinkhole
 - Slide or Slip
 - Sodic Spot
- Water Features
 - Streams and Canals
- Transportation
 - Rails
 - Interstate Highways
 - US Routes
 - Major Roads
 - Local Roads
- Background
 - Aerial Photography
- Soil Area
 - Stony Spot
 - Very Stony Spot
 - Wet Spot
 - Other
- Special Line Features

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 13, Oct 28, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 27, 2014—Jul 22, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Appendix A - Figure 6

State of Connecticut (CT600)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
306	Udorthents-Urban land complex	73.3	44.5%
307	Urban land	88.7	53.9%
W	Water	2.7	1.6%
Totals for Area of Interest		164.7	100.0%

PROJECT: MOW Building
 PROJECT NO.: State Project No. 301-0124
 TOWN: New Haven, CT
 ROUTE: See Below
 LOCATION: See Below

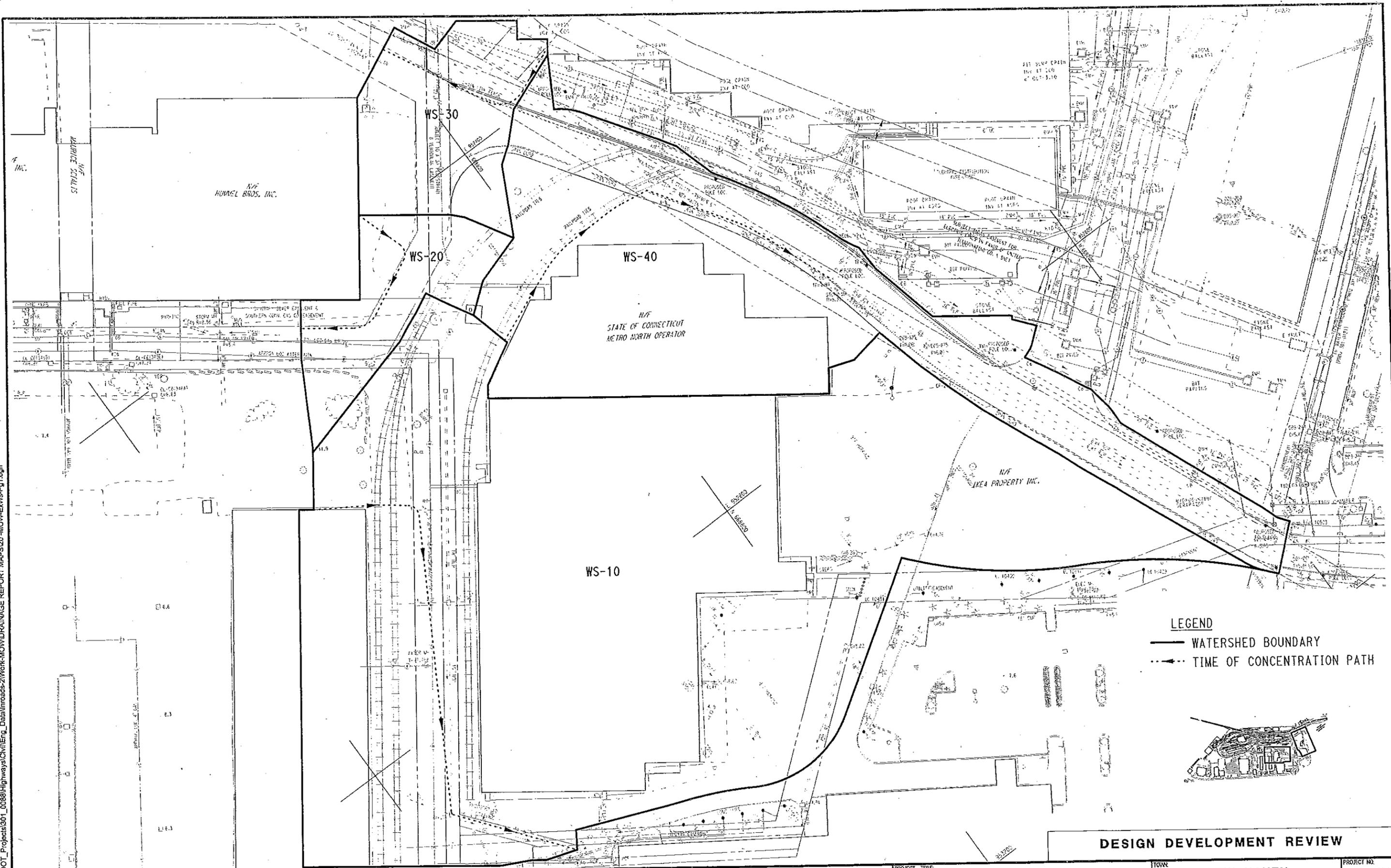
DESIGNED BY: SMD DATE: _____
 CHECKED BY: JFK DATE: _____

Existing Conditions Watershed	Total Area (Sq. Ft.)	Total Area (Acres)	Weighted Coef.
WS-10	241,340	5.540	0.81
WS-20	17,670	0.406	0.52
WS-30	23,920	0.549	0.57
WS-40	96,670	2.219	0.84
TOT. 1 BREWERY	379,600	8.714	0.79
WS-50	86,125	1.977	0.75
(152 WATER ST)			
Project Total	465,725	10.692	0.78
Proposed Conditions Watershed	Total Area (Sq. Ft.)	Total Area (Acres)	Weighted Coef.
WS-10	236,710	5.43	0.79
WS-20	12,855	0.30	0.68
WS-30	28,655	0.66	0.57
WS-40	101,380	2.33	0.70
TOT. 1 BREWERY	379,600	8.714	0.74
WS-50	86,125	1.977	0.42
(152 WATER ST)			
Project Total	465,725	10.692	0.68

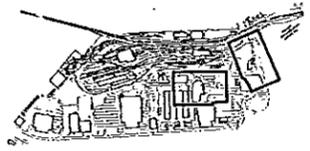
Time of Concentration (min)	10 year Rainfall Intensity	10 year Frequency Flowrate (cfs)
10.00	4.80	21.63
5.00	6.00	1.26
5.00	6.00	1.86
10.00	4.80	8.99
sub-total		33.74
10.00	4.80	7.07
Project total	40.82	

Impervious Area (Sq. Ft.)	Rational Coef.	Ballast/Stone Area (Sq. Ft.)	Rational Coef.
206,490	0.9	34,850	0.3
6,415	0.9	11,255	0.3
10,565	0.9	13,355	0.3
87,675	0.9	8,995	0.3
311,145	0.9	68,455	0.3
63,930	0.9	22,195	0.3
375,075	0.9	90,650	0.3
Impervious Area (Sq. Ft.)	Coef.	Ballast/Stone Area (Sq. Ft.)	Coef.
192,715	0.9	43,995	0.3
8,200	0.9	4,655	0.3
12,865	0.9	15,790	0.3
66,995	0.9	34,385	0.3
280,775	0.9	98,825	0.3
16,850	0.9	69,275	0.3
297,625	0.9	168,100	0.3

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LEGEND
 ——— WATERSHED BOUNDARY
 - - - - - TIME OF CONCENTRATION PATH



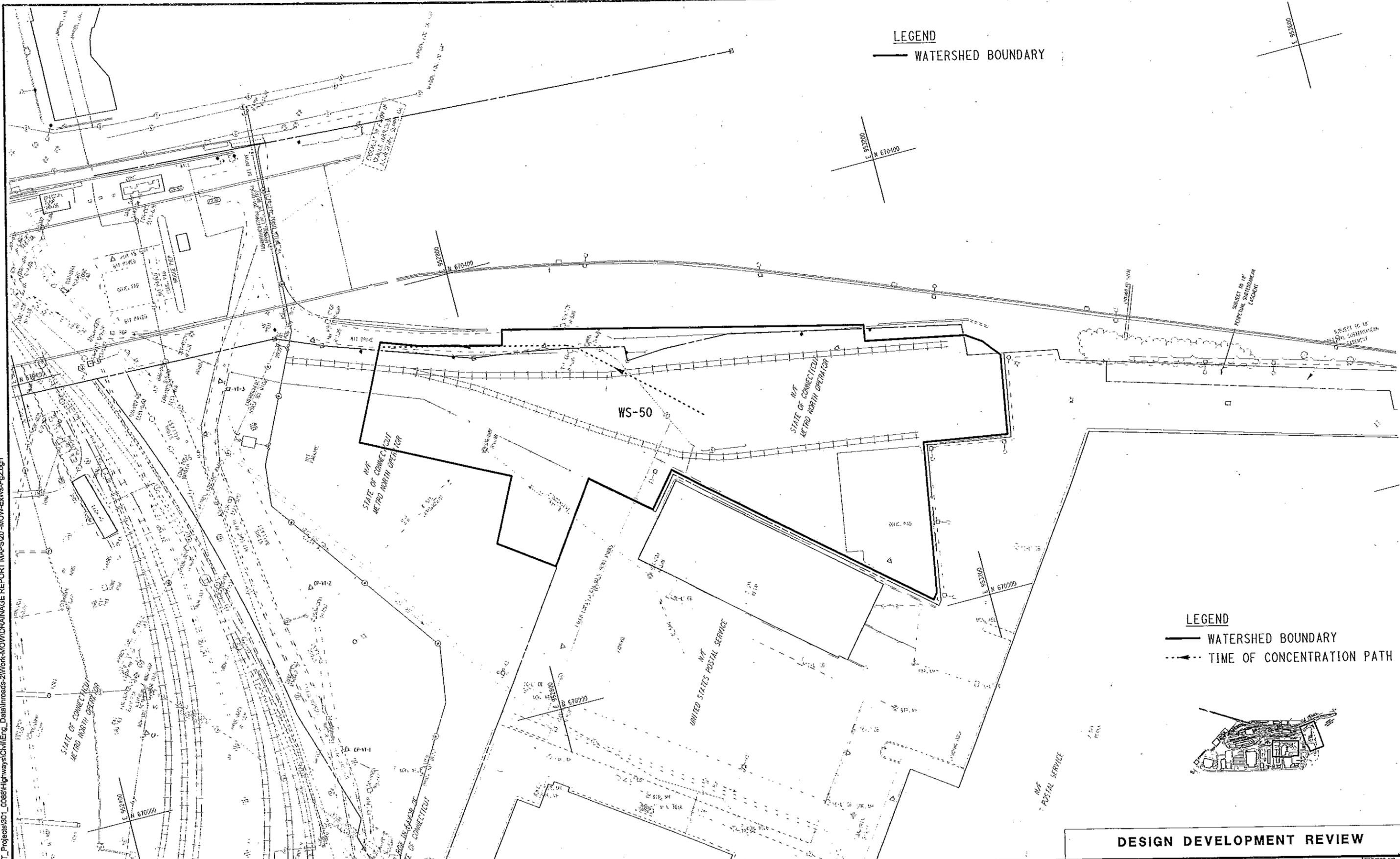
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

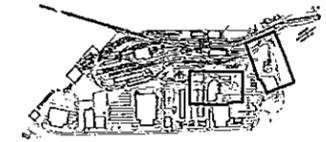
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LEGEND
 — WATERSHED BOUNDARY

LEGEND
 — WATERSHED BOUNDARY
 - - - TIME OF CONCENTRATION PATH

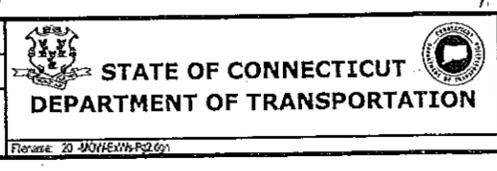


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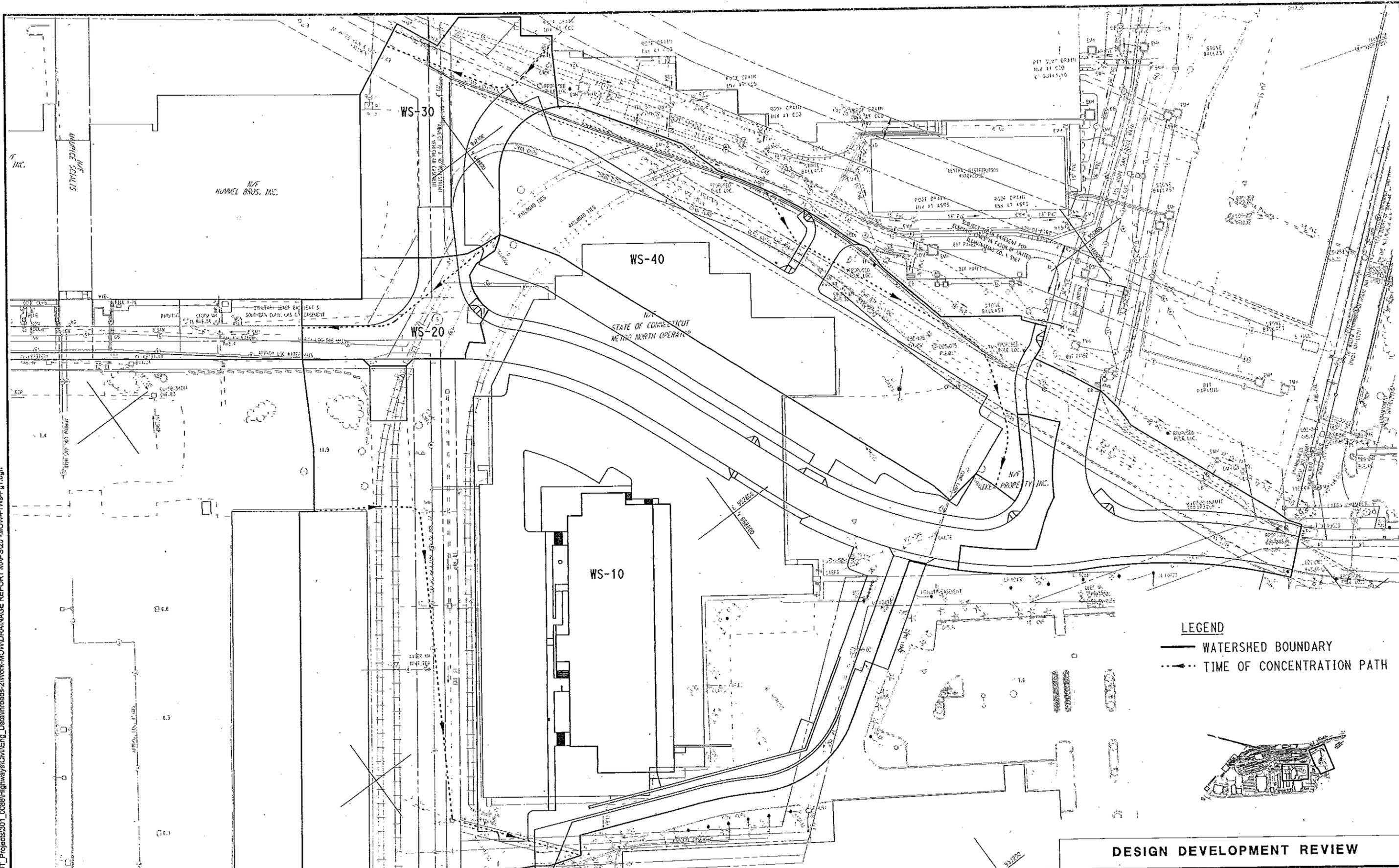
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 MAINTENANCE OF WAY BUILDING**

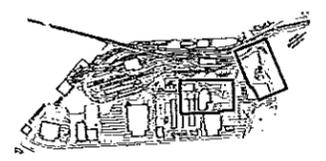
TOWN:
NEW HAVEN
 DRAWING TITLE:
**EXISTING OVERALL
 WATERSHED MAP**

PROJECT NO.
301-0124
 DRAWING NO.
2 OF 2
 SHEET NO.

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LEGEND
 ——— WATERSHED BOUNDARY
 - - - - - TIME OF CONCENTRATION PATH

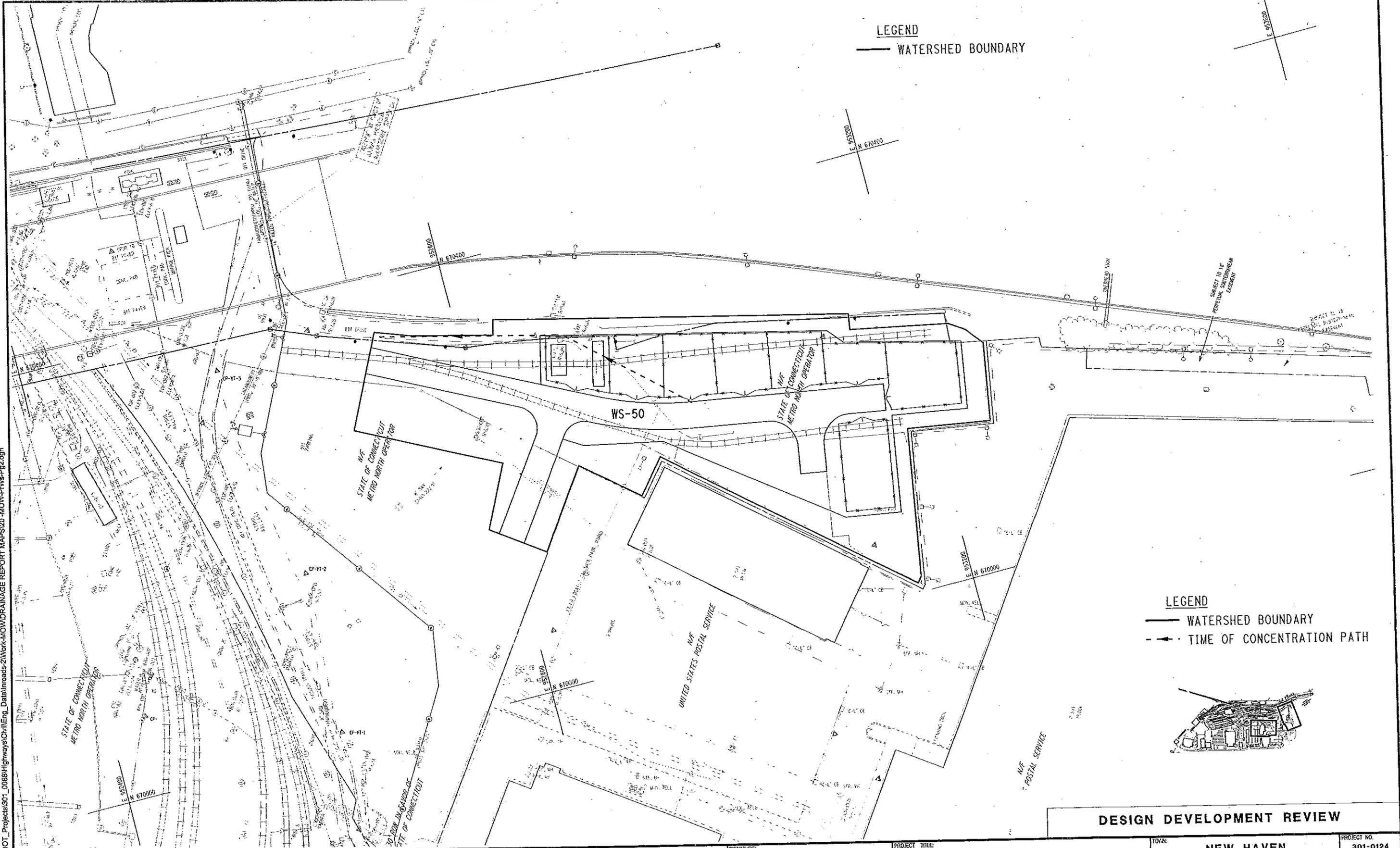


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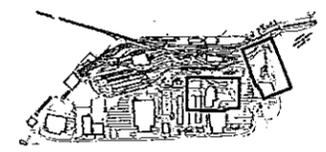
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LEGEND
 — WATERSHED BOUNDARY

LEGEND
 — WATERSHED BOUNDARY
 - - - TIME OF CONCENTRATION PATH



DESIGN DEVELOPMENT REVIEW

REV	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date
				10/2015

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JFK / DCA
 CHECKED BY:
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STATE OF CONNECTICUT
 DEPARTMENT OF TRANSPORTATION

SIGNATURE/
 BLOCK

PROJECT TITLE
**NEW HAVEN RAIL YARD
 FACILITIES IMPROVEMENTS
 MAINTENANCE OF WAY BUILDING**

TOWN:
NEW HAVEN
 DRAWING TITLE:
**PROPOSED OVERALL
 WATERSHED MAP**

PROJECT NO.
301-0124
 DRAWING NO.
2 OF 2
 SHEET NO.

APPENDIX C – PLAN SHEETS

GG-010	GENERAL LEGEND & ABBREVIATIONS
GG-011	GENERAL NOTES-1
GG-012	GENERAL NOTES-2
CE-001	SEDIMENTATION AND EROSION CONTROL PLAN-1
CE-002	SEDIMENTATION AND EROSION CONTROL PLAN-2
CE-003	SEDIMENTATION AND EROSION CONTROL PLAN-3
CE-004	SEDIMENTATION AND EROSION CONTROL PLAN-4
CE-005	SEDIMENTATION AND EROSION CONTROL PLAN-5
CC-001	GRADING PLAN-1
CC-002	GRADING PLAN-2
CC-003	GRADING PLAN-3
CC-004	GRADING PLAN-4
CC-005	GRADING PLAN-5
UD-001	DRAINAGE PLAN-1
UD-002	DRAINAGE PLAN-2
UD-003	DRAINAGE PLAN-3

ABBREVIATIONS

ABAN	ABANDON	FF	FINISHED FLOOR	PVT	POINT OF VERTICAL TANGENCY
ABUT	ABUTMENT	FG	FINISHED GRADE	r	RATE OF CHANGE OF GRADE, PERCENT PER 100 FT
AC	ALTERNATING CURRENT	FL	FLOW LINE	R / RAD	RADIUS
ACC	ACCESS	FND	FOUND	RC	REINFORCED CONCRETE
ACCOMP	ASPHALT-COATED CORRUGATED METAL PIPE	FT	FOOT	RCCE	REINFORCED CONCRETE CULVERT END
AGGR	AGGREGATE	G	GAS	RCP	REINFORCED CONCRETE PIPE
AH	AHEAD	GD	GENERAL DELIVERABLES	R&D	REMOVE AND DISPOSE
ANCH	ANCHORAGE	GG	GAS GATE	RD	ROAD
AOBE	AS ORDERED BY ENGINEER	GSC / GC	GRANITE STONE CURBING	RDWY	ROADWAY
AOEC	AREA OF ENVIRONMENTAL CONCERN	GV	GAS VALVE	RECONST	RECONSTRUCTED
APPROX	APPROXIMATE	HDR	HEADER	REHAB	REHABILITATION
ASPH	ASPHALT	HH	HAND HOLE	REINF	REINFORCED
AVE	AVENUE	HMA	HOT MIX ASPHALT OR BITUMINOUS CONCRETE	RELOC	RELOCATED
BCLC	BITUMINOUS CONCRETE LIP CURBING	HORIZ	HORIZONTAL	REMOVED	REMOVED
BCPC	BITUMINOUS CONCRETE PARK CURBING	HP	HIGH POINT	RET WALL	RETAINING WALL
BIT	BITUMINOUS	HRS	HOURS	REQD	REQUIRED
BIT CONC	BITUMINOUS CONCRETE	HYD	HYDRANT	REV	REVISION
BP	BACK	I	TOTAL INTERSECTION ANGLE	RFI	REQUEST FOR INFORMATION
B	BASELINE	ID	INNER DIAMETER	RFSO	RAISED-FACE SLIP ON (PIPE FLANGE)
BLDG	BUILDING	IE	INVERT ELEVATION	ROW	RIGHT OF WAY
BW	BENCHMARK	INT	INTERMEDIATE	RR	RAILROAD
BOT	BOTTOM	INV	INVERT	RSC	RIGID STEEL CONDUIT
BR	BRIDGE	IP	IRON PIPE	RT	RIGHT
BRG	BEARING	IWT	INDEPENDENT WHEEL TRUE FACILITY	S&I	SERVICE AND INSPECTION FACILITY
C	CUT SLOPE	JWF	JOB MIX FORMULA	SAH	SANITARY
CB	CATCH BASIN	K	RATE OF VERTICAL CURVATURE	SCB	SEDIMENT CONTROL BALES
CBL	CABLE	L	LENGTH OR LENGTH OF CURVE ALONG CENTERLINE	SCH	SCHEDULE
CC	CONCRETE CURBING	LF	LINEAR FEET	SCS	SEDIMENT CONTROL SYSTEM
CCMP	COATED CORRUGATED METAL PIPE	LOC	LOCATION	SD	SYSTEM DETECTOR
CCO	COMPONENT CHANGE OUT SHOP	LP	LOW POINT	SEC	SECOND
CDOT	CONNECTICUT DEPARTMENT OF TRANSPORTATION	LS	LUMP SUM	SED	SEDIMENTATION
CTDOT	CONNECTICUT DEPARTMENT OF TRANSPORTATION	LT	LEFT	SF	SQUARE FOOT
CF	CUBIC FEET	LVC	LENGTH OF VERTICAL CURVE	SHLDR	SHOULDER
CI / CIP	CAST IRON PIPE	MAX	MAXIMUM	SHGW	SEASONAL HIGH GROUNDWATER
C-I-P	CAST IN PLACE	MB	MAILBOX	SMH	SEWER MANHOLE
CGR	CABLE GUIDERAIL	MBR	METAL BEAM RAIL	SPEC	SPECIFICATION
C	CENTERLINE	MCE	METAL CULVERT END	SS	SANITARY SEWER
CF	CUBIC FEET	MH	MANHOLE	SSD	STOPPING SIGHT DISTANCE
CL	CLASS	MIN	MINIMUM	SSF	STRUCTURES SHOP FACILITY
CLF	CHAIN LINK FENCE	MISC	MISCELLANEOUS	SST	STAINLESS STEEL
CLR	CLEAR	MNR / MNRR	METRO-NORTH RAILROAD	ST	STREET
CMP	CORRUGATED METAL PIPE	MJ	MECHANICAL JOINT	STA	STATION
CONC	CONCRETE	MOD	MODIFIED / MODIFY	STD	STANDARD
CONST	CONSTRUCTION	MON	MONUMENT	STG	STAGE
COORD	COORDINATE	MOW	MAINTENANCE OF WAY BUILDING	STRUCT	STRUCTURE
COR	CORNER	MPH	MILE PER HOUR	STY	STORY
COV	COVER	MPT	MAINTENANCE AND PROTECTION OF TRAFFIC	SURF	SURFACE
CP	CONTROL POINT	N	NORTHING	SY	SQUARE YARD
CPEP	CORRUGATED PLASTIC OR POLYETHYLENE PIPE	NIC	NOT IN CONTRACT	TBD	TO BE DETERMINED
CPFE	CORRUGATED POLYETHYLENE FLARED END	NOM	NOMINAL	TEMP	TEMPORARY
CPP	CORRUGATED POLYETHYLENE PIPE	NO	NUMBER	TF	TOP OF FRAME
CSR	CRITICAL SYSTEMS REPLACEMENT	NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	TPCBC	TEMPORARY PRECAST CONCRETE BARRIER CURB
CV	CURVE	NPT	NATIONAL PIPE THREAD	TRK	TRACK
CY	CUBIC YARD	NTP	NOTICE TO PROCEED	TYP	TYPICAL
DBL	DOUBLE	NTS	NOT TO SCALE	UD	UNDERDRAIN
Dc	DEGREE OF CURVE (CHORD DEFINITION)	OD	OUTER DIAMETER	UON	UNLESS OTHERWISE NOTED
DC	DIRECT CURRENT	PB	PULL BOX	V	VELOCITY
DEEP	DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION	PBO	PEDESTRIAN BRIDGE OVERPASS	VC	VERTICAL CURVE
DEG	DEGREE	PC	POINT OF CURVATURE	VEH	VEHICLE
DESC	DESCRIPTION	PCBC	PRECAST CONCRETE BARRIER CURB	VERT	VERTICAL
DG	DOUBLE GRATE	PCC	POINT OF COMPOUND CURVATURE	VF	VERTICAL FEET
DI	DROP INLET	PE	POLYETHYLENE	VCP	VITRIFIED CLAY PIPE
DIA	DIAMETER	PERF	PERFORATED	W	WATER
DIP	DUCTILE IRON PIPE	PERY	PERVIOUS	W/	WITH
DRIVE	DRIVEWAY	PGA	POINT OF GRADE APPLICATION	W/O	WITHOUT
DSY	DIESEL STORAGE YARD	PGL	PROFILE GRADE LINE	WEY	WEST END YARD
DWG	DRAWING	PI	POINT OF INTERSECTION	WF	WIRE FENCE
e	VERTICAL OFFSET AT PVI	POB	POINT OF BEGINNING	WG	WATER GATE
E	EASTING	POC	POINT ON CURVATURE	WSA	WASTE STOCKPILE AREA
EA	EACH	POE	POINT OF ENDING	WL	WATER LEVEL
EEY	EAST END YARD	POT	POINT OF TANGENCY	WV	WATER VALVE
EL / ELEV	ELEVATION	PRELIM	PRELIMINARY	WN	WINGWALL
EMU	ELECTRIC MULTIPLE UNIT	PRC	POINT OF REVERSE CURVE	YPU	YARD POWER UPGRADE
EOP	EDGE OF PAVEMENT	PROJ	PROJECT		
EOR	EDGE OF ROADWAY	PROP	PROPOSED		
EPA	ENVIRONMENTAL PROTECTION AGENCY	PT	POINT OF TANGENCY		
EW	ENDWALL	PVC	POINT OF VERTICAL CURVATURE		
EX / EXIST	EXISTING	PVC	POLYVINYL CHLORIDE PIPE		
EXC	EXCAVATION	PVCC	POINT OF VERTICAL COMPOUND CURVATURE		
F	FILL	PVI	POINT OF VERTICAL INTERSECTION		
FE	FLARED END	PVMT	PAVEMENT		

GENERAL LEGEND

STANDARD CONVENTIONS		

CONSTRUCTION CONTRACT DESIGNATIONS

300-0131	M-8 ACCEPTANCE FACILITY
300-0137	EMU AND CSR CAR SHOP IMPROVEMENTS
300-0138	WEST END YARD
300-0139	INDEPENDENT WHEEL TRUE FACILITY
301-0097	FUELING FACILITY
301-0106	COMPONENT CHANGE OUT SHOP
301-0110	DIESEL STORAGE YARD
301-0111	STORES BUILDING DEMOLITION
301-0121	CENTRAL DISTRIBUTION WAREHOUSE
301-0123	PEDESTRIAN BRIDGE OVERPASS
301-0124	MAINTENANCE OF WAY BUILDING
301-0144	YARD POWER UPGRADE

SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OR THE QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAWER JFK / JLW CHECKED BY: WPD	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE/ BLOCK: 	PROJECT TITLE: NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING	TOWN: NEW HAVEN	PROJECT NO. 301-0124 DRAWING NO. GG-010 SHEET NO. 03.02
REV. DATE REVISION DESCRIPTION SHEET NO. PLOTTED DATE: 10/14/2014						

GENERAL:

- ALL WORK DEPICTED IN THESE CONTRACT DOCUMENTS IS PART OF THE OVERALL WORK TO BE PERFORMED BY THE NOW BUILDING CONTRACTOR, UNLESS OTHERWISE NOTED.
- ALL EROSION AND SEDIMENTATION CONTROL SYSTEMS TO BE IN PLACE PRIOR TO THE START OF ANY WORK.
- THE CONTRACTOR SHALL COORDINATE ALL WORK IN THE NEW HAVEN RAIL YARD WITH THE ENGINEER. ALL ROUTES USED TO MOVE EQUIPMENT AND MATERIALS MUST BE APPROVED BY THE ENGINEER. SPECIAL ATTENTION SHALL BE PAID TO ROUTES UNDER EXISTING CATENARIES. CONTRACTOR LAYDOWN AREAS SHALL BE RESTRICTED TO THE LOCATIONS DESIGNATED ON THE PLANS, AREAS OTHER THAN THOSE DESIGNATED ON THE PLANS MAY BE PROVIDED AT THE DISCRETION OF THE ENGINEER.
- ALL MNRR WORK INDICATED ON THE PLANS SHALL BE PAID FROM A MNRR FORCE ACCOUNT SEPARATE FROM CONTRACTOR FUNDS.
- THE CONTRACTOR SHALL HAVE ALL EMPLOYEES AND SUBCONTRACTORS ATTEND THE MNRR SAFETY TRAINING COURSE PRIOR TO COMMENCING ANY WORK IN THE RAILYARD. ANY EMPLOYEE OR SUBCONTRACTOR WHO HAS NOT COMPLETED THE SAFETY TRAINING COURSE WILL BE EXCLUDED FROM ALL WORK IN THE RAILYARD.
- THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND MNRR FOR SCHEDULING RAILROAD FLAGMEN/GROUND MEN FOR CONSTRUCTION ACROSS AND IN THE VICINITY OF ACTIVE TRACKS.
- WHEN DEWATERING IS NECESSARY, PUMPS SHALL NOT DISCHARGE DIRECTLY INTO ANY EXISTING DRAINAGE OR SANITARY SYSTEM. DISCHARGE SHALL BE PUMPED TO AN EXISTING ON-SITE GROUNDWATER TREATMENT SYSTEM IN OPERATION IN THE NEW HAVEN RAILYARD, REFER TO CSI SPECIFICATIONS IN DIVISION 31 - DEWATERING.
- THE CONTRACTOR SHALL BE AWARE THAT THE NEW HAVEN RAIL YARD IS CONSIDERED AN AREA OF ENVIRONMENTAL CONCERN. FOR ADDITIONAL INFORMATION, REFER TO THE ENVIRONMENTAL DRAWINGS AND SPECIFICATIONS.
- PLACEMENT OF REUSABLE CONTROLLED MATERIALS SHALL NOT BE ALLOWED BELOW THE HIGH GROUNDWATER. THE SEASONAL HIGH GROUNDWATER ELEVATION IS TAKEN TO BE APPROXIMATELY ELEV 5.0' IN THIS PROJECT AREA. GRANULAR FILL SHALL BE USED FOR ALL SUITABLE BACKFILL OPERATIONS BELOW THE WATER TABLE, UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS AND ELEVATIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO START OF MANUFACTURING AND CONSTRUCTION, AND NECESSARY ADJUSTMENTS WILL BE ADDRESSED BY THE ENGINEER THROUGH THE RFI PROCESS.
- THE INFORMATION SHOWN ON THESE PLANS IS BASED ON LIMITED INVESTIGATIONS AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OF WORK REQUIRED. LOCATIONS OF EXISTING UTILITIES AND UNDERGROUND STRUCTURES HAVE BEEN COMPILED FROM THE BEST AVAILABLE INFORMATION. ALL UTILITIES AND UNDERGROUND STRUCTURES MAY NOT BE SHOWN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE ACTUAL LOCATION OF ALL UTILITIES FOR UTILITY COORDINATION. UTILITY LINES DAMAGED BY THE CONTRACTOR SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND THE UTILITY COMPANY AND THE COST OF REPAIR WORK SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OPERATIONS WITH OTHER CONCURRENT CONSTRUCTION PROJECTS. REFER TO CSI SPECIFICATION IN DIVISION 01 - SUMMARY OF WORK, SUBARTICLE ENTITLED - WORK ON RAILROAD PROPERTY.

DEMOLITION:

- ALL EROSION AND SEDIMENTATION CONTROL SYSTEMS TO BE IN PLACE PRIOR TO THE START OF ANY DEMOLITION WORK.

CIVIL:

- SPECIAL FLOOD HAZARD AREA INFORMATION SHOWN ON THE PLANS IS BASED ON THE FLOOD INSURANCE RATE MAP (FIRM) EFFECTIVE JULY 8, 2013.
- THE CONTRACTOR SHALL INSTALL CONSTRUCTION SIGNS, TRAFFIC CONES, TRAFFIC DRUMS AND CONSTRUCTION BARRICADES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

SITE GRADING:

THE RESHAPING OF THE GROUND SURFACE BY EXCAVATION AND FILLING OR A COMBINATION OF BOTH, TO OBTAIN PLANNED GRADES, SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:

- THE CUT FACE OF EARTH EXCAVATION SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
- THE PERMANENT EXPOSED FACES OF FILLS SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
- ALL DISTURBED AREAS OUTSIDE THE LIMIT OF ROADWAY PAVEMENT, DRIVEWAYS, PARKING, BUILDINGS, CONCRETE, SIDEWALKS, ETC. SHALL BE STABILIZED WITH A MINIMUM 8" STONE BALLAST AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER UNLESS OTHERWISE NOTED.
- PROVISION SHOULD BE MADE TO CONVEY SURFACE WATER SAFELY TO STORM DRAINS TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILL SLOPES.
- EXCAVATIONS SHOULD NOT BE MADE SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTY WITHOUT PROTECTING SUCH PROPERTY FROM EROSION, SLIDING, SETTILING, UNDERMINING, OR CRACKING.
- NO FILL SHOULD BE PLACED WHERE IT WILL SLIDE OR WASH UPON THE PREMISES OF ANOTHER PROPERTY OWNER OR UPON ADJACENT WETLANDS, WATERCOURSES, OR WATERBODIES.
- PRIOR TO ANY EARTHWORK, AN ANTI-TRACKING PAD SHALL BE PLACED AT THE ENTRANCE TO THE WORK AREA IN ORDER TO REDUCE MUD AND OTHER SEDIMENTS FROM LEAVING THE SITE. ANY ON SITE MATERIAL TRACKED ONTO ADJACENT ROADWAYS MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.

FLOOD CONTINGENCY:

- THE CONTRACTOR IS HEREBY NOTIFIED THAT THE PROJECT AREA IS WITHIN THE 100 YR AND 500 YR FLOOD ZONES.
- THE CONTRACTOR IS BOUND BY THE CONDITIONS SET FORTH IN THE PROJECT SPECIFICATIONS, ENVIRONMENTAL SECTION, DIVISION 01.
- CONTRACTOR STORAGE OF MATERIALS THAT COULD BE INJURIOUS TO HUMAN HEALTH OR THE ENVIRONMENT IN THE EVENT OF FLOODING WILL BE LOCATED OUTSIDE OF THE 500 YR FLOOD ZONE. OTHER MATERIAL OR EQUIPMENT MAY BE STORED BELOW THE 500 YR FLOOD ELEVATION SUCH THAT THE MATERIAL OR EQUIPMENT IS NOT SUBJECT TO MAJOR DAMAGE BY FLOODS, AND THAT SUCH MATERIAL OR EQUIPMENT WILL BE FIRMLY ANCHORED, RESTRAINED OR ENCLOSED TO PREVENT IT FROM FLOATING AWAY OR THAT SUCH MATERIAL OR EQUIPMENT CAN BE REMOVED PRIOR TO FLOODING.

STORM

- ALL MANHOLES AND CATCH BASINS SHALL BE PRECAST.
- ALL CATCH BASINS SHALL BE STANDARD CTDOT PRECAST CATCH BASINS, EXCEPT THAT ALL CATCH BASINS SHALL BE WATERTIGHT WITH GASKETED OR SEALED JOINTS AND HAVE CAST IN PLACE SLEEVES AT PIPE OPENINGS. FRAMES AND GRATES SHALL CONFORM TO CDOT STANDARD SHEET HW-507.08. CATCH BASIN EXTERIOR SURFACES (EXCLUDING TOP) SHALL RECEIVE WATERPROOFING COATING.
- ALL CATCH BASINS AND MANHOLES SHALL BE PLACED ON A 12" LAYER OF NO 6 CRUSHED STONE.
- ALL PROPOSED TOP OF FRAME ELEVATIONS SHOWN ON PLANS FOR STORM DRAINAGE STRUCTURES ARE TO THE THEORETICAL FINISHED GRADE. THE ELEVATION SHOWN SHALL BE ADJUSTED ACCORDINGLY IN BALLASTED AREAS. ALL NORTHINGS AND EASTINGS ARE TO THE CENTER OF THE STRUCTURE UNLESS OTHERWISE NOTED. CATCH BASINS ALONG CURBLINE SHALL BE INSTALLED IN LINE WITH THE EDGE OF PAVEMENT.
- A MINIMUM VERTICAL CLEARANCE OF 6" SHALL BE MAINTAINED AT ALL DRAINAGE UTILITY CROSSINGS.

UTILITIES:

- THE APPROXIMATE LOCATIONS OF UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS AND ARE NOT GUARANTEED TO BE CORRECT OR COMPLETE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES WHICH MAY CONFLICT WITH THE WORK BY DIGGING TEST PITS BEFORE COMMENCING WORK.
- EXISTING UTILITY SERVICES TO ALL BUILDINGS MUST BE MAINTAINED AT ALL TIMES UNTIL THE PROPOSED SERVICE HAS BEEN CONNECTED. THE CONTRACTOR SHALL SUPPORT ALL EXISTING UTILITIES AS REQUIRED TO ENSURE CONTINUATION OF SERVICES.
- THE CONTRACTOR SHALL FIELD ADJUST THE SUBSURFACE PROFILES OF ALL NON-GRAVITY UTILITIES AT CROSSINGS AS NECESSARY TO MAINTAIN CLEARANCES NOTED ON THE PLANS AND IN THE SPECIFICATIONS. IF THE MINIMUM CLEARANCES CANNOT BE OBTAINED IN THE FIELD, THE CONTRACTOR SHALL ADVISE THE DESIGNER AND AWAIT FURTHER INSTRUCTIONS BEFORE PROCEEDING WITH THE CROSSING.
- WHEN DIRECTED BY THE ENGINEER CONTROLLED LOW STRENGTH MATERIAL MAY BE USED IN LIEU OF BACKFILL AT UTILITY CROSSINGS WHERE VERTICAL CLEARANCE IS AN ISSUE.
- ALL UTILITIES NOT SPECIFIED TO BE REMOVED AS DEPICTED BY THE CONTRACT DOCUMENTS OR AS SPECIFIED BY ENGINEER SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES.
- REFER TO CSI SPECIFICATION IN DIVISION 2 - REMOVE POLE, FOR POLE REMOVAL REQUIREMENTS.

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SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

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REV	DATE	REVISION DESCRIPTION	SHEET NO.	POSTED DATE	DRAWING NO. GG-011	DRAWING TITLE GENERAL NOTES - 1	SHEET NO.

SEDIMENTATION AND EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL INSTALL TEMPORARY SEDIMENTATION AND EROSION CONTROL DEVICES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE CONNECTICUT DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION", FORM 816, 2004, WITH THE SUPPLEMENTAL SPECIFICATIONS ATTACHED TO THE CONTRACT, 2002 CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL, DEP BULLETIN 34, AND THE PROJECT SPECIFICATIONS.
3. THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION, AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT.
4. IN GENERAL FOR ALL CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY, AND CONDUIT CARRYING WATER, ETC. THE CONTRACTOR SHALL LIMIT, INSOFAR AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES, AND WATERBODIES, AND TO PREVENT, INSOFAR AS POSSIBLE, EROSION ON THE SITE.
5. IN GENERAL FOR ALL CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL MAINTAIN, TO THE GREATEST EXTENT PRACTICAL, EXISTING DRAINAGE PATTERNS FOR EXISTING DRAINAGE STRUCTURES UNLESS OTHERWISE DIRECTED BY ENGINEER.
6. DEBRIS AND OTHER WASTE RESULTING FROM THE CONTRACTOR'S EQUIPMENT MAINTENANCE AND CONSTRUCTION SHALL NOT BE DISCARDED ON SITE.
7. THROUGHOUT THE DURATION OF THE WORK, THE CONTRACTOR MUST MAINTAIN ON SITE A SUPPLY OF ABSORBENT PADS AND OTHER APPROVED MATERIALS NEEDED TO TREAT ANY HAZARDOUS SPILL OR CONTAMINATION. ALL SPILLS OR CONTAMINATIONS MUST BE REPORTED IMMEDIATELY TO THE DEEP HAZARDOUS MATERIALS OFFICE AT 866-337-7745 OR 860-424-3338 AS WELL AS LOCAL AUTHORITIES.
8. DURING CONSTRUCTION CATCH BASINS MUST BE PROTECTED BY THE CONTRACTOR WITH HAY BALE FILTERS, GEOTEXTILE FILTERS AND OTHER APPROVED MEASURES THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED.
9. SOIL EROSION AND SEDIMENT CONTROLS SHALL BE INSPECTED DAILY AND AFTER ALL STORMS. ALL NECESSARY REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY BY THE CONTRACTOR AS NEEDED.

PERMITTING REQUIREMENTS:

1. THE FOLLOWING ENVIRONMENTAL PERMITS WILL BE REQUIRED. ADDITIONAL PERMITS BY OTHER REGULATORY AGENCIES MAY ALSO BE REQUIRED.

FLOOD MANAGEMENT CERTIFICATION
COASTAL AREA MANAGEMENT (CAM)
STORMWATER PERMIT
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE EROSION CONTROL PLAN AND ANY ADDITIONAL REQUIREMENTS (INCLUDING INSPECTION AND CERTIFICATION) IMPOSED BY THE U.S. EPA NPDES PERMIT AND ANY OTHER LOCAL, STATE OR FEDERAL REGULATIONS INCLUDING STATE OF CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION GENERAL PERMIT DEEP-WPED-GP-015, "GENERAL PERMIT FOR THE DISCHARGE OF STORM WATER AND Dewatering WASTEWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES". FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION SEDIMENT CONTROL PLAN AND OTHER PERMIT CONDITIONS MAY RESULT IN MONETARY PENALTIES. THE CONTRACTORS SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE ENGINEER, THE STATE OR THE PERMITTED.
3. IF ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED DURING CONSTRUCTION, AS DETERMINED BY THE ENGINEER, OR OTHER AUTHORITIES, THE CONTRACTOR SHALL TAKE SUCH ADDITIONAL MEASURES AS THEY MAY DIRECT.
4. EACH CONTRACTOR AND SUBCONTRACTOR PERFORMING WORK ON THIS SITE SHALL BE REQUIRED TO CERTIFY THAT THEY HAVE READ AND UNDERSTAND THE TERMS OF CT. DEP GENERAL PERMIT DEEP-WPED-GP-015.

GENERAL PHASING OF SEDIMENTATION AND EROSION CONTROL MEASURES:

THE CONSTRUCTION OF THE TEMPORARY SEDIMENTATION BASINS, IF REQUIRED MUST BE COMPLETED BY THE CONTRACTOR BEFORE ANY OTHER WORK BEGINS AT THE SITE. EXTREME CAUTION MUST BE TAKEN TO LIMIT THE EXTENT OF DISTURBED AREAS. WORK SHALL BE CONDUCTED BY THE CONTRACTOR IN THE FOLLOWING ORDER (FOR ADDITIONAL INFORMATION REFER TO CONSTRUCTION STAGING PLANS):

1. INSTALL ANTI-TRACKING PADS AS DIRECTED BY THE ENGINEER.
2. INSTALL SEDIMENTATION CONTROL SYSTEM AROUND ALL EXISTING CATCH BASINS AND DRAINS, EACH STOCKPILE AND STORAGE AREA AND IN OTHER AREAS AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
3. CONSTRUCT TEMPORARY SEDIMENTATION BASINS AND TEMPORARY SWALES IF REQUIRED, TO DIRECT RUNOFF TO BASINS. INSTALL CHECK DAMS IN SWALES AND OTHER AREAS OF CONCENTRATED FLOW.
4. DURING GRUBBING OPERATIONS, INSTALL CHECK DAMS AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.
5. INSTALL STORM DRAINAGE SYSTEM AND/OR SWALES. PROTECT SWALES FROM SILTATION WITH APPROPRIATE CONTROLS AS SHOWN ON THE DETAIL SHEETS.
6. STABILIZE ALL DISTURBED AREAS.
7. CONSTRUCT ROADWAYS, ETC. AS PER CONTRACT DRAWINGS.
8. RESTORE DISTURBED AREAS AND REMOVE EROSION CONTROL DEVICES.

SEDIMENTATION AND EROSION CONTROL MAINTENANCE DURING CONSTRUCTION:

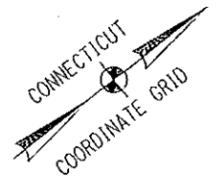
1. ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION BY THE CONTRACTOR ON A DAILY BASIS AND FOLLOWING ALL STORMS. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUIRED AND AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE PERFORMED WITHIN 24 HOURS FOLLOWING ALL STORM EVENTS. THERE SHALL BE NO SEPARATE PAYMENT FOR THIS WORK.
2. THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES AND PIPES AT THE COMPLETION OF CONSTRUCTION AND AS REQUIRED TO KEEP THE SYSTEM FUNCTIONING PROPERLY DURING CONSTRUCTION.
3. FOLLOWING COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP AND CLEAN SEDIMENT COVERED STONES.
4. THE CONTRACTOR SHALL INSPECT, REPAIR AND CLEAN ALL SILT FENCES AS REQUIRED AND AS DIRECTED BY THE ENGINEER.
5. THE CONTRACTOR SHALL REMOVE DIRTY STONE AND REPLACE WITH CLEAN STONE AT ALL ANTI-TRACKING PADS AS DIRECTED BY THE ENGINEER.
6. ANY SEDIMENT REMOVED DURING THE SEDIMENTATION AND EROSION CONTROL MAINTENANCE SHALL BE TAKEN TO THE WASTE STOCKPILE AREA FOR TESTING.
7. THERE SHALL BE NO SEPARATE PAYMENT FOR SEDIMENTATION AND EROSION CONTROL MAINTENANCE DURING CONSTRUCTION.

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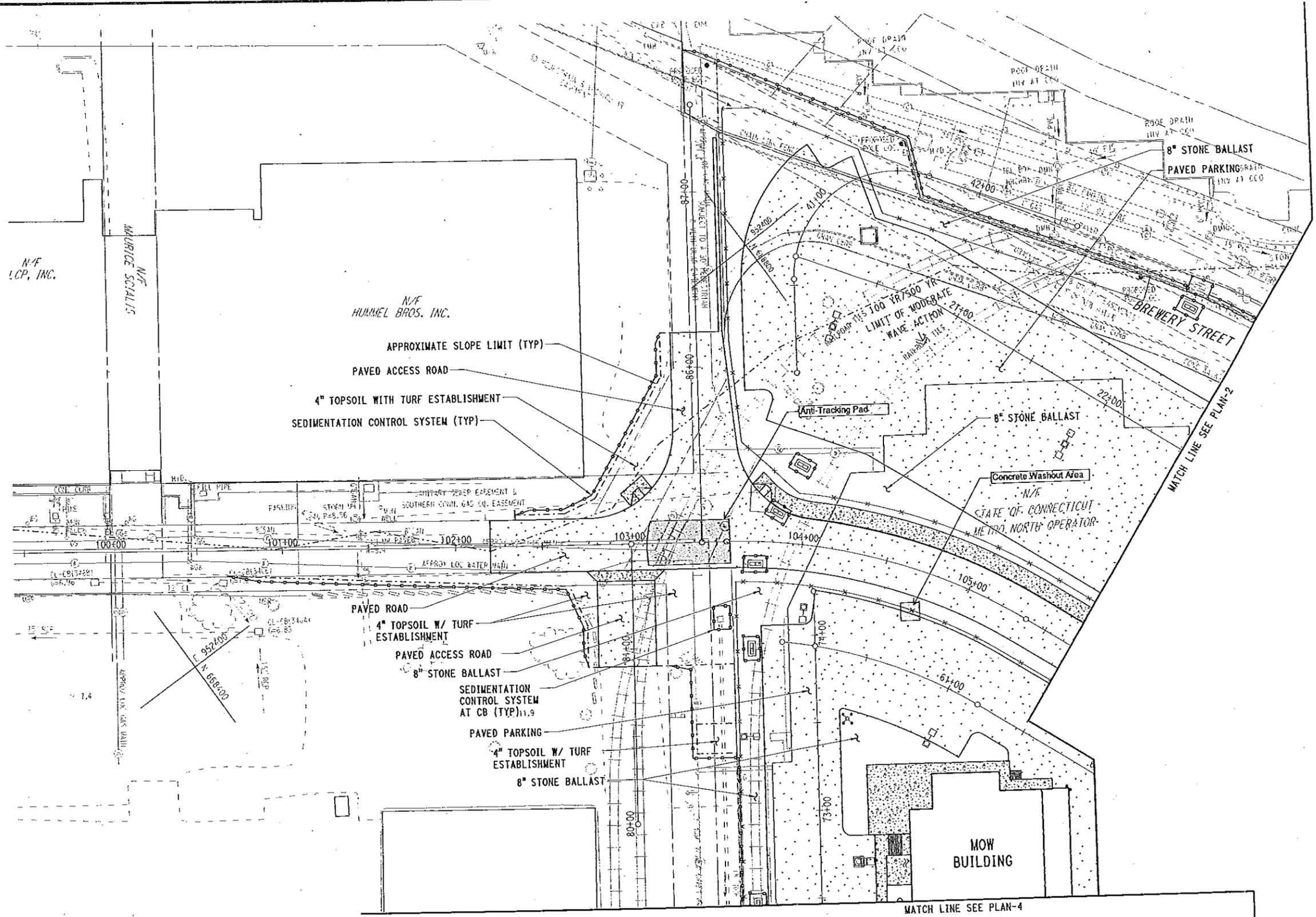
SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

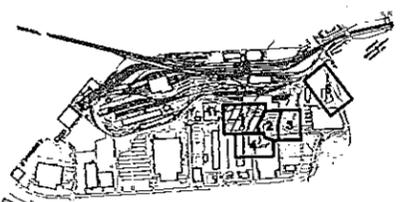
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Posted Date: 10/14/2014	DRAWING TITLE GENERAL NOTES-2	SHEET NO.	PROJECT NO. 301-0124
Reference: 20 GNLA 3010088 GG-012.dgn					DRAWING NO. GG-012		



- LEGEND**
- PAVED
 - UNPAVED STORAGE
 - CONCRETE
 - APPROXIMATE 100 YEAR (ELEV 11.0) & 500 YEAR (ELEV 13.8) FEMA FLOODPLAINS
 - APPROXIMATE 100 YEAR (ELEV 12.0) & 500 YEAR (ELEV 15.0) FEMA FLOODPLAINS LIMIT OF MODERATE WAVE ACTION
 - APPROXIMATE SLOPE LIMIT
 - SEDIMENTATION CONTROL SYSTEM



NOTE:
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KEY PLAN

CONTRACT DOCUMENTS REVIEW

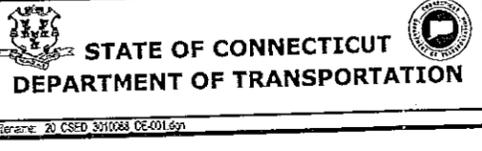
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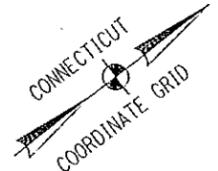


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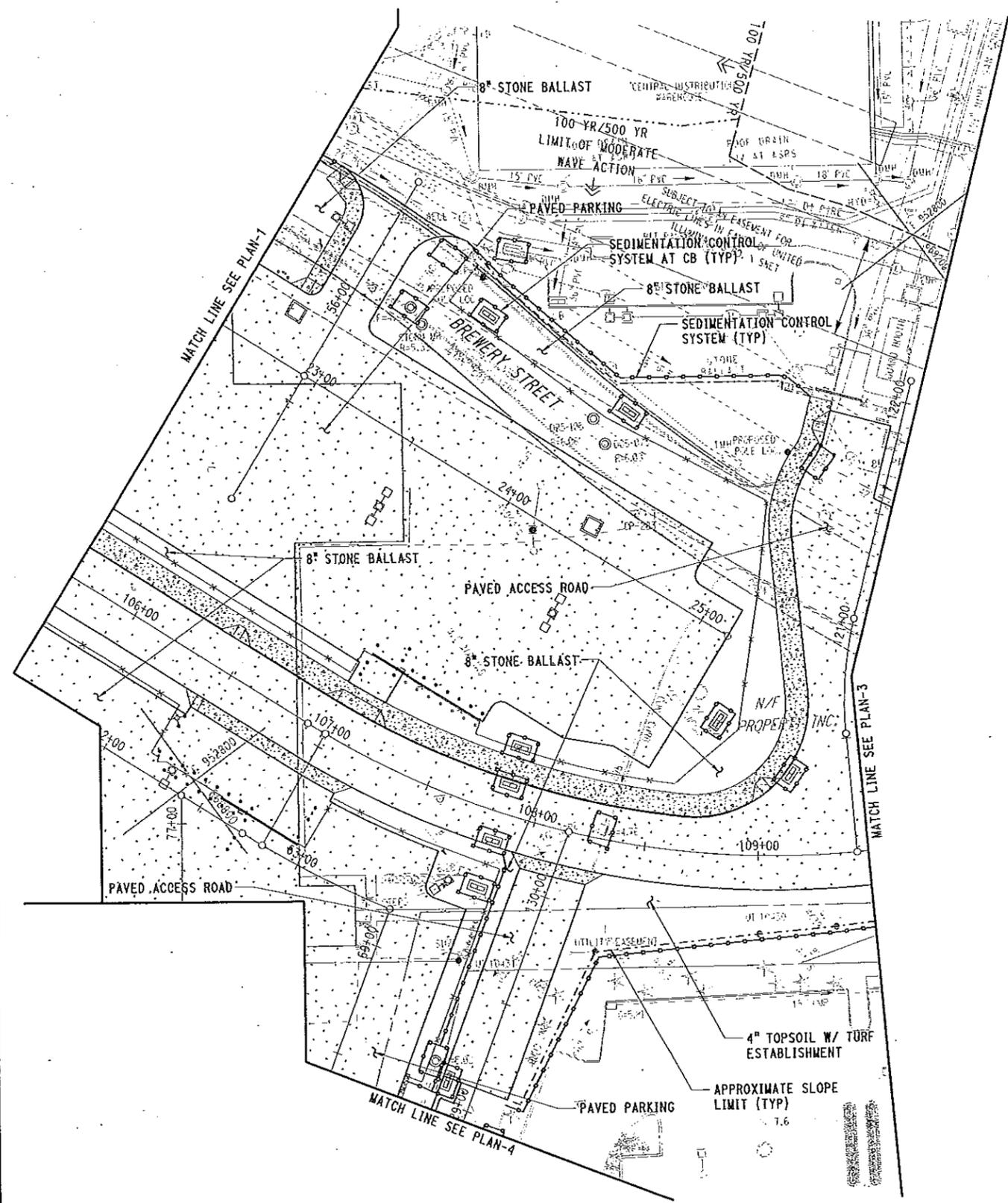
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SEDIMENTATION AND EROSION CONTROL PLAN-1

PROJECT NO. **301-0124**
 DRAWING NO. **CE-001**
 SHEET NO.



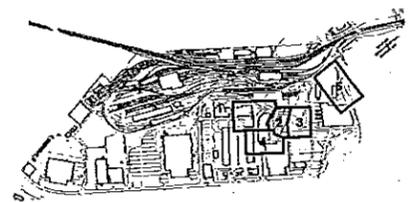
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NOTE:

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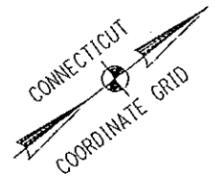


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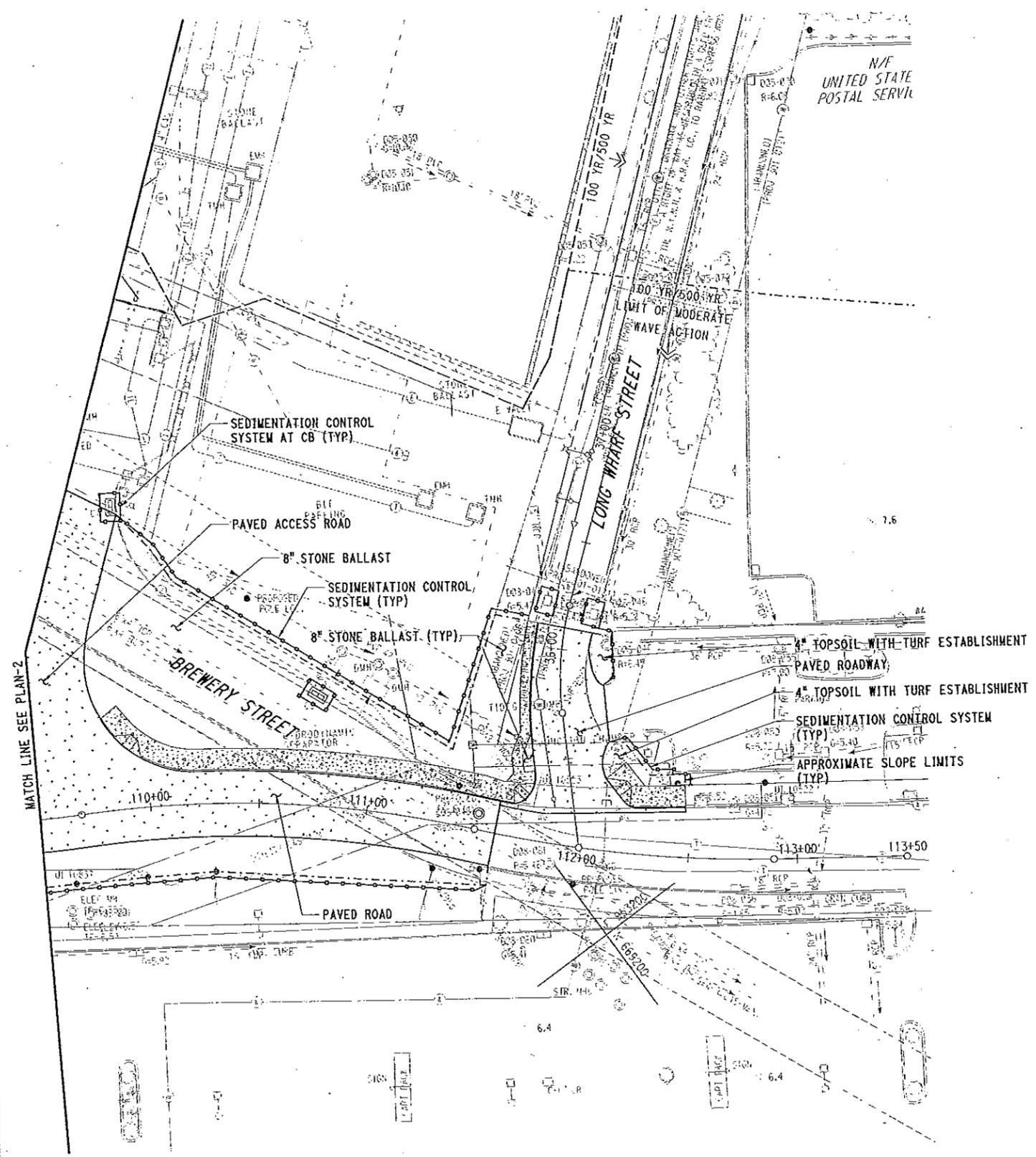
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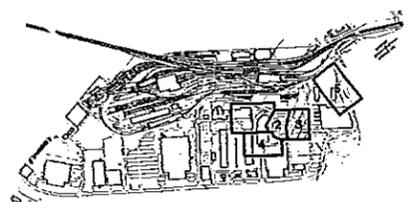
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	REV. DATE REVISION DESCRIPTION SHEET NO. Paved Date: 10/14/2014	SHEET NO.	DRAWING TITLE: SEDIMENTATION AND EROSION CONTROL PLAN-2	DRAWINGS NO. CE-002	SHEET NO.		



- LEGEND**
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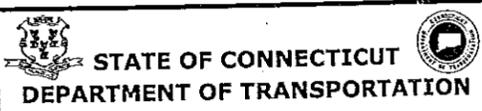
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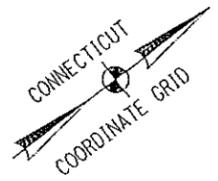
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TOWN:
NEW HAVEN
DRAWING TITLE:
SEDIMENTATION AND EROSION CONTROL PLAN-3

PROJECT NO.
301-0124
DRAWING NO.
CE-003
SHEET NO.

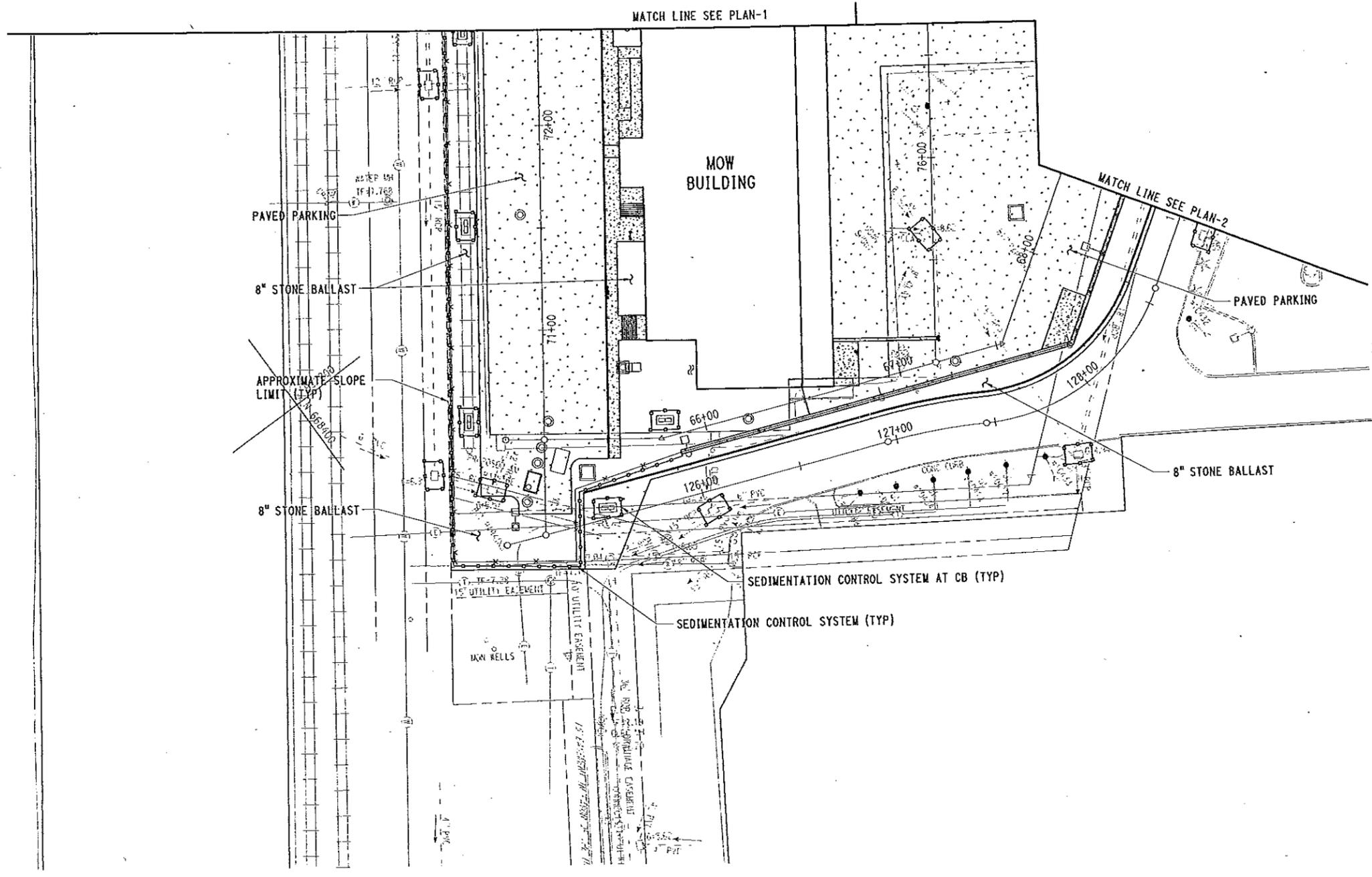
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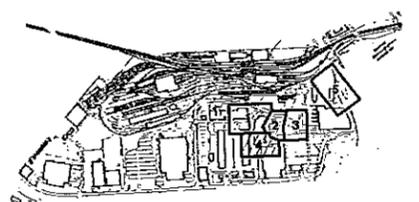
LEGEND

- PAVED
- UNPAVED STORAGE
- CONCRETE
- APPROXIMATE 100 YEAR (ELEV 11.0) & 500 YEAR (ELEV 13.8) FEMA FLOODPLAINS
- - - - APPROXIMATE 100 YEAR (ELEV 12.0) & 500 YEAR (ELEV 15.0) FEMA FLOODPLAINS
- LIMIT OF MODERATE WAVE ACTION
- APPROXIMATE SLOPE LIMIT
- SEDIMENTATION CONTROL SYSTEM



NOTES:

1. FOR ADDITIONAL INFORMATION, REFER TO GENERAL NOTES AND CIVIL MISCELLANEOUS DETAILS.



KEY PLAN

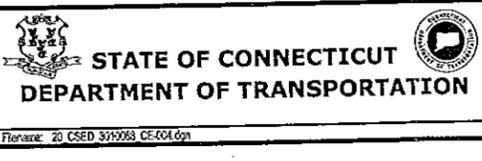
CONTRACT DOCUMENTS REVIEW

SWPCP - APPENDIX C

10/14/2014 5:57:57 PM T:\18965-NH-RR\FIC\DOT_P\Projects\301_0088\Contract_Sheet_Files\20104-Civil\20_CSED_3010088_CE-004.dgn

REV	DATE	REVISION DESCRIPTION	SHEET NO	Printed Date
				10/14/2014

DESIGNER/DRAWER:
JFK/JLD
CHECKED BY:
WPD
SCALE IN FEET
SCALE 1"=30'

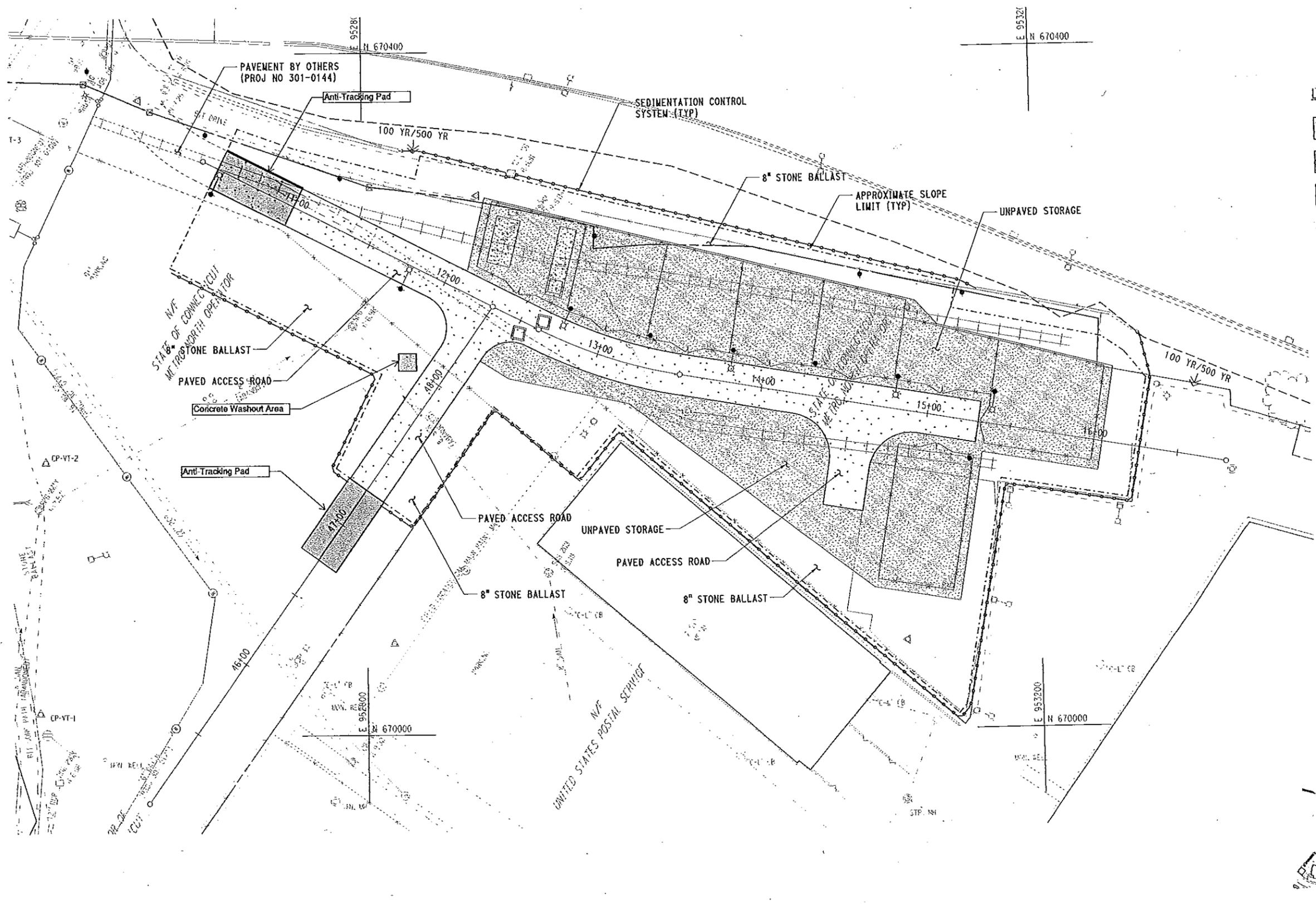


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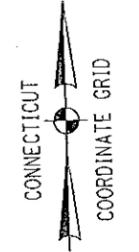
PROJECT TITLE
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN NEW HAVEN	PROJECT NO. 301-0124
DRAWING TITLE SEDIMENTATION AND EROSION CONTROL PLAN-4	DRAWING NO. CE-004
	SHEET NO.

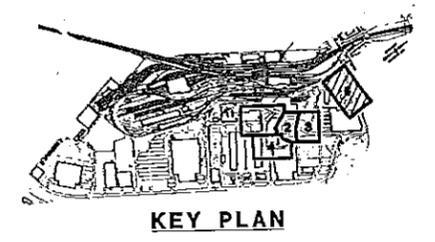
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- LEGEND**
- PAVED
 - UNPAVED STORAGE
 - CONCRETE
 - APPROXIMATE 100 YEAR (ELEV 11.0) & 500 YEAR (ELEV 13.8) FEMA FLOODPLAINS
 - APPROXIMATE 100 YEAR (ELEV 12.0) & 500 YEAR (ELEV 15.0) FEMA FLOODPLAINS LIMIT OF MODERATE WAVE ACTION
 - APPROXIMATE SLOPE LIMIT
 - SEDIMENTATION CONTROL SYSTEM



- NOTES:**
- FOR ADDITIONAL INFORMATION, REFER TO GENERAL NOTES AND CIVIL MISCELLANEOUS DETAILS.



SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

TOWN NEW HAVEN	PROJECT NO. 301-0124
DRAWING TITLE SEDIMENTATION AND EROSION CONTROL PLAN-5	DRAWING NO. CE-005
	SHEET NO.

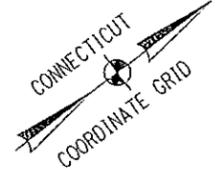
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Project Date: 10/14/2014

DESIGNER/DRAWER: **JFK/JLD**
 CHECKED BY: **WPD**
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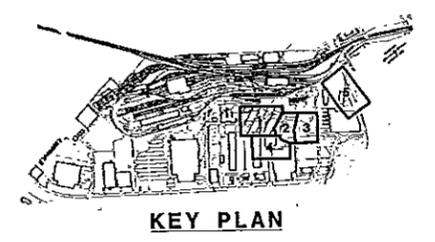
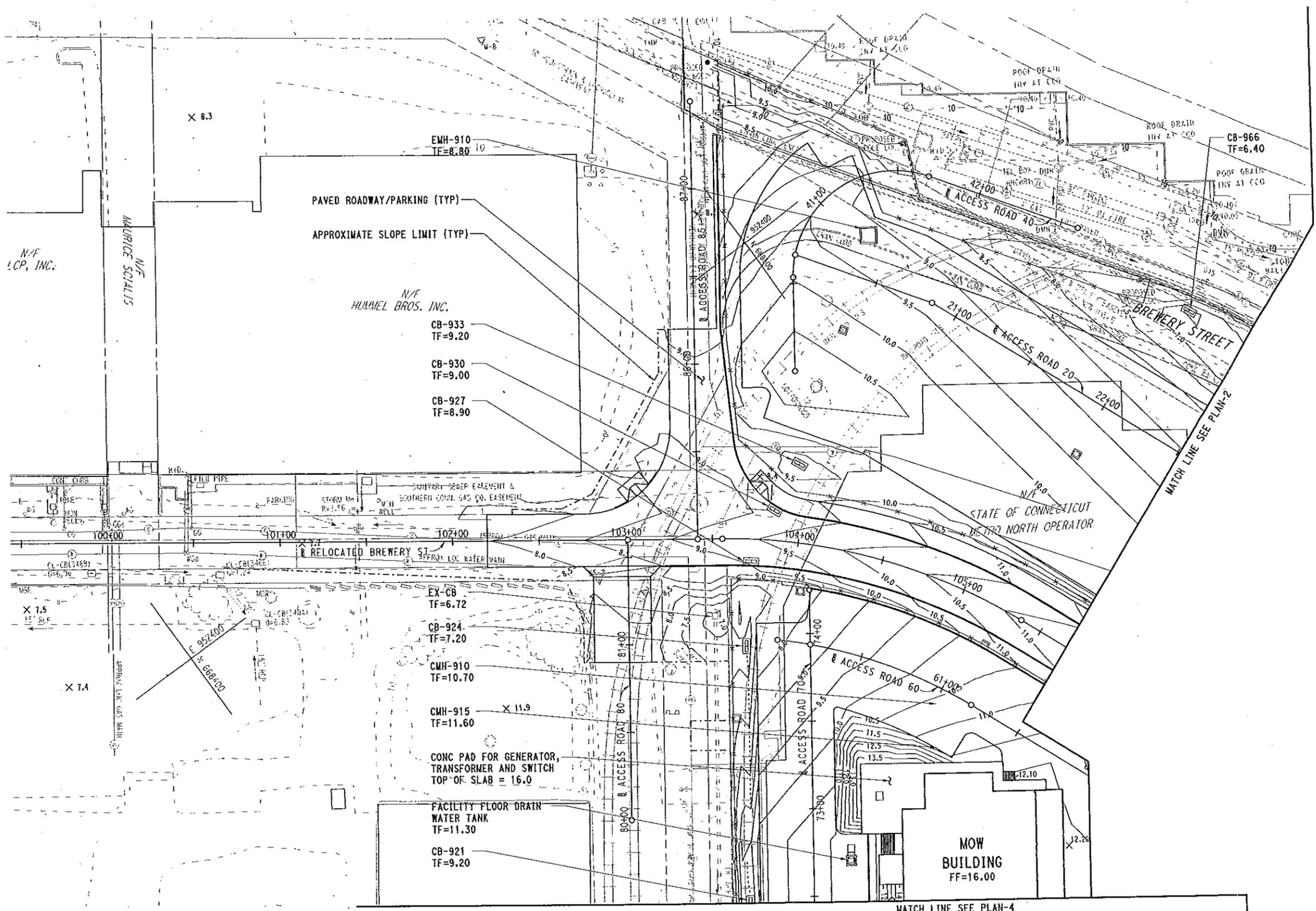
PROJECT TITLE
 NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

File name: 20_CSED_3010088_CE-005.dgn



- LEGEND**
- 10 EXISTING CONTOURS
 - 10.5 PROPOSED CONTOURS
 - 10.30 PROPOSED SPOT ELEVATION
 - PROPOSED SWALE

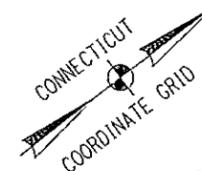
- NOTES:**
1. PROPOSED CONTOUR INTERVAL = 0.1 FOR PAVED AREAS.
PROPOSED CONTOUR INTERVAL = 0.5 FOR UNPAVED AREAS.
EXISTING CONTOUR INTERVAL = 0.1 FOR PAVEMENT TIE-INS.
 2. REFER TO ROADWAY PROFILES AND CROSS SECTIONS FOR ADDITIONAL INFORMATION.



SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

10/17/2014 11:35:13 AM T:\18965-NHRY\FRICTDOT\Projects\801_0088\Contract_Sheet_Files\2010\04-Civil\20_CGRA_3010088_CC-001.dgn	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAWER: JFK/JLD CHECKED BY: WPD SCALE IN FEET SCALE: 1"=30'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION File name: 20 CGRA 3010088 CC-001.dgn	SIGNATURE BLOCK: 	PROJECT TITLE: NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING	TOWN: NEW HAVEN	PROJECT NO: 301-0124
	SHEET NO: CC-001	DRAWING TITLE: GRADING PLAN-1	SHEET NO. 04.26				

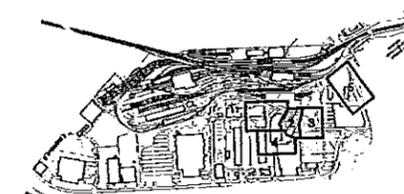
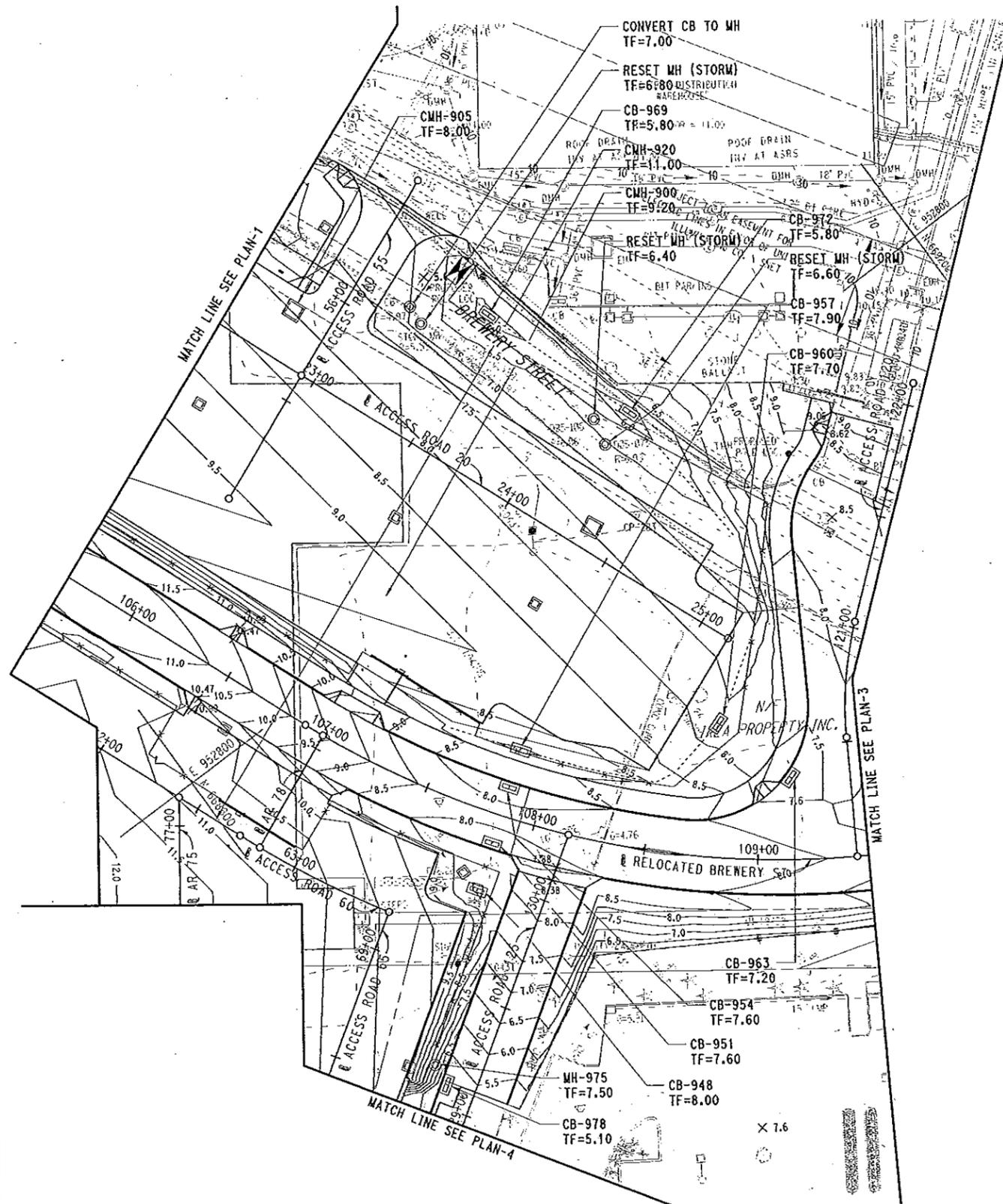


LEGEND

- 10' EXISTING CONTOURS
- 10' EXISTING CONTOURS
- 10.5' PROPOSED CONTOURS
- 10.30 PROPOSED SPOT ELEVATION
- PROPOSED SWALE

NOTES:

1. PROPOSED CONTOUR INTERVAL = 0.1 FOR PAVED AREAS.
 PROPOSED CONTOUR INTERVAL = 0.5 FOR UNPAVED AREAS.
 EXISTING CONTOUR INTERVAL = 0.1 FOR PAVEMENT TIE-INS.
2. REFER TO ROADWAY PROFILES AND CROSS SECTIONS FOR ADDITIONAL INFORMATION.



KEY PLAN

SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

10/15/2014 4:31:47 PM T:\18865-NHRY\FIC\DOT_Projects\301_0086\Contract_Sheet_Files\2010-Civil\20_CGRA_3010088_CC-002.dgn	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAFTER JFK/JLD CHECKED BY: WPD SCALE IN FEET SCALE 1"=30'	 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE BLOCK 	PROJECT TITLE NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING	TOWN NEW HAVEN	PROJECT NO. 301-0124
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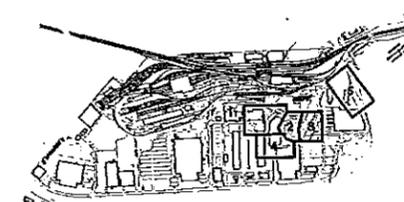
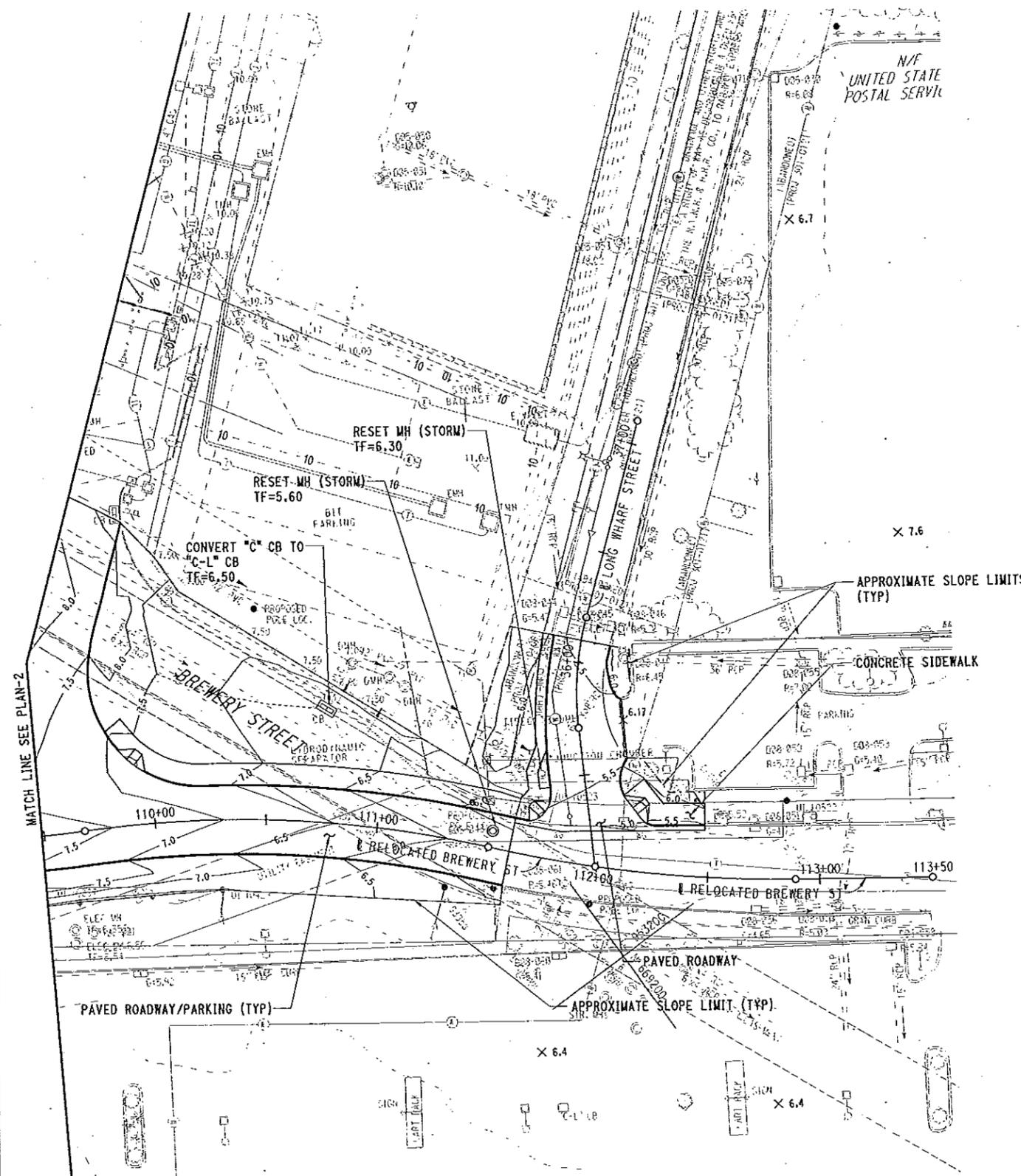


LEGEND

- 10
10 EXISTING CONTOURS
- 10.5 PROPOSED CONTOURS
- 10.30 PROPOSED SPOT ELEVATION
- PROPOSED SWALE

NOTES:

1. PROPOSED CONTOUR INTERVAL = 0.1' FOR PAVED AREAS.
PROPOSED CONTOUR INTERVAL = 0.5 FOR UNPAVED AREAS.
EXISTING CONTOUR INTERVAL = 0.1 FOR PAVEMENT TIE-INS.
2. REFER TO ROADWAY PROFILES AND CROSS SECTIONS FOR ADDITIONAL INFORMATION.



KEY PLAN

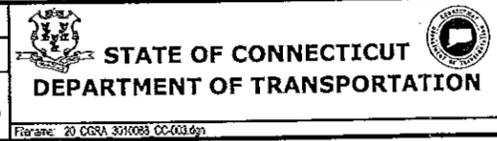
CONTRACT DOCUMENTS REVIEW

SWPCP - APPENDIX C

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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER
JFK/JLD
CHECKED BY:
WPD
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SCALE 1"=30'



SIGNATURE/BLOCK

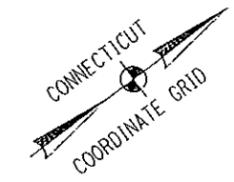
PROJECT TITLE
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN
NEW HAVEN
DRAWING TITLE
GRADING PLAN-3

PROJECT NO.
301-0124
DRAWING NO.
CC-003
SHEET NO.
04.28

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Printed Date
				10/15/2014

MATCH LINE SEE PLAN-1



CB-921
TF=9.20

PAVED ROADWAY/PARKING

MH-945
TF=10.40

CB-918
TF=9.00

FACILITY FLOOR DRAIN
WATER TANK
TF=11.2

MH-912
TF=9.30

CB-915
TF=7.60

MH-909
TF=8.90

MH-906
TF=8.90

MH-TG
TF=8.80

MH-903
TF=8.40

APPROXIMATE
SLOPE LIMIT
(TYP)

MOW
BUILDING
FF=16.00

MATCH LINE SEE PLAN-2

PAVED ROADWAY/PARKING

CONCRETE PAD FOR
WASTE CONTAINERS
TOP OF SLAB=10.50

RETAINING WALL
(SEE STRUCT DWGS)

MH-942
TF=12.00

RETAINING WALL
(SEE STRUCT DWGS)

CONCRETE PAD FOR HAZARDOUS
WASTE STORAGE TOP OF SLAB=16.00

MH-939
TF=13.30

CB-936
TF=8.20

CMH-930
TF=9.10

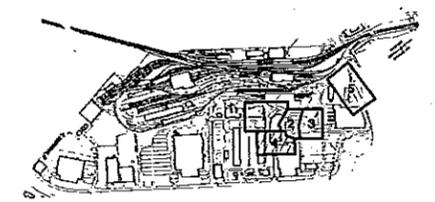
CB-900
TF=7.00

LEGEND

- 10 ——— EXISTING CONTOURS
- 10.5 ——— PROPOSED CONTOURS
- X 10.30 PROPOSED SPOT ELEVATION
- PROPOSED SWALE

NOTES:

1. PROPOSED CONTOUR INTERVAL = 0.1 FOR PAVED AREAS.
PROPOSED CONTOUR INTERVAL = 0.5 FOR UNPAVED AREAS.
EXISTING CONTOUR INTERVAL = 0.1 FOR PAVEMENT TIE-INS.
2. REFER TO ROADWAY PROFILES AND CROSS SECTIONS FOR ADDITIONAL INFORMATION.



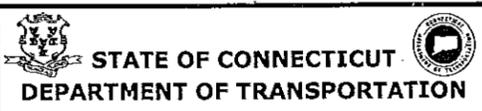
KEY PLAN

SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER
JFK / JLD
CHECKED BY:
WPD
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SIGNATURE BLOCK

PROJECT TITLE
**NEW HAVEN RAIL YARD
FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING**

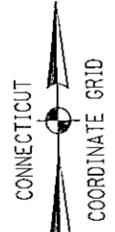
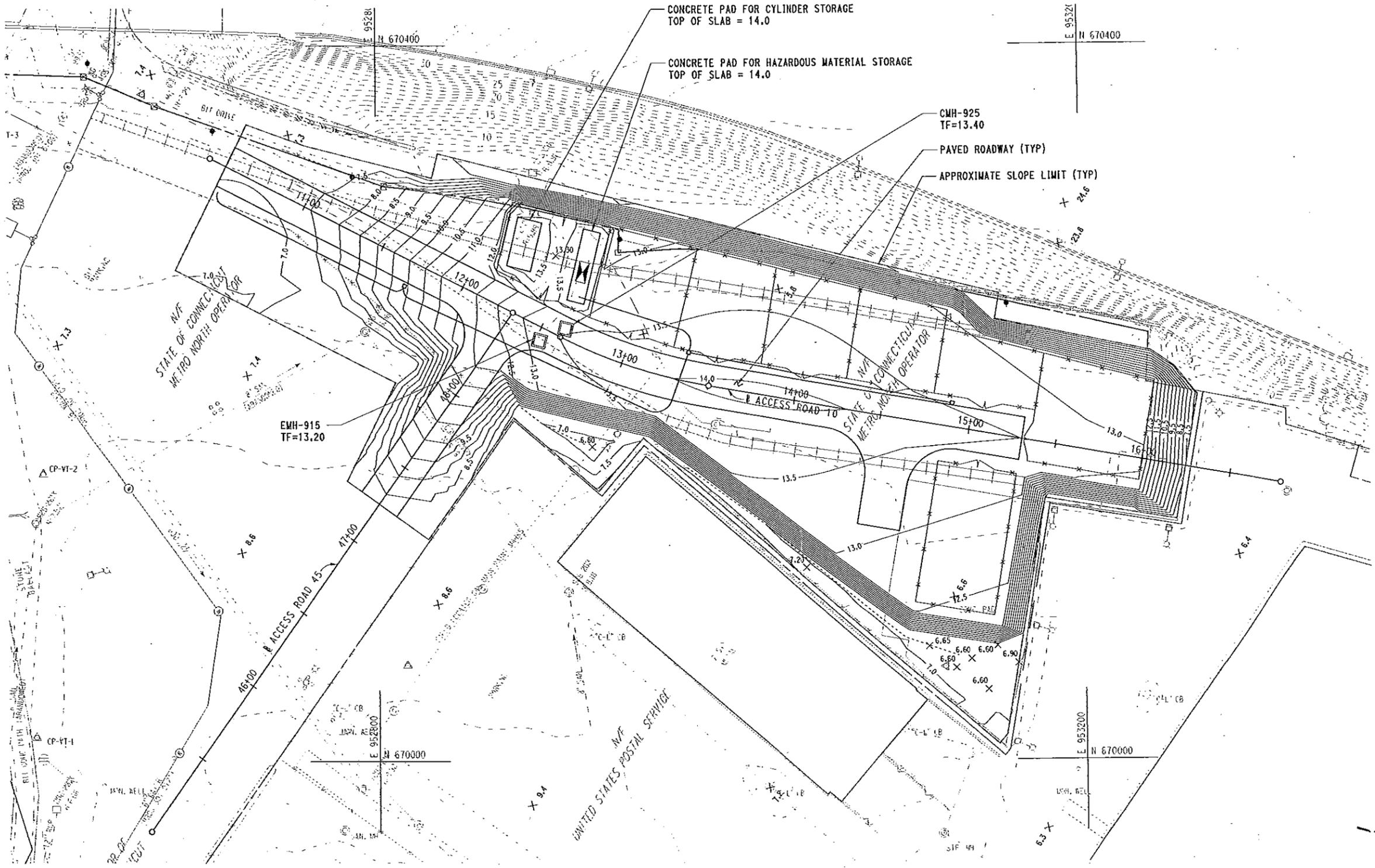
TOWN
NEW HAVEN
DRAWING TITLE
GRADING PLAN-4

PROJECT NO.
301-0124
DRAWING NO.
CC-004
SHEET NO.
04.29

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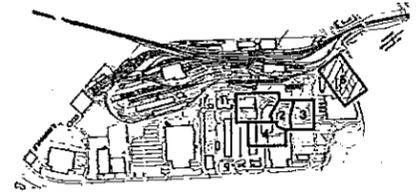
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				12/22/2014

Filename: 20 CGRA_3010088_CC-004.dgn



- LEGEND**
- 10 EXISTING CONTOURS
 - 10 PROPOSED CONTOURS
 - 10.30 PROPOSED SPOT ELEVATION
 - PROPOSED SWALE

- NOTES:**
1. PROPOSED CONTOUR INTERVAL = 0.1 FOR PAVED AREAS.
PROPOSED CONTOUR INTERVAL = 0.5 FOR UNPAVED AREAS.
EXISTING CONTOUR INTERVAL = 0.1 FOR PAVEMENT TIE-INS.
 2. REFER TO ROADWAY PROFILES AND CROSS SECTIONS FOR ADDITIONAL INFORMATION.



KEY PLAN

SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Printed Date
				10/15/2014

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER
JFK/JLD

CHECKED BY:
WPD

SCALE IN FEET
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SCALE 1"=30'



SIGNATURE/BLOCK

PROJECT TITLE
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FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING**

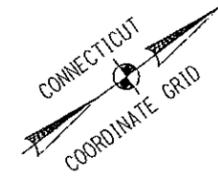
TOWN
NEW HAVEN

DRAWING TITLE
GRADING PLAN-5

PROJECT NO.
301-0124

DRAWING NO.
CC-005

SHEET NO.
04.30

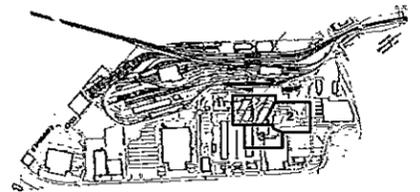


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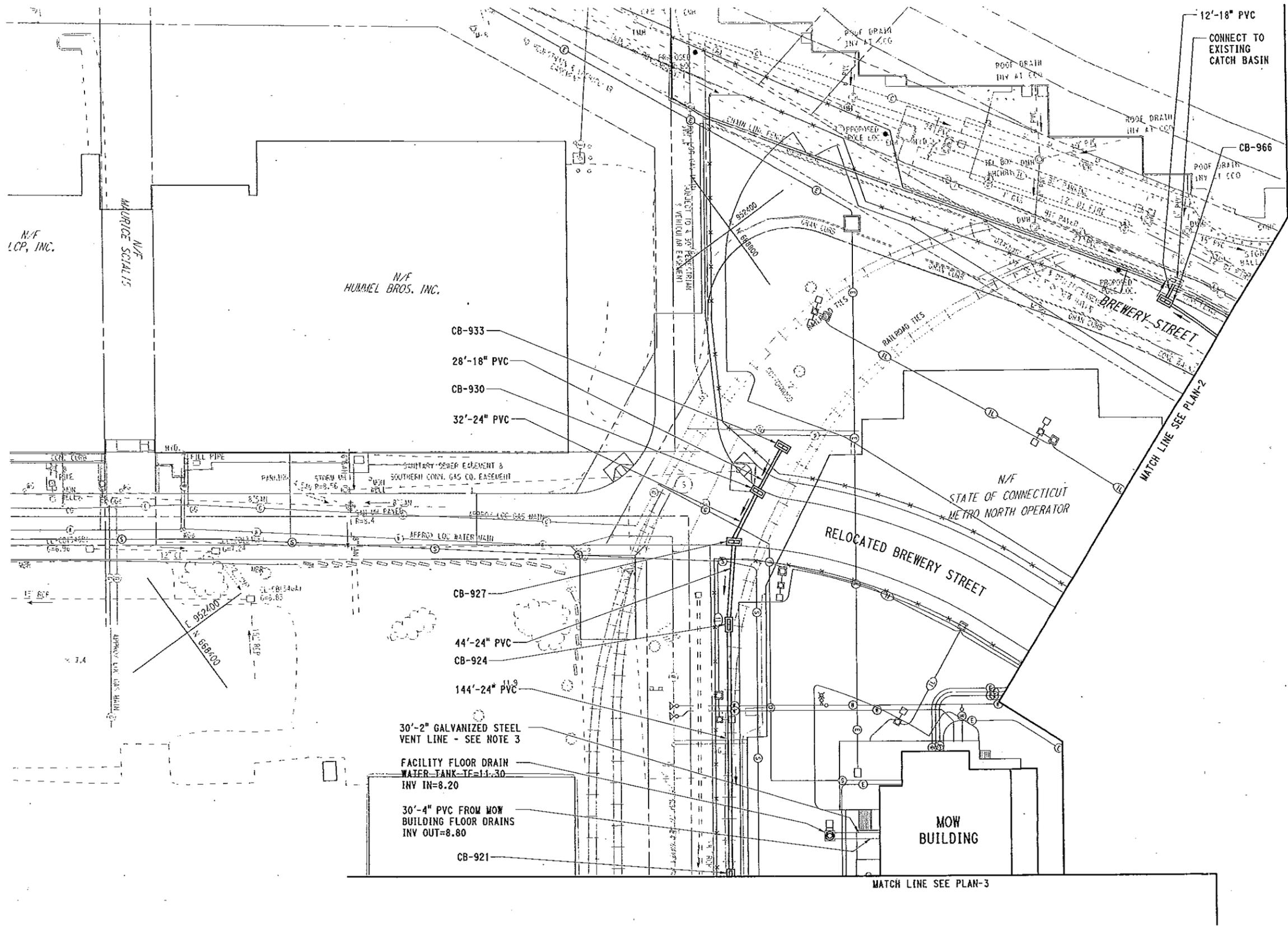
- CATCH BASIN
- MANHOLE
- STORM DRAINAGE PIPE

NOTES:

1. REFER TO DRAINAGE DATA TABLE, DRAINAGE PROFILES AND ROADWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. REFER TO GRADING PLANS FOR DRAINAGE STRUCTURE TF ELEVATIONS
3. VENT LINE TO EXTEND TO 7' ABOVE CONCRETE PAD FF EL. INSTALL ELBOWS ON END TO PREVENT STORM WATER INFILTRATION AND SECURE TO BUILDING WITH GALVANIZED HARDWARE.



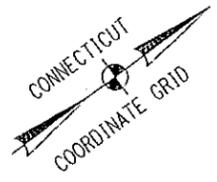
KEY PLAN



SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

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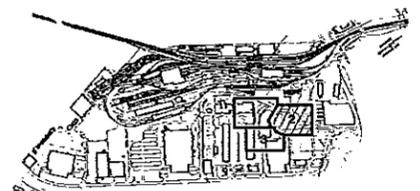
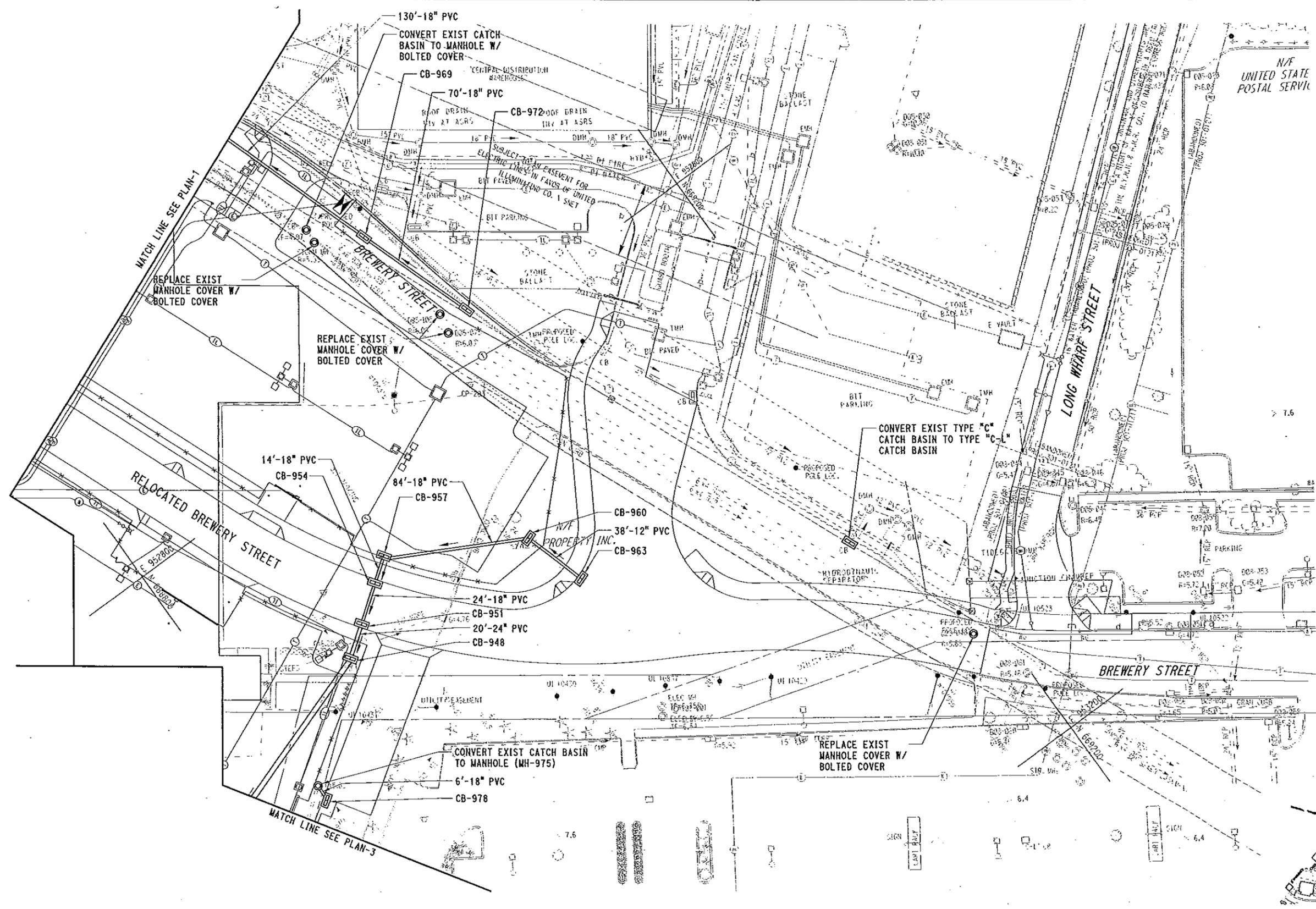


LEGEND

- CATCH BASIN
- MANHOLE
- STORM DRAINAGE PIPE

NOTES:

1. REFER TO DRAINAGE DATA TABLE, DRAINAGE PROFILES AND ROADWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. REFER TO GRADING PLANS FOR DRAINAGE STRUCTURE TF ELEVATIONS.



KEY PLAN

SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

10/17/2014 1:08:04 PM T:\18965-NHRY\FIC\DOT_P\Projects\301_0088\Contract_Sheet_Files\20105-Utilities\20_UPLN_3010088_UD-002.dgn

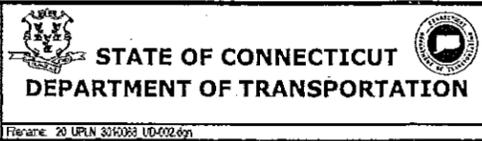
REV	DATE	REVISION DESCRIPTION	SHEET NO.	Project Date: 10/17/2014

DESIGNER/DRAFTER
JFK/JLD

CHECKED BY:
WPD

SCALE IN FEET
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SCALE 1"=30'



SIGNATURE BLOCK

PROJECT TITLE
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

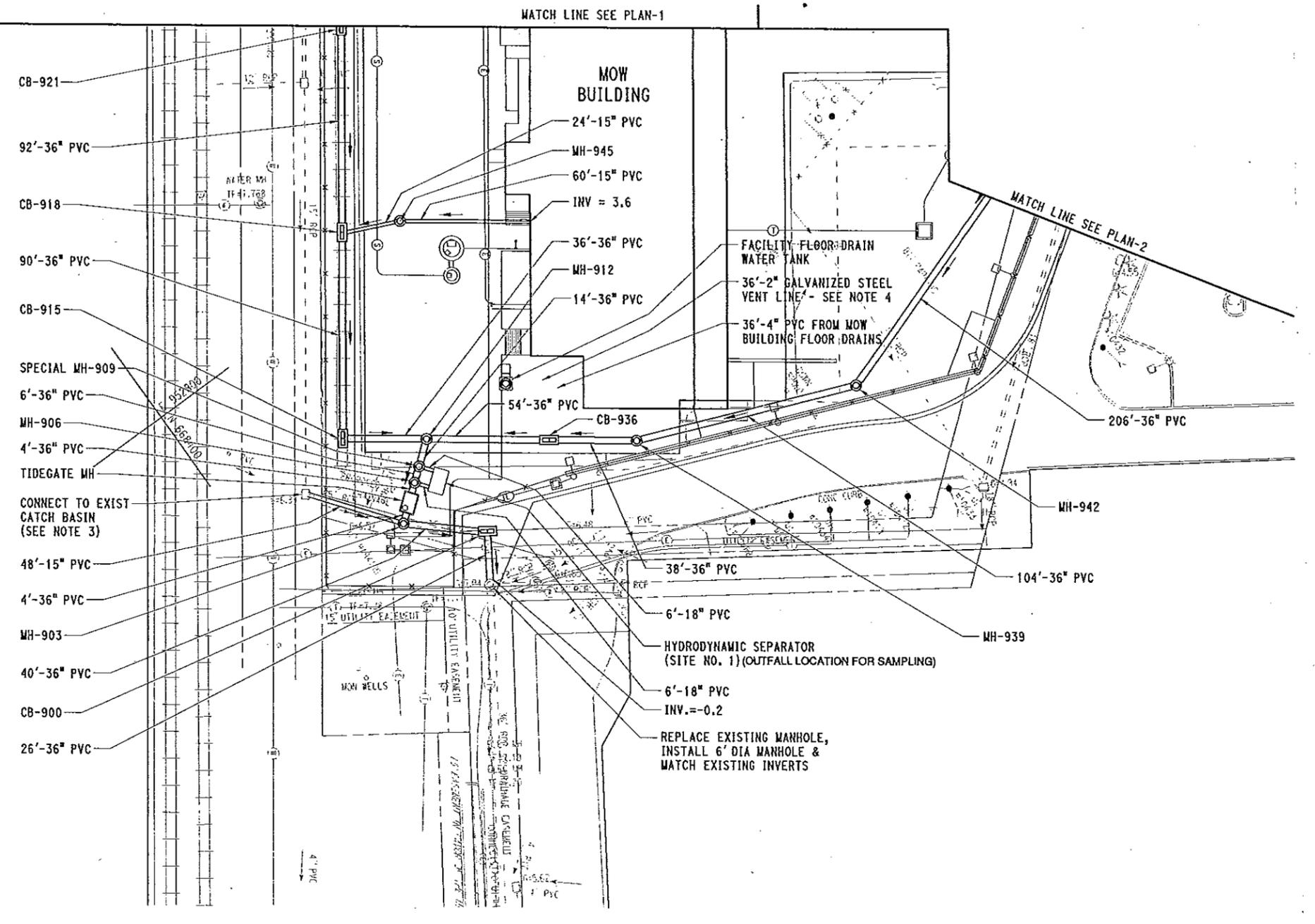
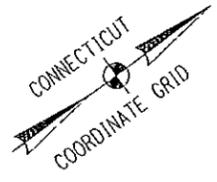
TOWN
NEW HAVEN

DRAWING TITLE
DRAINAGE PLAN-2

PROJECT NO.
301-0124

DRAWING NO.
UD-002

SHEET NO.

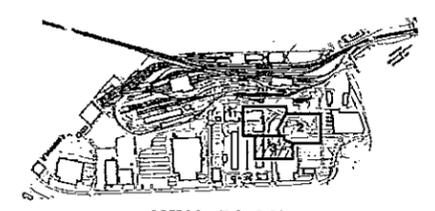


LEGEND

-  CATCH BASIN
-  MANHOLE
-  STORM DRAINAGE PIPE

NOTES:

1. REFER TO DRAINAGE DATA TABLE, DRAINAGE PROFILES AND ROADWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. REFER TO GRADING PLANS FOR DRAINAGE STRUCTURES IF ELEVATIONS.
3. CONNECT TO EXISTING MANHOLE MATCHING EXISTING INVERT. IF ORDERED AND APPROVED BY THE ENGINEER, THE CONTRACTOR HAS THE OPTION OF CONNECTING TO EXISTING PIPE WITH A FLEXIBLE WATERTIGHT PIPE WITH A FITTING WITH STAINLESS STEEL BANDS INTENDED FOR THE PURPOSE.
4. VENT LINE TO EXTEND TO EL=21.5 (7' ABOVE FINISHED GRADE). INSTALL ELBOWS TO PREVENT STORM WATER INFILTRATION AND SECURE TO BUILDING WITH GALVANIZED HARDWARE.

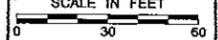


KEY PLAN

SWPCP - APPENDIX C

CONTRACT DOCUMENTS REVIEW

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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER JFK / JLD CHECKED BY: WPD SCALE IN FEET  SCALE 1"=30'	 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE BLOCK 	PROJECT TITLE: NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING	TOTAL NEW HAVEN DRAWING TITLE: DRAINAGE PLAN-3	PROJECT NO. 301-0124 DRAWING NO. UD-003 SHEET NO.
REV.	DATE	PERSON DESCRIPTION	SHEET NO.	Printed Date 10/21/2014	File name: 20 UPLN 3010088 UD-003.dgn		



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: State of Connecticut, Department of Transportation
 Mailing Address: 1107 Cromwell Ave, Rocky Hill, CT 06067
 Business Phone: (860) 258-4601 ext.: _____ Fax: _____
 Contact Person: Ravi Chandran Title: District Engineer
 Site Name: New Haven Rail Yard - Maintenance of Way Building and Outdoor Material Storage Area
 Site Address: 1 Brewery St & 152 Water St, New Haven, CT
 Receiving Water (name, basin): New Haven Harbor, 5000-48-1
 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



General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

Notice of Termination Form

Please complete and submit this form in accordance with the general permit (DEP-PED-GP-015) in order to ensure the proper handling of your termination. Print or type unless otherwise noted.

Note: Ensure that for commercial and industrial facilities, registrations under the *General Permit for the Discharge of Stormwater Associated with Industrial Activity* (DEP-PED-GP-014) or the *General Permit for the Discharge of Stormwater from Commercial Activities* (DEP-PED-GP-004) have been filed where applicable. For questions about the applicability of these general permits, please call the Department at 860-424-3018.

Part I: Registrant Information

1. Permit number: GSN
2. Fill in the name of the registrant(s) as indicated on the registration certificate: Registrant: State of Connecticut, Department of Transportation
3. Site Address: 1 Brewery St & 152 Water St City/Town: New Haven State: CT Zip Code: 06511
4. Date all storm drainage structures were cleaned of construction sediment: Date of Completion of Construction: Date of Last Inspection (must be at least three months after final stabilization pursuant to Section 6(b)(6)(D) of the general permit):
5. Check the post-construction activities at the site (check all that apply): <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Capped Landfill <input checked="" type="checkbox"/> Other (describe): Rail Yard

Part II: 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 of Permittee	Date
Ravi Chandran	District Engineer
Name of Permittee (print or type)	Title (if applicable)

Note: Please submit this Notice of Termination Form to:
 STORMWATER PERMIT COORDINATOR
 BUREAU OF WATER MANAGEMENT
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 79 ELM STREET
 HARTFORD, CT 06106-5127