



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

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

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

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

Part I: Registration Type

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

CPPU USE ONLY	
App #:	_____
Doc #:	_____
Check #:	_____
Program:	<u>Stormwater</u>

Registration Type		Registration Timeline	
☐	Re-registration Existing Permit No. GSN _____	On or before February 1, 2014* *Note: Failure to renew a permit by this date will require submission of new registration. Re-registrants must only complete Parts I, II, III, IV - Question 1, VII and submit Attachment A.	
☒	New Registration (Refer to Section 2 of the permit for definitions of Locally Exempt and Locally Approvable Projects)	☒ Locally Approvable Size of soil disturbance: 8.79	New registration - Sixty (60) days prior to the initiation of the construction activity for: For sites with a total soil disturbance area of 5 or more acres
		☐ Locally Exempt Size of soil disturbance: _____	☐ New registration - Sixty (60) days prior to the initiation of the construction activity for: Sites with a total disturbance area of one (1) to twenty (20) acres except those with discharges to impaired waters or tidal wetlands
			☐ New registration - Ninety (90) days prior to the initiation of the construction activity for: (i) Sites with a total soil disturbance area greater than twenty (20) acres, or (ii) Sites discharging to a tidal wetland (that is not fresh-tidal and is located within 500 feet), or (iii) Sites discharging to the impaired water listed in the "Impaired Waters Table for Construction Stormwater Discharges"

Part II: Fee Information

1. New Registrations

a. Locally approvable projects (registration only):

☒ \$625

b. Locally exempt projects (registration and Plan):

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

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

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

2. Re-Registrations

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

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

Total Fee: \$625.00

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

Part III: Registrant Information

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

1. Registrant /Client Name:	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		
Registrant Type:	State Agency		
Secretary of the State business ID #:			
Mailing Address:	1107 CROMWELL AVE		
City/Town:	ROCKY HILL	State:	CT Zip Code: 06067
Business Phone:	(860) 258-4601	ext.:	
<i>Example:(xxx) xxx-xxxx</i>			
Contact Person:	Donald L. Ward, P.E.	Title :	District 1 Engineer
E-Mail:	donald.ward@ct.gov		
2. List billing contact:			
Name:	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		
Mailing Address:	1107 CROMWELL AVE		
City/Town:	ROCKY HILL	State:	CT Zip Code: 06067
Business Phone:	(860) 258-4601	ext.:	
Contact Person:	Donald L. Ward, P.E.	Title :	District 1 Engineer

3. List primary contact for departmental correspondence and inquiries:
 Name: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION
 Mailing Address: 1107 CROMWELL AVE
 City/Town: ROCKY HILL State: CT Zip Code: 06067
 Business Phone: (860) 258-4601 ext.
 Contact Person: Donald L. Ward, P.E. Title: District 1 Engineer

4. List owner of the property on which the activity will take place:
 Name: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION
 Mailing Address: 1107 CROMWELL AVE
 City/Town: ROCKY HILL State: CT Zip Code: 06067
 Business Phone: (860) 258-4601 ext.
 Contact Person: Donald L. Ward, P.E.

5. List preparer:
 Name: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION
 Mailing Address: 2800 BERLIN TPKE
 City/Town: NEWINGTON State: CT Zip Code: 06111
 Business Phone: (860) 594-3387 ext.
 Contact Person: Malissa Carvalho Title: Transportation Engineer 3

6. List design professional:
 Name: BL COMPANIES, INC.
 Mailing Address: 100 CONSTITUTION PLZ, 10TH FL
 City/Town: HARTFORD State: CT Zip Code: 06103
 Business Phone: (860) 249-2200 ext.
 Contact Person: David Cicia, PE Title: Principal Engineer

7. List Reviewing Qualified Professional (for locally approvable projects only):
 Name: BL COMPANIES, INC.
 Mailing Address: 355 RESEARCH PKWY
 City/Town: MERIDEN State: CT Zip Code: 06450
 Business Phone: (203) 630-1406 ext.
 Contact Person: Michael Fisher, PE Title: Senior Project Manager

Part IV: Site Information

1. Site Name: Project 0047-0122
 Street Address or Description of Location: CT-140 (Crystal Lake Road)
 City/Town: Ellington, Tolland State: CT Zip Code: 06029, 06084
 Brief Description of construction activity:
Horizontal realignment, earth excavation, rock excavation, rebuilding embankments, and culvert and stormwater drainage
upgrades and improvements.
 Project Start Date: 14 Apr 2025 Anticipated Completion Date: 5 Nov 2027
 Normal working hours: 9 to 5

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

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

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

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

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

5. **COASTAL BOUNDARY:** Is the activity which is the subject of this registration located

within the coastal boundary as delineated on DEEP approved coastal boundary maps? ☐ Yes ☒No

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

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

6. **ENDANGERED OR THREATENED SPECIES:**

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

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

- a. Provide the date of the NDDDB maps were reviewed: 29 Jul 2024 (Print a copy of the NDDDB map you viewed since it must be submitted with this registration as part of Attachment C.)

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

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

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

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

7. **WILD AND SCENIC RIVERS:** Is the proposed project within the watershed of a designated

Wild and Scenic River? (See Appendix H for guidance)

☐ Yes ☒ No

8. **AQUIFER PROTECTION AREAS:** Is the site located within a mapped

[Aquifer Protection Area](#) , as defined in Section 22a-354h of the CT General Statutes?

(For additional guidance, please refer to Appendix C of the General Permit)

☐ Yes ☒ No

9. **Connecticut Guidelines for Soil Erosion and Sediment Control Guidelines:** Is the activity in

accordance with Connecticut Guidelines for Soil Erosion and Sediment Control Guidelines and local erosion & sediment control ordinances, where applicable?

☒ Yes ☐ No

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

Has the site of the proposed activity been reviewed (using the process outlined in Appendix G of this permit) for historic and/or archaeological resources?

☒ Yes ☐ No

- a. The review indicates the proposed site does not have the potential for historic/ archaeological resources, OR

☒ Yes ☐ No

- b. The review indicated historic and/ or archaeological resource potential exists and the proposed activity is being or has been reviewed by the Offices of Culture and Tourism, OR

☐ NA ☐ Yes ☒ No

- c. The proposed activity has been reviewed and authorized under an Army Corps of Engineers Section 404 wetland permit.

☐ NA ☐ Yes ☒ No

11. **CONSERVATION OR PRESERVATION RESTRICTION:**

Is the property subject to a conservation or preservation restriction?

☐ Yes ☒ No

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

Part V: Stormwater Discharge Information

Table 1

Outfall #	a) Type	b) Pipe Material	c) Pipe Size	d) Note: To find lat/long, go to: CT ECO . A decimal format is required here. Directions on how to use CT ECO to find lat. /long. and conversions can be found in in Part V, section d of the DEEP-WPED-INST-015 .		e) What method was used to obtain your latitude/longitude information?
				Longitude (Format: -xx.xxxxx)	Latitude (Format: xx.xxxxx)	
PO-4	Pipe	Concrete	18"	-72.437224	41.912849	ezFile Portal Map
PO-1	Pipe	Concrete	18"	-72.437224	41.912849	ezFile Portal Map
PO-2	Pipe	Concrete	18"	-72.437224	41.912849	ezFile Portal Map
PO-3	Pipe	Concrete	24"	-72.437224	41.912849	ezFile Portal Map
PO-5	Pipe	Concrete	18"	-72.437224	41.912849	ezFile Portal Map

Part V: Stormwater Discharge Information Continued

Table 2

2. Provide the following information about the receiving water(s)/wetland(s) that receive stormwater runoff from your site, either directly or through the storm sewer system:							
Outfall #	Dates when this outfall will be active:	a) To what system or receiving water does your stormwater runoff discharge? either "storm sewer or wetlands" or "waterbody" (If you select storm sewer or wetlands, columns c.1&2 of this table are not required to be completed)	b) What is your watershed ID (freshwater) or 305b ID (estuary)? (Section 3.b, of the DEP-GP-INST-015 explains how to find this information)	c.1) Is your receiving water identified as an impaired water in the "Impaired Waters Table for Construction Stormwater Discharges" ?	<i>If you answered yes to question c.1, then answer the question below</i> c.2) Has any Total Maximum Daily Load (TMDL) been approved for your receiving waterbody?	For the drainage area associated with each outfall: Effective Impervious Area Before Construction (sq ft)	For the drainage area associated with each outfall: Effective Impervious Area After Construction (sq ft)
PO-4	Start: 19 Jun 2026 End:	Waterbody		☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	540	540
PO-1	Start: 19 Jun 2026 End:	Waterbody		☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	1660	1660
PO-2	Start: 19 Jun 2026 End:	Waterbody		☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	32723	36987
PO-3	Start: 3 Oct 2025 End:	Waterbody		☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	13490	22172
PO-5	Start: 3 Oct 2025 End:	Waterbody		☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	3610	5160
Provide the total effective impervious area for the entire site(sq ft):						153773	189571

Part V: Stormwater Discharge Information

Table 1

Outfall #	a) Type	b) Pipe Material	c) Pipe Size	d) Note: To find lat/long, go to: CT ECO . A decimal format is required here. Directions on how to use CT ECO to find lat. /long. and conversions can be found in in Part V, section d of the DEEP-WPED-INST-015 .		e) What method was used to obtain your latitude/longitude information?
				Longitude (Format: -xx.xxxxx)	Latitude (Format: xx.xxxxx)	
EO-6	Pipe	Concrete	18"	-72.437224	41.912849	ezFile Portal Map
PO-6	Pipe	Concrete	48"	-72.431020	41.914576	ezFile Portal Map
PO-7	Pipe	Concrete	18"	-72.437224	41.912849	ezFile Portal Map
PO-8	Pipe	Concrete	36"	-72.437224	41.912849	ezFile Portal Map
PO-9	Pipe	Concrete	18"	-72.437224	41.912849	ezFile Portal Map

Part V: Stormwater Discharge Information Continued

Table 2

2. Provide the following information about the receiving water(s)/wetland(s) that receive stormwater runoff from your site, either directly or through the storm sewer system:							
Outfall #	Dates when this outfall will be active:	a) To what system or receiving water does your stormwater runoff discharge? either "storm sewer or wetlands" or "waterbody" (If you select storm sewer or wetlands, columns c.1&2 of this table are not required to be completed)	b) What is your watershed ID (freshwater) or 305b ID (estuary)? (Section 3.b, of the DEP-GP-INST-015 explains how to find this information)	c.1) Is your receiving water identified as an impaired water in the "Impaired Waters Table for Construction Stormwater Discharges" ?	<i>If you answered yes to question c.1, then answer the question below</i> c.2) Has any Total Maximum Daily Load (TMDL) been approved for your receiving waterbody?	For the drainage area associated with each outfall: Effective Impervious Area Before Construction (sq ft)	For the drainage area associated with each outfall: Effective Impervious Area After Construction (sq ft)
EO-6	Start: 14 Apr 2025 End:	Waterbody		☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	14270	14270
PO-6	Start: 14 Aug 2026 End:	Waterbody	412	☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	0	0
PO-7	Start: 9 Oct 2026 End:	Storm Sewer or Wetlands		☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	8940	10434
PO-8	Start: 23 Apr 2027 End:	Storm Sewer or Wetlands		☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	0	0
PO-9	Start: 23 Apr 2027 End:	Storm Sewer or Wetlands		☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	23850	46841
Provide the total effective impervious area for the entire site(sq ft):						153773	189571

Part V: Stormwater Discharge Information

Table 1

Outfall #	a) Type	b) Pipe Material	c) Pipe Size	d) Note: To find lat/long, go to: CT ECO . A decimal format is required here. Directions on how to use CT ECO to find lat. /long. and conversions can be found in in Part V, section d of the DEEP-WPED-INST-015 .		e) What method was used to obtain your latitude/longitude information?
				Longitude (Format: -xx.xxxxx)	Latitude (Format: xx.xxxxx)	
PO-10	Pipe	Concrete	24"	-72.437224	41.912849	ezFile Portal Map

Part V: Stormwater Discharge Information Continued

Table 2

2. Provide the following information about the receiving water(s)/wetland(s) that receive stormwater runoff from your site, either directly or through the storm sewer system:							
Outfall #	Dates when this outfall will be active:	a) To what system or receiving water does your stormwater runoff discharge? either "storm sewer or wetlands" or "waterbody" (If you select storm sewer or wetlands, columns c.1&2 of this table are not required to be completed)	b) What is your watershed ID (freshwater) or 305b ID (estuary)? (Section 3.b, of the DEP-GP-INST-015 explains how to find this information)	c.1) Is your receiving water identified as an impaired water in the "Impaired Waters Table for Construction Stormwater Discharges" ?	<i>If you answered yes to question c.1, then answer the question below</i> c.2) Has any Total Maximum Daily Load (TMDL) been approved for your receiving waterbody?	For the drainage area associated with each outfall: Effective Impervious Area Before Construction (sq ft)	For the drainage area associated with each outfall: Effective Impervious Area After Construction (sq ft)
PO-10	Start: 23 May 2025 End:	Storm Sewer or Wetlands		☐ Y ☐ N ☒ NA	☐ Y ☐ N ☒ NA	54690	51507
	Start: End:	Select One		☐ Y ☐ N ☐ NA	☐ Y ☐ N ☐ NA		
	Start: End:	Select One		Y N NA	Y N NA		
	Start: End:	Select One		Y N NA	Y N NA		
	Start: End:	Select One		Y N NA	Y N NA		
Provide the total effective impervious area for the entire site(sq ft):						153773	189571

Part V: Stormwater Discharge Information (continued)

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

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

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

OR

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

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

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

AND

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

AND

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

OR

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

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

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

☐ Plan is attached to this registration form

☐ Plan is available at the following Internet Address (URL):

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

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

☒ Plan is attached to this registration form

☐ Plan is available at the following Internet Address (URL):

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

Part VII: Registrant Certification

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

For New Registrants:

"I hereby certify that I am making this certification in connection with a registration under such general permit, submitted to the commissioner by E OF CONNECTICUT DEPARTMENT OF TRANSPORTA for an activity located at CT-140 (Crystal Lake Road), Ellington, Tolland, CT 06029, 06084 and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(b) (8) (B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

For Re-registrants:

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

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

_____	_____
Signature of Registrant	
Donald L. Ward, P.E.	District 1 Engineer
Name of Registrant (print or type)	Title (if applicable)

Signature of Preparer and Date (if different than above)	
Malissa Carvalho	Transportation Engineer 3
Name of Preparer (print or type)	Title (if applicable)

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

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

"I hereby certify that I am a _____ licensed in the State of Connecticut. I am making this certification in connection with a registration under such general permit, submitted to the commissioner by <u>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</u> for an activity located at <u>CT-140 (Crystal Lake Road), Ellington, Tolland, CT 06029, 06084</u>. I certify that I have thoroughly and completely reviewed the Stormwater Pollution Control Plan for the project or activity covered by this certification. I further certify, based on such review and on the standard of care for such projects, that the Stormwater Pollution Control Plan has been prepared in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, the Stormwater Quality Manual, as amended, and the conditions of the general permit, and that the controls required for such Plan are appropriate for the site. I further certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement in this certification may subject me to sanction by the Department and/or be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."	

Signature of Design Professional and Date	
David Cicia, PE	_____
Name of Professional (print or type)	License Number
Affix P.E./L.A Stamp Here	

Part IX: Reviewing Qualified Professional Certification

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

☐ **Review Certification by Conservation District:**

1.) District: _____

Date of Affirmative Determination: _____

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

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

Signature of District Professional and Date

Name of District Professional

License Number (if applicable)

Or

☒ **Review Certification by Qualified Professional:**

Company Name: BL COMPANIES, INC.

Name: Michael Fisher, PE

License #: _____

Level of independency of professional:

Required for all projects disturbing over 1 acre:

1. I verify I am not an employee of the registrant. ☐ Yes

2. I verify I have no ownership interest of any kind in the project for which the registration is being submitted. ☐ Yes

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

3. I verify I did not engage in any activities associated with the preparation, planning, designing or engineering of the soil erosion and sediment control plan or stormwater management systems plan for this registrant. ☐ Yes

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

"I hereby certify that I am a qualified professional engineer or qualified soil erosion and sediment control professional, or both, as defined in the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and as further specified in Sections 3(b)(11)(A) and (B) of such general permit. I am making this certification in connection with a registration under such general permit, submitted to the commissioner by STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION for an activity located at CT-140 (Crystal Lake Road), Ellington, Tolland, CT 06029, 06084.

I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(11)(C) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify, based on my review of all information described in Section 3(b)(11)(C) of such general permit and on the standard of care for such projects, that I have made an affirmative determination in accordance with Sections 3(b)(11)(D)(i) and (ii) of this general permit. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172, and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

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

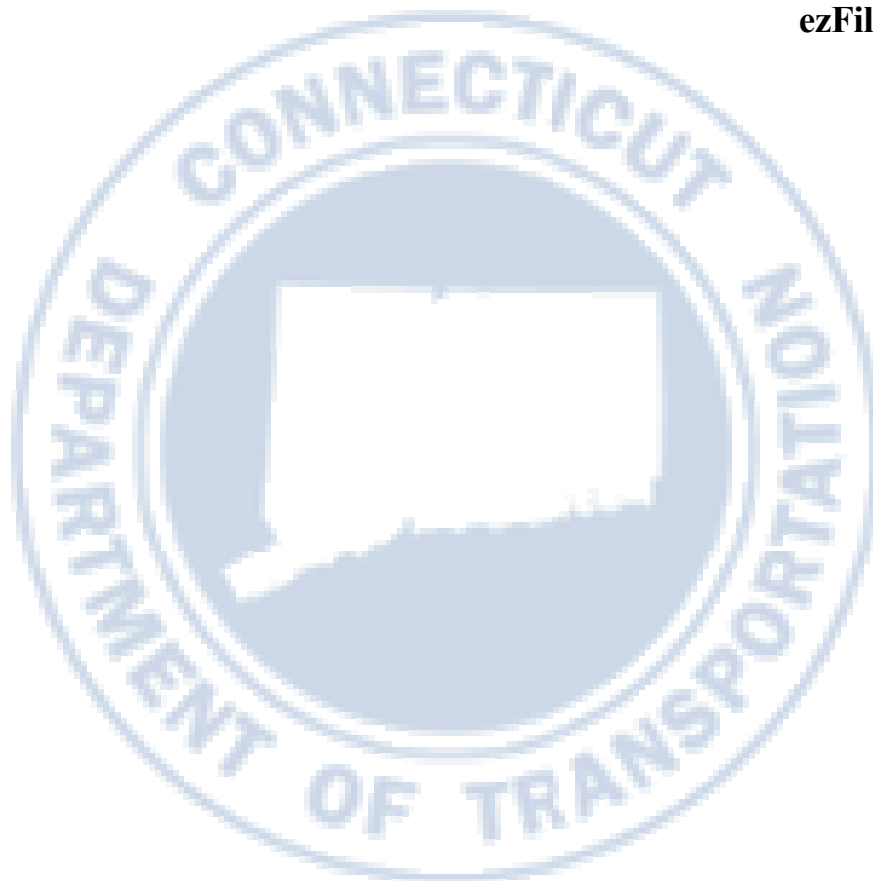
Rev. 9/13/13

Template Date: December 15, 2023

STORMWATER POLLUTION CONTROL PLAN SWPCP

**Route 140 Geometry Improvements
Ellington and Tolland, CT**

**State Project No.: 0047-0122
ezFile No. 119659**



Connecticut Department of Transportation

October 07, 2024

This Stormwater Pollution Control Plan (SWPCP) is prepared to comply with the requirements for the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and the Connecticut Guidelines for Soil Erosion and Sediment Control (E&S Guidelines) as amended.

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Development & Contents of Plan

The Plan shall consist of site plan drawings and a narrative. The Plan shall be prepared in accordance with sound engineering practices, and shall be consistent with the [Connecticut Guidelines for Soil Erosion and Sediment Control](#), as amended, the [Connecticut Stormwater Quality Manual](#), as amended, and any applicable requirements of the General Permit.

Site Description

Site Description

This project is located on Route 140 (Crystal Lake Road) in the Town of Ellington, with a small portion extending into the Town of Tolland. The project limits begin 0.19 miles west of Pinnacle Road at mile marker 14.75 and ends at mile marker 15.60, just before the driveway for 155 Crystal Lake Road. Approximate construction limits on local roads include 1150 ft of Pinnacle Road from its current intersection with Route 140 and 400 ft of Hopkins Road from its intersection with Route 140.

The primary purpose of this project is to improve the substandard roadway geometry along the section of Route 140 between Laurel Road and Teaberry Ridge Road by modifying the sharp curve prior to the Pinnacle Road Intersection as well as the three consecutive curves after the Hopkins Road Intersection. The proposed improvements will also realign both Pinnacle Road and Hopkins Road to improve on intersection sight distance.

This project consists of widening Route 140 to provide uniform travel lane and shoulder widths throughout the limits. Site work includes full depth pavement reconstruction, earth excavation, and rebuilding embankments. Modifications and improvements to the existing drainage and utility relocations will be included in the project to accommodate the proposed changes. Roadside trees, brush, and a rock ledging will be cleared to aid in improving the sightlines and remove clear zone hazards.

The surrounding area within the project limits is mostly wooded with a small amount of residential development and wetland/watercourse areas associated with the Lake Bonair watershed. Immediately adjacent to the roadway are steep side slopes and ledge outcrops.

There are 14 existing stormwater drainage systems within the project limits. Existing system outlets one, two, and fourteen (EO-1, EO-2, and EO-14 respectively) discharge into woodlands north of Route 140, west of Pinnacle Road. The endwalls for these systems are significantly deteriorated leaving the reinforced concrete pipe exposed. Modifications will be made to these systems and the existing outlet will be replaced (PO-1, PO-2, and PO-4 respectively). Sufficient outlet erosion protection will also be installed.

The third existing outlet system (EO-3) discharges into Kimball's Brook on Route 140, across from the Pinnacle Road Intersection. The outlet for this drainage system is completely buried in sediment. The fourth existing outlet system (EO-4) is on Pinnacle Road and discharges into

woodlands between Pinnacle Road and Route 140. The outlet for this system is also completely buried. A new drainage system (PO-3) will replace both existing outlets (EO-3 and EO-4). The new outlet will be installed on Route 140, west of the Pinnacle Road Intersection and will discharge into Kimball's Brook. Sufficient outlet erosion protection will also be installed.

Both existing system outlets five and six (EO-5 and EO-6 respectively) discharge into woodlands between Pinnacle Road and Route 140. EO-5 is significantly deteriorated leaving the reinforced concrete pipe exposed. EO-6 is weathered but in overall good condition. Modifications will be made to EO-5 and the existing outlet will be replaced (PO-5). Sufficient outlet erosion protection will also be installed. There will be no modifications to EO-6.

The seventh existing outlet system (EO-7) conveys Kimball's Brook west, under Route 140, from Lake Bonair. The endwalls for this culvert are significantly deteriorated but the pipe is in good condition. The existing headwall, endwall, and the outermost 8-foot sections of reinforced concrete pipe will be replaced (PO-6). Natural streambed material will be reused as necessary.

The eighth existing outlet system (EO-8) discharges into wetlands south of Route 140, across from the Hopkins Road Intersection. The endwall for this drainage system is significantly deteriorated. Modifications will be made to the drainage system and the existing outlet will be replaced (PO-7). Sufficient outlet erosion protection will also be installed.

The ninth existing outlet system (EO-9) conveys an Unnamed Brook south, under Route 140 before dispersing into wetlands. The existing headwall and endwall for this culvert are significantly deteriorated. The entire drainage system will be upgraded (PO-8). Sufficient outlet erosion protection will also be installed.

Both existing system outlets ten and eleven (EO-10 and EO-11 respectively) discharge into woodlands south of Route 140 with EO-10 also located within wetlands. The endwalls for these drainage systems are significantly deteriorated and are also buried in sediment. A new drainage system (PO-9) will replace both existing outlets (EO-10 and EO-11). The new outlet will be installed on Route 140 in the same location as EO-10. Sufficient outlet erosion protection will also be installed.

Both existing system outlets twelve and thirteen (EO-12 and EO-13 respectively) discharge into woodlands south of Route 140 near residential housing. The endwalls for these drainage systems are significantly deteriorated leaving the reinforced concrete pipes exposed. A new drainage system (PO-10) will replace both existing outlets (EO-12 and EO-13). The new outlet will be installed on Route 140 in the same location as EO-12. Sufficient outlet erosion protection will also be installed.

Stormwater captured by the proposed drainage systems will not discharge into impaired waters, rivers designated as "wild and scenic", or coastal waters. There are no aquifer protection areas or public water supply watersheds within the project area. There is the potential presence of Federally listed endangered species, the Northern Long Eared Bat, within the project area. There is also the potential presence of State listed endangered species, the Tricolored Bat, within the project area. However, there is no Hibernacula or maternity roost trees within project limits for either species. A flowering plant, Small Whorled Pogonia, is also a Federally threatened species that may be present within the project area. However, the plant was last observed in the area in 1981 and it is anticipated that the project will have no effect on this species.

Kimball's Brook is located within a coldwater habitat supporting basin. The CTDEEP Fisheries Division sampled Kimball's Brook and documented Bluegill and Blacknose Dace present in the brook along with the potential presence of wild trout. CTDEEP Fisheries noted that there are no DEEP Fisheries concerns but recommends that care should be taken to keep fresh concrete and concrete leachate from entering Kimball's Brook. As a best management practice, the DEEP Fisheries Division stated that any unconfined work should be restricted to the period of June 1 to September 30.

Estimated Disturbed Area

The total area for this project site is 12.70 acres. Of this area, 8.80 acres will be disturbed by construction activities regardless of phasing.

Estimated Runoff Coefficient

The runoff coefficient assumed for pavement is 0.9 and for gravel roads is 0.7. For the pervious areas, a coefficient of 0.3 was assumed. The total area of impervious surface within the project limits has increased as a result of the proposed improvements.

Pre-Construction:

$$\frac{(9.05 \text{ ac.} \times 0.3) + (3.49 \text{ ac.} \times 0.9) + (0.16 \text{ ac.} \times 0.7)}{9.05 \text{ ac.} + 3.49 \text{ ac.} + 0.16 \text{ ac.}} = \mathbf{0.47}$$

Post-Construction:

$$\frac{(8.70 \text{ ac.} \times 0.3) + (3.75 \text{ ac.} \times 0.9) + (0.25 \text{ ac.} \times 0.7)}{8.70 \text{ ac.} + 3.75 \text{ ac.} + 0.25 \text{ ac.}} = \mathbf{0.48}$$

Receiving Waters

An Unnamed Brook, wetlands associated with Lake Bonair, Lake Bonair, and Kimball's Brook are all receiving waters within project limits. Flow travels south through the Unnamed Brook before dispersing into wetlands associated to Lake Bonair, which drains to Lake Bonair. Overflow from Lake Bonair then travels west through Kimball's Brook, which ultimately drains to Broad Brook, located outside of the project limits.

Extent of Wetlands on Site

There are approximately 5,390 square feet (0.124 acres) of wetlands present on the project site with 2,410 square feet (0.055 acres) of permanent and 855 square feet (0.020 acres) of temporary wetland impacts. Permanent wetland impacts are a result of installing and grading around new endwalls that drain into wetlands at three locations along Route 140. Temporary wetland impacts are a result of sedimentation control system being placed around proposed grading within wetland limits.

There are approximately 5,585 square feet (0.128 acres) of watercourse present on the project site with 535 square feet (0.012 acres) of permanent and 545 square feet (0.013 acres) of temporary watercourse impacts. Permanent watercourse impacts are a result of replacing the upstream

headwall, downstream endwall, and outermost 8-foot reinforced concrete pipe sections for the Kimball's Brook culvert, fill slopes encroaching into Lake Bonair, and upgrades to the Unnamed Brook culvert. Temporary watercourse impacts are a result of dewatering measures near watercourses. This project is not within a FEMA 100-year floodplain.

Construction Sequencing

The Contractor will be given approximately three (3) construction seasons for the construction of all phases of the project, which shall be revised as necessary to keep the Plan current.

The suggested sequence of construction is as follows:

Initial Construction Activities:

1. Conduct a preconstruction meeting.
2. Conduct the plan implementation inspection and clearly identify the limits of disturbance (LOD).

Stage 1 Tree Clearing:

1. Perform selective tree cutting on Route 140 from Station 109+50 RT to 116+00 RT, Route 140 from 136+00 to 151+00, and on Pinnacle Road from Station 500+00 to 511+25.

Stage 1A:

1. Install erosion and sedimentation controls and grub the work area.
2. Install drainage structures with sediment control measures.
3. Install temporary illumination, traffic devices, and pavement markings within work area.
4. Install temporary traffic barrier, temporary sand barrels and begin alternating one-way traffic pattern.
5. Sawcut pavement, excavate Route 140 eastbound lane and construct embankments.
6. Perform full depth roadway reconstruction to just below the final lift, install temporary pavement transition, and install temporary pavement widening transitions.
7. Install pavement markings and metal beam rail.
8. Place topsoil, seeding, and erosion control matting.

Stage 1B:

1. Relocate temporary traffic barrier and temporary sand barrels and shift alternating one-way traffic to roadway constructed in stage 1A.
2. Install erosion and sedimentation controls and grub the work area.
3. Sawcut and excavate Route 140 westbound lane.
4. Perform full depth roadway reconstruction to just below the final lift, install temporary pavement transition, and construct the residential driveway.
5. Install pavement markings.
6. Place topsoil and seeding.
7. Remove and store all temporary traffic barrier, temporary sand barrels, and temporary traffic devices. Reopen both lanes of travel on Route 140.

Stage 1C:

1. Install sedimentation and erosion controls and grub the work area.
2. Install drainage structures with sediment control measures.

3. Sawcut pavement, excavate Route 140 westbound lane, and construct embankments.
4. Place processed aggregate base within the work area.
5. Pave to just below the final lift within the work area.
6. Construct residential driveways.
7. Repeat steps 3 through 6 for Route 140 eastbound.
8. Install curbing and pavement markings.
9. Install metal beam rail.
10. Place topsoil, seeding, and erosion control matting.

Stage 2:

1. Close access to Pinnacle Road from Route 140 and begin Pinnacle Road detour
2. Install temporary traffic barrier, temporary sand barrels, and temporary pavement markings.
3. Install sedimentation and erosion controls and grub the work area where excavation activities will occur during Stage 2.
4. Sawcut pavement and excavate for the realignment of Pinnacle Road, excavate sideslopes on Route 140, and construct embankments.
5. Install drainage structures with sediment control measures along Pinnacle Road and Route 140.
6. Perform full depth roadway reconstruction on Pinnacle Road and place temporary pavement transition.
7. Install pavement markings and metal beam rail.
8. Place topsoil, seeding, and erosion control matting.
9. Remove and store all temporary traffic barrier, temporary sand barrels, and reopen access to Pinnacle Road from Route 140.
10. Install all remaining sedimentation and erosion controls for the remaining project limits, then clear and grub throughout project limits.
11. Relocate utility poles.

Stage 3A:

1. Install drainage structures with sediment control measures.
2. Install temporary illumination, traffic devices, and pavement markings.
3. Install temporary traffic barrier, temporary sand barrels, and begin alternating one-way traffic pattern.
4. Sawcut pavement, excavate Route 140 eastbound lane, and construct embankments.
5. Perform full depth roadway reconstruction to just below the final lift and install temporary pavement transition.
6. Install pavement markings.
7. Place topsoil, seeding, and erosion control matting.

Stage 3B:

1. Relocate temporary traffic barrier and temporary sand barrels and shift alternating one-way traffic to roadway constructed in Stage 3A.
2. Install drainage structures.
3. Sawcut pavement, excavate Route 140 westbound lane, and construct embankments.
4. Perform full depth roadway reconstruction to just below the final lift and install temporary pavement transition.
5. Install steepened slope protection.
6. Install pavement markings and metal beam rail.
7. Place topsoil, seeding, and erosion control matting.

Stage 4A:

1. Install temporary illumination, traffic devices, and pavement markings. Close access to Pinnacle Road from Route 140 and begin Pinnacle Road detour.
2. Relocate temporary traffic barrier, temporary sand barrels, and begin alternating one-way traffic pattern.
3. Install temporary water handling measures, perform culvert work at Kimball's Brook, then remove handling measures.
4. Sawcut pavement, excavate Route 140 westbound lane, and construct embankments.
5. Perform full depth roadway reconstruction to just below the final lift and install pavement transition wedge.
6. Install steepened slope protection.
7. Install pavement markings and metal beam rail.
8. Place topsoil, seeding, and erosion control matting.

Stage 4B:

1. Relocate temporary traffic barrier and temporary sand barrels and shift alternating one-way traffic to roadway constructed in stage 4A.
2. Sawcut pavement, excavate Route 140 eastbound lane, and grade slopes on Pinnacle Road to final limits.
3. Reset drainage structures on Route 140 and install remaining structures on Pinnacle Road with sediment control measures.
4. Perform full depth roadway reconstruction to just below the final lift.
5. Construct the residential driveway.
6. Install pavement markings.
7. Place topsoil, seeding, and erosion control matting.
8. Remove and store all temporary traffic barrier, temporary sand barrels, temporary traffic devices, and reopen access to Pinnacle Road from Route 140.

Stage 5A:

1. Install drainage structures with sediment control measures.
2. Excavate for temporary roadway widening along Route 140 westbound.
3. Perform temporary roadway widening and seeding.
4. Install temporary illumination, traffic devices, and pavement markings.
5. Install temporary traffic barrier, temporary sand barrels and begin alternating one-way traffic pattern.
6. Install temporary water handling measures.
7. Sawcut pavement, excavate Route 140 eastbound lane, and construct embankments.
8. Perform full depth roadway reconstruction to just below the final lift, install shoulder transition wedge, install temporary pavement transition, and install temporary pavement widening transition.
9. Install steepened slope protection and remove temporary water handling measures.
10. Install pavement markings and metal beam rail.
11. Place topsoil, seeding, and erosion control matting.

Stage 5B:

1. Mill temporary pavement transition installed in stage 4A.
2. Relocate temporary traffic barrier and temporary sand barrels and shift alternating one-way traffic to roadway constructed in stage 5A.

3. Sawcut pavement and excavate Route 140 westbound lane.
4. Excavate for Shenipsit Hiking Trail relocation and place processed aggregate.
5. Perform full depth roadway reconstruction to just below the final lift, install temporary pavement transition, and install temporary pavement widening transition.
6. Install pavement markings and metal beam rail.
7. Place topsoil, seeding, and erosion control matting.
8. Remove and store all temporary traffic barrier, temporary sand barrels, and temporary traffic devices. Reopen both lanes of travel on Route 140.
9. Mill temporary shoulder wedging installed in stage 5A.
10. Clear and grub throughout project limits as necessary.

Stage 6A:

1. Install temporary water handling measures and perform culvert work at unnamed brook.
2. Install drainage structures with sediment control measures.
3. Excavate for temporary roadway widening along Route 140 Westbound.
4. Perform temporary roadway widening and seeding.
5. Install temporary illumination, traffic devices, and pavement markings.
6. Install temporary traffic barrier, temporary sand barrels and begin alternating one-way traffic pattern.
7. Sawcut pavement, excavate Route 140 eastbound lane, remove temporary water handling measures, and construct embankments.
8. Perform full depth roadway reconstruction to just below the final lift and install temporary pavement widening transition.
9. Install pavement markings and metal beam rail.
10. Place topsoil, seeding, and erosion control matting.

Stage 6B:

1. Relocate temporary traffic barrier, temporary sand barrels, and shift alternating one-way traffic to roadway constructed in stage 6A.
2. Sawcut pavement, excavate the Route 140 westbound lane, and construct embankments.
3. Install drainage structures with sediment control measures.
4. Perform full depth roadway reconstruction to just below the final lift.
5. Install pavement markings and metal beam rail.
6. Place topsoil, seeding, and erosion control matting.

Stage 6C:

1. Close Access to Hopkins Road from Route 140 and begin Hopkins Road detour.
2. Sawcut pavement, excavate roadway, and perform full depth reconstruction of Hopkins Road.
3. Open Hopkins Road to Traffic
4. Remove and store all temporary traffic barrier, temporary sand barrels, and temporary traffic devices. Reopen both lanes of travel on Route 140.
5. Sawcut pavement, excavate Route 140 westbound lane, and construct embankments.
6. Place processed aggregate base within the work area.
7. Pave to just below the final lift in the work area.
8. Repeat steps 5 through 7 for Route 140 eastbound.
9. Install pavement markings and metal beam rail.
10. Place topsoil, seeding, and erosion control matting.

Stage 7A:

1. Install temporary illumination, traffic devices, and pavement markings.
2. Relocate temporary traffic barrier, temporary sand barrels, begin alternating one-way traffic pattern.
3. Sawcut pavement and excavate both the rock cut slope and Route 140 westbound.
4. Install drainage structures with sediment control measures.
5. Install steepened slope protection and subbase.
6. Perform full depth roadway reconstruction to just below the final lift.
7. Install pavement markings.
8. Place topsoil, seeding, and erosion control matting.

Stage 7B:

1. Relocate temporary traffic barrier and temporary sand barrels and shift alternating one-way traffic to roadway constructed in stage 7A.
2. Sawcut pavement, excavate Route 140 eastbound lane, and construct embankments.
3. Perform full depth roadway reconstruction to just below the final lift and construct the residential driveway.
4. Install pavement markings and metal beam rail.
5. Place topsoil, seeding, and erosion control matting.
6. Remove all temporary traffic barrier, temporary sand barrels, and temporary traffic devices. Reopen both lanes of travel on Route 140.

Stage 8:

1. Sawcut pavement and mill top 2" on Route 140 from Station 107+50 to 108+50.
2. Pave final 2" lift on Route 140 from Station 107+50 to 146+00.
3. Perform final grading, furnishing and placing of topsoil, and seeding.
4. Final clean-up of project site to remove all dust and debris created from construction activities.
5. Remove erosion and sedimentation controls upon permanent stabilization of slopes.

General Notes:

1. Apply temporary stabilization measures for disturbed areas in accordance with Temporary Stabilization Practices.
2. Stabilize the disturbed areas. Establish with appropriate seeding mixture per the plan sheets, on all remaining disturbed areas.
3. Install remaining landscaping items.
4. Remove erosion and sedimentation controls when it has been determined that the disturbed areas have been stabilized. (This determination will be made by the Qualified Inspector).
5. All post-construction stormwater structures shall be cleaned of construction sediment and any remaining sediment control systems (SCS) shall be removed prior to the filing of the "Notice of Termination Form: Non-Solar Projects".
6. Ensure project area is cleaned, free of debris, and catch basins have been cleaned.

The requirement for sediment traps or basins shall not apply to flows from off-site areas and flows from areas of the site that are either undisturbed or have undergone final stabilization.

If the areas of disturbance have a contributing drainage area that contains 2-5 acres of disturbed soils per discharge point, a temporary sedimentation trap must be provided. The Contractor must submit to the Qualified Inspector a revised SWPCP for review and approval.

If the areas of disturbance have a contributing drainage area that contains greater than five acres of disturbed soils per discharge point, a temporary engineered sedimentation basin must be provided. The Contractor must submit to the Qualified Inspector a revised SWPCP for review and approval. The SWPCP must include locations of the temporary engineered sedimentation basin designed and installed in accordance with the E&S Guidelines, as amended. The Contractor shall provide an inspection and maintenance plan for the engineered sedimentation basin as part for the amended SWPCP.

Control Measures

Impaired Waters

In lieu of the provisions regarding “Construction Sequencing” of this general permit, no more than 3 acres may be disturbed at any one time. For areas for which construction activity will be temporarily suspended for a period of greater than 14 days, temporary stabilization measures shall be implemented within 3 days of such suspension of activity. For all areas, permanent stabilization shall be implemented within 30 days of disturbance: There is no discharge to impaired waters in this project.

Erosion and Sedimentation Controls

The Department of Transportation (Department) will have a Qualified Inspector assigned to the project to oversee the Contractor’s operations and to ensure compliance with the provisions of the Contract. Further Department 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:

- 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 Form 819 Section 1.10, Environmental Compliance.
- Areas that remain disturbed but inactive for at least 14 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.
- If construction activities are completed to final grade, permanent stabilization measures shall take place within seven (7) days.

The Department projects are required to have Preconstruction Meetings with the Contractor. The Contractor is required to review and understand the Contract Plans and Specifications as well as to develop an E&S Plan for review and approval by the Engineer. The Contractor’s E&S plan shall demonstrate compliance with the Stormwater Permit requirement for a double row of sediment

control barriers at all disturbed locations. The following note appears on the project Construction Plans:

Double Row of Erosion and Sediment Control Barriers

- A double row of sediment control barrier shall be utilized between any disturbed area and downgradient wetland or watercourse within 50 feet, unless there would be an adverse impact to adjacent wetlands/watercourses due to installation of a double row (i.e., would result in larger wetland/watercourse impact.)
- Additional erosion control barriers (double row of SCS) may also be required within the project area. Factors to be reviewed by the Engineer include but are not limited to: the contributing disturbed area, drainage area, slope, length of slope, and flow conditions to maintain sheet flow. If determined necessary, the Engineer will direct the Contractor to install and maintain additional rows of erosion control barrier (or equivalent).

Soil Stabilization and Protection

Temporary or permanent vegetation or other ground cover shall be maintained at all times in all areas of the site, except those undergoing active disturbance. Vegetation should be preserved to the maximum extent possible, and any disturbed portions of the site shall be minimized and stabilized throughout the duration of the construction activity at the site.

Reverse Slope Benches

Reverse Slope Benches have been incorporated into the project for slopes along Route 140 and Pinnacle Road that are steeper than 3H:1V and exceeding 15' tall to lessen the erosive potential of surface water and subsequent rilling and rutting. These have been designed utilizing the E&S Guidelines, as amended.

Correcting horizontal curvature on Route 140 will require excavating into steep, rolling terrain with excavation depths exceeding 10'. The proposed 2(H):1(V) side slopes will require one row of reverse slope benching in some areas to a maximum of height of 15' each. Conservation seeding for slopes and erosion control matting will be installed on the steep slopes to further protect from erosion. Stormwater drainage has been designed to collect on the slope benching, run down the ends of the slope, and collect in roadside catch basins on Route 140.

Realigning Pinnacle Road will require excavating into steep, rolling terrain with excavation depths exceeding 15'. The proposed 2(H):1(V) side slopes will require reverse slope benching in some areas to a maximum of height of 15' each. Conservation seeding for slopes and erosion control matting will be installed on the steep slopes to further protect from erosion. Stormwater drainage has been designed to collect on the slope benching, run down the ends of the slope, and collect in roadside catch basins on Pinnacle Road.

Temporary Stabilization Practices

The following methods of temporary stabilization shall be used:

- Erosion Control Matting: On slopes steeper than 2:1 erosion control matting shall be used to stabilize the topsoil or as necessary and directed by the Qualified Inspector. ECM type

shall be disclosed and selected from the Department's [Qualified Products List](#), as amended.

- Erosion Control Matting (ECM) to be used in this project:
 - ECM Type D on slopes 3(H):1(V) or steeper
- Sedimentation Control System (SCS): SCS shall be placed at the toe of the slope or as directed by the Qualified Inspector.
- Anti-Tracking Pads: Construction entrances (gravel anti-tracking pads) shall be constructed at truck access/exit points to off-road route. Access road(s) should grade away from the main roadway or waterbody.
- Dust Control: Routine sweeping and application of dust suppression agents, including but not limited to, water and calcium chloride, over exposed subbase shall be completed for dust control. Additional measures may be necessary to minimize dust within the project limits and within staging and stockpile areas.
- Temporary Seeding: Areas that will remain disturbed but inactive for at least 14 calendar days shall receive temporary seeding or soil protection within 7 days.
- Catch Basin Inlet Protection: Catch basin inlet protection shall be used to reduce the amount of sediment entering the storm drainage system during construction.

Stabilization practices shall be implemented after completion, as final grades are reached, within seven (7) days.

Temporary seeding shall be spread over any disturbed areas which will remain inactive for at least 14 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 elect to utilize other controls in conformance with the E&S Guidelines as amended, as approved by the Qualified Inspector. 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 a week 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 normal working hours will not commence within 24 hours, an inspection is required within 24 hours following any storm in which 0.5 inches or greater of rain occurs. For lesser storms, inspection shall occur immediately upon the start of subsequent normal working hours.

Permanent Stabilization Practices

During construction, the following methods of permanent stabilization shall be installed:

- Erosion Control Matting (ECM): On grass swales, erosion control matting shall be used to stabilize the topsoil and as may be directed by the Qualified Inspector.

- Erosion Control Matting (ECM) to be used in this project:
 - ECM Type E placed on grass swales.
- Topsoiling: Once final grades have been established, topsoil shall be applied to provide a suitable growth medium for vegetation, if required.
- Permanent Stabilization: Once soils have been brought to final grade; permanent stabilization shall be used to stabilize the soil with a vegetative cover or, with crushed stone for slope protection or riprap, shall be applied, if required. Disturbed areas below the wetland limit shall be seeded with the appropriate seed mix. The Qualified Inspector will verify compliance with this requirement on the Notice of Termination Form: Non-Solar Projects.
- Reverse Slope Benching: Slopes steeper than 3(H):1(V) and exceeding 15' tall shall be reverse benched at 15' increments. Erosion control matting and conservation seeding for slopes shall then be applied to stabilize these slopes.
- Rock Cuts (Greater than 8-feet Tall): Rock cuts at 1(H): 5(V) and exceeding 8' tall shall include a 5' rock ledge where matching existing ground. Erosion control matting and conservation seeding, or steepened slope protection shall be applied to slopes above the ledge to stabilize these slopes.
- Landscaping: Wood chip mulch shall be placed around the plants. Plantings (trees, shrubs, etc.) and permanent seeding may be established together. Wood chip mulch shall NOT be utilized in wetland areas.

All new embankments and unpaved areas that are graded or disturbed by construction will receive erosion control matting, topsoil and/or seed establishment. The Contractor may use other permanent stabilization practices that have been accepted by the Qualified Inspector or CTDOT that are in conformance to the E&S Guidelines.

Structural Measures

The following structural measures shall be used to minimize the discharge of sediment and prevent erosion:

- Minimal Curbing: Curbing shall be avoided where possible to maximize overland sheet flow and encourage infiltration.
- Outlet Protection: Riprap outlet protection shall be used to decrease velocity and the potential for erosion at all proposed outlets.
- Catch Basins: Catch basins with standard two-foot sumps shall be used, especially adjacent to outlets, to intercept pollutants and debris.
- MS4 Measures: Additional MS4 measures include grass drainage swales along Route 140 and Pinnacle Road that will encourage infiltration. See Appendix D – CTDOT MS4 Project Design Maximum Extent Practicable Worksheet for details.

The fourteen existing stormwater drainage systems collect sheet flow through either a large drainage area catch basin, a headwall, or a drop inlet along Route 140 and Pinnacle Road. Each system outlets through a reinforced concrete pipe connection to an endwall, located either along Route 140 or Pinnacle Road. Existing system EO-7 is a 48" reinforced concrete pipe with a headwall and endwall that carries Kimball's Brook from the eastbound side of Route 140 to the westbound side of Route 140. Existing system EO-9 is a 24" reinforced concrete pipe with a headwall and endwall that carries an Unnamed Brook from the westbound side of Route 140 to wetlands along the eastbound side of Route 140.

The proposed stormwater drainage system consists of upgrades to the existing pipes, catch basins, inlets, and outlets. It also includes the installation of new catch basins, the removal of thirteen (13) existing stormwater outlets, the installation of ten (10) new storm drainage outlets, one (1) existing outlet, outlet protection, grass swales, and a gravel swale. The new outlets will combine drainage areas and overall reduce the number of stormwater drainage systems from fourteen to eleven.

Construction sequencing, detailed above, allows the project to be constructed with no more than three (3) acres of exposed erodible soil at any one time. The installation of permanent structures, protections, and BMPs will be staged to divert flows away from exposed soils, limit runoff, and minimize the discharge of pollutants.

Maintenance

All construction activities and related activities shall conform to the requirements of Section 1.10 "Environmental Compliance" of the Department's Standard Specifications. In general, all construction activities shall proceed in such a manner so as not to pollute any wetlands, watercourses, water body, and conduit carrying stormwater. The Contractor shall limit, in so far as possible, the surface area of earthen materials exposed by construction activity and immediately provide temporary and permanent pollution control to prevent soil erosion and contamination on the site. Water pollution control provisions and Required Best Management Practices per Section 1.10, Environmental Compliance of the Standard Specifications shall be administered during construction. Control measures shall be inspected and maintained in accordance with the E&S Guidelines and as directed by the Qualified Inspector.

Dewatering Wastewaters

Dewatering Guidelines

Dewatering will be required to replace the headwall, endwall, and outermost sections of reinforced concrete pipe for Kimball's Brook. Temporary water-handling-cofferdams and dewatering basins will be installed at both ends of the culvert. The dewatering basins will be installed in upland area outside of the wetland limits. A temporary 24" bypass pipe will be installed through the existing culvert pipe to continue the flow of Kimball's Brook during the construction of the new headwall and endwall.

Dewatering will be required to accommodate fill slopes that encroach into Lake Bonair. A temporary water-handling-cofferdam will be installed at the toe of the proposed slopes to prevent water from entering the work area. A temporary dewatering basin will also be installed next to the work area,

outside of the wetland limits.

Dewatering will be required to upgrade the Unnamed Brook culvert to accommodate a 36" reinforced concrete pipe. Temporary water-handling-cofferdams and dewatering basins will be installed at both ends of the culvert. The dewatering basins will be installed in upland area outside of the wetland limits. A temporary 12" bypass pipe will be installed parallel to the existing culvert to continue the flow of the Unnamed Brook during the construction of the new culvert.

When dewatering is necessary, pumps used shall not be allowed to discharge directly into a wetland, watercourse, or stormwater drainage system. Prior to any dewatering, the Contractor must submit to the Engineer a written proposal for specific methods and devices to be used on site. Written approval must be obtained from the Engineer for methods and devices, including, but not limited to, the pumping of water into a temporary sedimentation basin, providing surge protection at the inlet or outlet of pumps, floating the intake of a pump, or any other method for minimizing and retaining the suspended solids. If the Qualified Inspector determines that a pumping operation is causing turbidity problems, the Contractor shall halt said operation until a means of controlling the turbidity is submitted by the Contractor in writing to the Engineer. Once written acceptance is received from the Engineer with the concurrence of CTDOT, the Contractor may implement the turbidity control measures.

No discharge of dewatering wastewater shall contain or cause a visible oil sheen, floating solids or foaming in the receiving water. If required, all activities are to be performed in compliance with the Department's Standard Specifications.

Post-Construction Stormwater Management

- Minimal Curbing: Curbing shall be avoided wherever possible to maximize overland sheet flow and encourage infiltration.
- Outlet Protection: Riprap outlet protection shall be used at the proposed outlet to decrease velocity and the potential for erosion (e.g., apron, splash pad, etc.).
- Catch Basins: Catch basins shall be used, especially adjacent to outlets, to intercept pollutants and debris.
- MS4 Measures: Additional MS4 measures include grass drainage swales that will encourage infiltration. See Appendix D – CTDOT MS4 Maximum Extent Practicable Worksheet for details.

Post-Construction Guidelines

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

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

- Riprap outlet protection will be inspected and cleaned, as needed.
- Stormwater drainage system will be cleaned of sediment/debris, as needed.
- Identify, inspect, and maintain all stormwater quality BMPs included within the project, as per the MS4 or manufacturer recommendations.

Post Construction Performance Standards and Control Measure

Redevelopment:

This project is classified as “Linear Redevelopment” with an effective impervious cover of approximately **23%**. Accordingly, the entire water quality volume (WQV) should be retained within the site limits. In order to comply with the Department’s MS4 Permit requirements, projects shall seek to reduce the effective impervious cover (as defined in the Construction Stormwater General Permit effective 12/31/20; modification date 11/25/22 Permit) to the maximum extent practicable. The values below were calculated for the post-construction site conditions:

Effective Impervious Cover:

$$\begin{aligned} \text{Effective Impervious Cover} &= \frac{\text{Effective Impervious Area (acres)}}{\text{Total Site Area (acres)}} * 100 \\ \text{Effective Impervious Cover} &= \frac{2.90}{12.70} * 100 \\ &= \mathbf{23\% < 40\% \rightarrow \text{Retain Full WQV}} \end{aligned}$$

Change in Effective Impervious Cover:

$$\begin{aligned} \text{Pre – Construction Effective Impervious Area} &= 2.90 \text{ Acres} \\ \text{Post – Construction Effective Impervious Area} &= 3.18 \text{ Acres} \\ \text{Change in Impervious Cover} &= 3.18 \text{ Acres} - 2.90 \text{ Acres} \\ &= \mathbf{+ 0.28 \text{ Acres}} \end{aligned}$$

This project is considered a “linear project” due to the roadway widening and realignment of Newell Hill Road. The effective impervious cover will increase by 0.28 acres as a result of these improvements.

Water Quality Volume:

$$\begin{aligned} \text{Total Impervious Cover} &= \frac{\text{Post – Construction Effective Impervious Area (Before BMPs)}}{\text{Total Site Area}} \\ \text{Total Impervious Cover} &= \frac{3.44}{12.70} * 100 \\ &= \mathbf{27.09 \%} \end{aligned}$$

$$\text{Water Quality Volume (ac. ft)} = \frac{(1.3'')(Volumetric \text{ Runoff Coefficient})(\text{Site Area ac.})}{12}$$

$$\begin{aligned} \text{Water Quality Volume (ac. ft)} &= \frac{(1.3'')(0.05 + 0.009(\text{Total Impervious Cover}))(12.70)}{12} \\ \text{Water Quality Volume (ac. ft)} &= \frac{(1.3'')(0.05 + 0.009(27.09))(12.70)}{12} \\ &= \mathbf{0.404 \text{ ac. ft}} \end{aligned}$$

Other Development:

A total of 0 ac-ft of water quality volume will be retained in this project and will not meet the water quality volume of 0.40 ac-ft retained. Retention of full water quality volume will not be met due to limited rights of way, steep roadside slopes, proximity to regulated areas, overhead utility conflicts and the potential to disturb contaminated soil. These factors limit effective construction means to treat stormwater runoff. However, the installation of curbing is being minimized and five (5) roadside swales will be provided along Route 140 in the vicinity of Pinnacle Road, Hopkins Road, and at the toe of a rock cut slope as stormwater treatment measures. A total of 0.49 ac-ft of water quality volume will be treated through the use of swales will exceed the water quality volume design goal through treatment.

Runoff Reduction and LID Practices

Due to the proposed roadway construction, the total impervious cover will increase from approximately 28.7% to 31.5%. The realignment and widening of Route 140, Pinnacle Road, and Hopkins Road results in a net impervious increase from 3.65 acres to 4.00 acres. The total increase is 0.35 acres.

Limited rights of way, proximity to regulated areas, steep roadside topography, utility conflicts, and the potential to disturb contaminated soil limit the opportunities for runoff reduction, the use of primary stormwater treatment measures, and Low Impact Development (LID). However, the installation of curbing has been avoided wherever feasible to promote sheet flow into five (5) roadside swales along Route 140 and Pinnacle Road. All five swales will require very little long-term maintenance as four (4) will have turf linings and one (1) will have gravel lining. Of these swales, four (4) will discharge into Kimball's Brook and one (1) will discharge into wetlands south of Route 140. Approximately 19.16 acres (2.12 acres is impervious) will be treated by overland sheet flow to roadside swales prior to discharging into Kimball's Brook and the wetlands.

Suspended Solids and Floatable Removal

A goal of 80% removal of the total suspended solids was used in the design of the stormwater management measures for this project. This goal will not be met due to the impeding factors stated for Runoff Reduction and LID Practices. Four-foot sumps will be used prior to outlets and standard two-foot sumps will be provided at all remaining proposed catch basins to remove initial suspended solids and minimize the discharge of suspended solids and floatable (e.g., oil and grease, other floatable liquids, floatable solids, trash, etc.).

Velocity Dissipation:

The calculations and specifications for the outlet protection at the proposed outlets are included in

Appendix B – Drainage Calculations. Riprap outlet protection shall be used at the proposed outlets to decrease velocity and the potential for erosion. Outlet protection for outlets PO-1, PO-3, PO-4, PO-5, PO-7, PO-9, and PO-10 were calculated to be Type B Modified Riprap Aprons. Outlet Protection for PO-2 and PO-8 were calculated to be Type I Preformed Scour Holes.

Other Controls (Non-Structural)

Waste Disposal

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

The following is applicable:

- A waste collection area will be designated. The selected area will minimize truck travel through the site and will not drain directly to the adjacent wetlands.
- Waste collection shall be scheduled regularly to prevent the containers from overfilling.
- 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 approved by the Qualified Inspector.

Washout Areas

Washout of applicators, containers, vehicles, and equipment for concrete shall be conducted in a designated washout area. 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 the Department's Office of Environmental Planning or the project's Qualified Inspector.

Washout Area(s) will be site located by the Contractor, approved by the Qualified Inspector and the SWPCP revised, as appropriate. The "Concrete Washout Area" detail shows the recommended method of construction for the washout area. The designated area shall be designed and maintained such that no overflows can occur during rainfall or after snowmelt. See Appendix C – Miscellaneous Stormwater Details for the "Concrete Washout Area" detail.

Anti-tracking Pads and Dust Control
(Form 819- Sections 2.11, 9.39, 9.42, and 9.43)

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.

Maintaining and Storing Vehicles and Equipment- Storage of Chemicals & Petroleum Products

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. Accumulation of rainwater within secondary containment must be visually inspected for sheen prior to being discharged. If any sheen is identified; the accumulated water must be removed by the Contractor to an appropriate off-site location.

Cold Water Stream Habitat

For construction activities within one hundred (100) feet of any stream, river, or tributary that is included within a Cold-Water Stream Habitat, any mitigation strategies authorized by CTDEEP Commissioner must be verified post-construction.

Kimball's Brook is located within a coldwater habitat supporting basin. The CTDEEP Fisheries Division has documented Bluegill and Blacknose Dace in Kimball's Brook as well as the presence of Trout in nearby and hydraulically connected streams. The proposed work at Kimball's Brook includes the replacement of the upstream headwall, downstream endwall, and the outermost 8' of the 48" culvert pipe. CTDEEP noted that there are no DEEP Fisheries concerns but recommends that care should be taken to keep fresh concrete and concrete leachate from entering Kimball's Brook. It was also noted that the existing culvert is passable to fish and the proposed work is unlikely to change this condition. As a best management practice, the DEEP Fisheries Division stated that any unconfined work should be restricted to the period of June 1 to September 30 for any unconfined work.

Inspections

The Qualified Inspector will conduct site inspections once a week or after any rain event of 0.1 inches or greater during normal working hours. The Qualified Inspector conducting inspections shall fill out a [Construction Site Environmental Inspection Report \(CSEIR\)](#) for each inspection described below.

Each report shall be retained as a part of the SWPCP and shall be uploaded to the COMPASS Environmental subfolder available for CTDEEP request. The report shall include a statement that, in the judgment of the Qualified Inspector(s) conducting the site inspection, the site is either in compliance or out of compliance with the terms and conditions of the Plan and permit. If the site inspection indicates that the site is out of compliance, the inspection report shall include a summary of the remedial actions required to bring the site back into compliance, review Keeping Plans Current.

Plan Implementation Inspections

For each phase of construction, the site shall be inspected at least once within the first 30 days of construction activity and at least three times, with 7 or more days between inspections, within the first 90 days of construction activity to confirm compliance and proper initial implementation of all control measures.

Routine Inspections

The Permittee will maintain a rain gauge on-site to document rainfall amounts. During construction, all areas disturbed by the construction activity that have not been stabilized, all erosion and sediment control measures, 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 pollutant entering the drainage systems and impacts to the receiving waters at least every seven (7) 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 normal working hours will not commence within 24 hours, an inspection is required within 24 hours following any storm in which 0.5 inches or greater of rain occurs. For lesser storms, inspection shall occur immediately upon the start of subsequent normal working hours.

Where sites have been temporarily or finally stabilized, such inspection shall be conducted at least weekly until final stabilization has been achieved.

Qualified Inspectors provided by the Department's District 1 Office shall conduct inspections.

The following items shall be inspected as described below:

<u>Item</u>	<u>Procedure</u>
Sedimentation Control System (SCS)	The SCS 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 if sediment needs to be removed.
Concrete Washout Area	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.
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.
Erosion Control Matting	Inspect erosion control matting and repair any dislodged or failed blankets immediately. Replace any washed out seed or topsoil.
Anti-tracking Pad	Locations where vehicles enter or exit the site shall be inspected for evidence of off-site tracking.
Dust Control	Measures shall be taken for the purpose of allaying (diminishing) dust conditions. Measures may include the use of sweeping equipment and/or the application of water or calcium chloride.
Cofferdam	Inspect cofferdam and reset or enlarge it if the cofferdam becomes tilted or displaced prior to the completion of all work within the dewatered area.
Dewatering Basin	Inspect dewatering basin often for proper functioning of equipment and for evidence that soil surrounding the structure is eroding/ become unstable.

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.

Post-Construction Inspection

Upon completion of construction activities and stabilization of the site, all post-construction stormwater structures, including catch basins, endwalls, riprap aprons, scour holes, and swales shall be cleaned of construction sediment or debris and the site inspected to confirm compliance with all post-construction stormwater management requirements. Sediment shall be properly disposed of in accordance with all applicable laws, regulations, and guidelines. Any remaining sediment control system(s) SCS shall be removed prior to acceptance of the project by the Department.

Final Stabilization Inspection

Once CTDOT has made a determination that the site has achieved final stabilization, the site shall be inspected, and photo documented by the District Environmental Coordinator (DEC) to confirm that no active erosion or sedimentation is present and site stabilization has been maintained.

Final stabilization is achieved when a full growing season is completed. A **full growing season** is defined as the timeframe encompassed by **two consecutive full seeding seasons**: April 1 through June 15, and August 15 through October 1. If final stabilization is achieved during a seeding season, the following seeding season will be considered the first full seeding season after final stabilization has been achieved, the DEC will verify compliance with this requirement on the Notice of Termination: Non-Solar Projects.

Keeping Plans Current

Revisions to Stormwater Pollution Control Plans

The Department will 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, or a change in design, construction, operation, or maintenance at the site which has not otherwise been addressed in the plan.

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 contactor(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 General Permit.

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 certifications will be included in the Stormwater Pollution Control Plan.

State Project No. 0047-0122

Route 140 Geometry Improvements
Ellington and Tolland, 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 and Dewatering Wastewaters from Construction Activities. 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 (SWPCP) is prepared to comply with the requirements for the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. Also, to be considered part of the SWPCP are the proposed construction plans, special provisions, and the Connecticut Department of Transportation's "Standard Specifications for Roads, Bridges and Incidental Construction" (Form 819) including supplements thereto and the Connecticut Guidelines for Erosion and Sediment Control (E&S Guidelines) and Stormwater Quality Manual (SWQ Manual), as amended.

List of Applicable Figures / Plans:

Appendix A – Figures	Figure / Drawing #
• Disturbed Erodible Areas.....	A-1 / SP-01 and SP-02
• Site Area.....	A-2 / SP-03 and SP-04
• Existing Stormwater Outlets.....	A-3 / SP-05 and SP-06
• Proposed Stormwater Outlets.....	A-4 / SP-07 and SP-08
• Soil Maps.....	A-5
• Borings.....	A-6 / BOR

Appendix B – Drainage Calculations	
• Outlet Protection Calculations.....	B-1
• Water Quality Computations.....	B-2

Appendix C – Plan Sheets	
• Intersection Grading Plans.....	C-1 / IGP
• Highway Construction Plans.....	C-2 / PLN
• Drainage Plans.....	C-3 / DRG
• Staging Plans.....	C-4 / STG
• Miscellaneous Stormwater Details.....	C-5 / MDS

Appendix D- CTDOT MS4 Project Design Maximum Extent Practicable Worksheet

Appendix E- Construction Site Environmental Inspection Report (CSEIR)

Appendix F – Notice of Termination Form: Non-Solar Projects

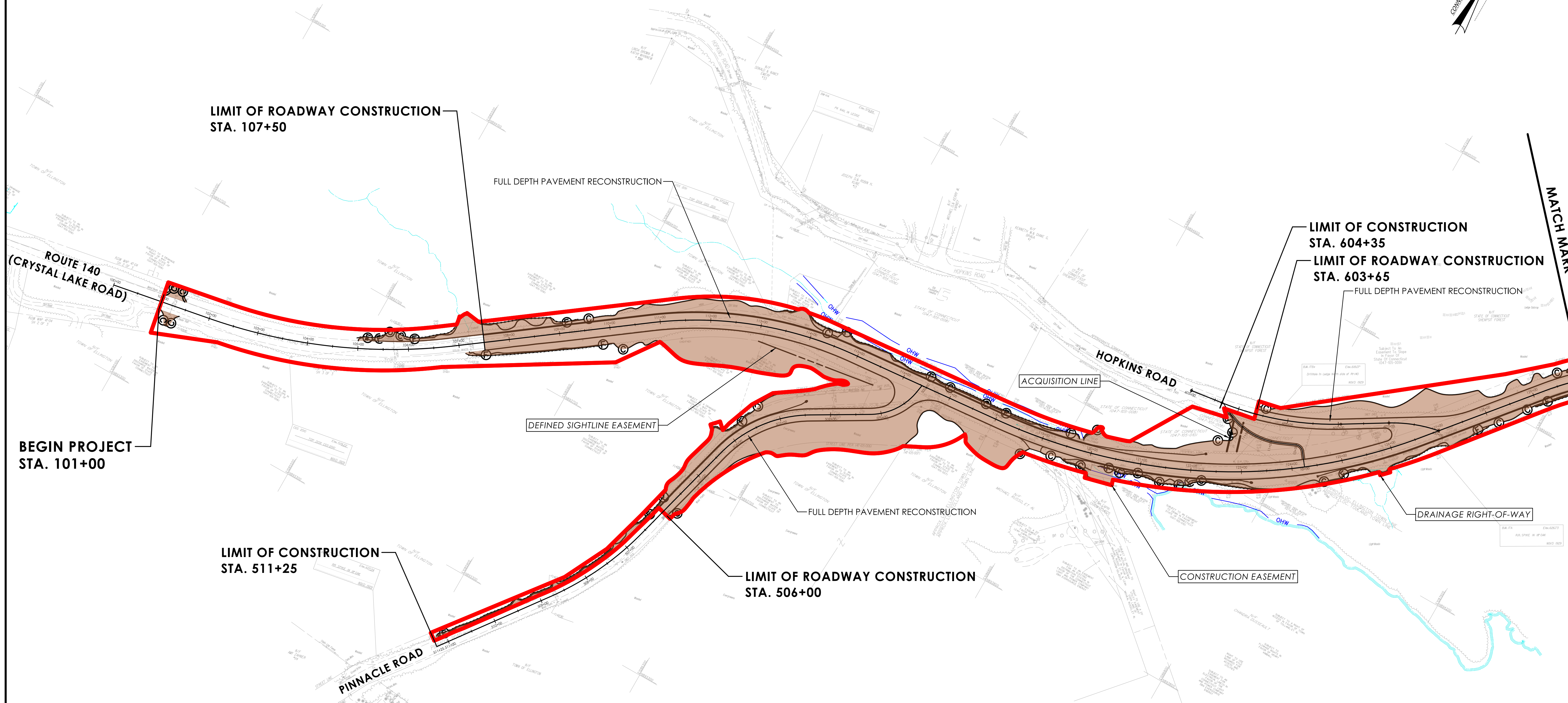
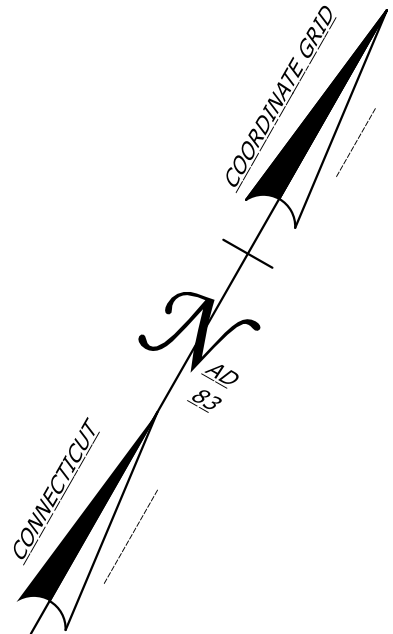
Appendix G – CT DEEP Fisheries Consultation Form: Cold Water Fisheries

Appendix A – Figures

State Project No. 0047-0122

	Figure / Drawing #
Disturbed Erodible Areas	A-1 / SP-01 and SP-02
Site Area	A-2 / SP-03 and SP-04
Existing Stormwater Outlets	A-3 / SP-05 and SP-06
Proposed Stormwater Outlets	A-4 / SP-07 and SP-08
Soil Maps	A-5
Borings	A-6 / BOR

STATE PROJECT 0047-0122
DISTURBED ERODIBLE AREAS

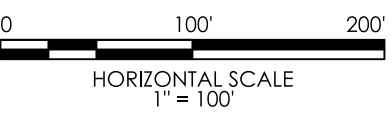


LEGEND

-  TOTAL SITE AREA = 12.70 ACRES
-  DISTURBED ERODIBLE AREA = 8.80 ACRES

REV	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: M. ROSHKOWSKI
CHECKED BY: M. CARVALHO


HORIZONTAL SCALE
1" = 100'

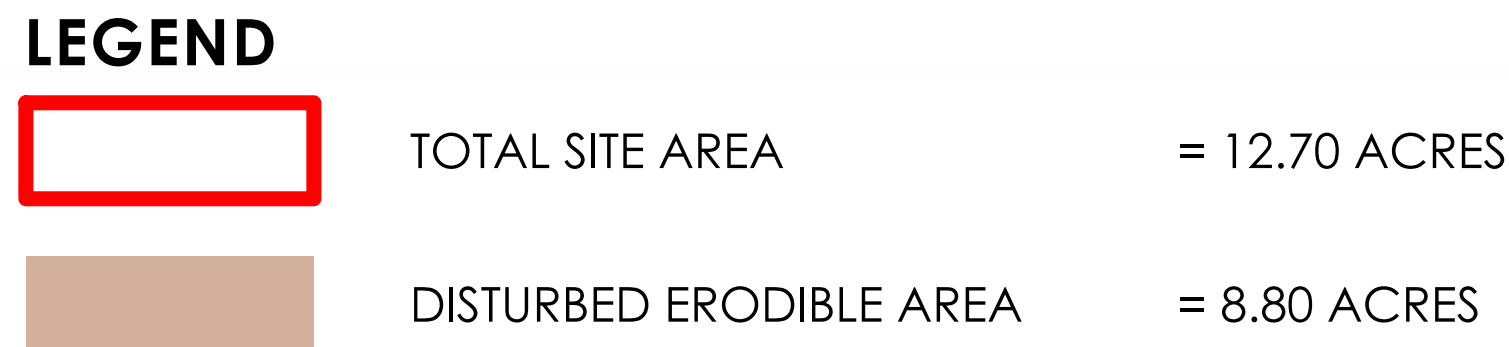
SIGNATURE/
BLOCK:



PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: DISTURBED ERODIBLE AREAS

DRAWING NO.
SP-01
SHEET NO.

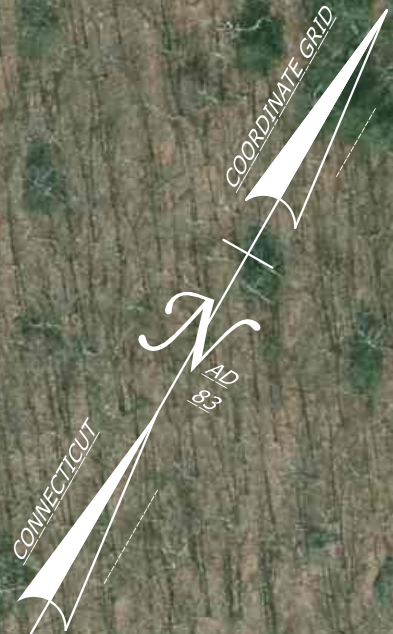
FIGURE A-1

[illegible]


STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION


DRAWING NO.	SP-02
SHEET NO.	

STATE PROJECT 0047-0122
SITE AREA



PROJECT SITE AREA

ROUTE 140 (CRYSTAL LAKE ROAD)

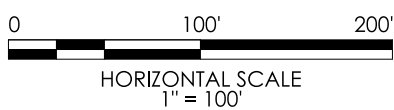
HOPKINS ROAD

PINNACLE ROAD

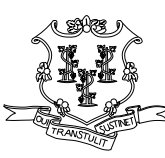
MATCH MARK - SEE DRAWING NO. SP-04

SITE CONDITIONS

TOTAL SITE AREA	12.70 ACRES
TOTAL DISTURBED ERODIBLE AREA	8.80 ACRES
IMPERVIOUS AREA PRE-CONSTRUCTION	3.65 ACRES
IMPERVIOUS AREA POST-CONSTRUCTION	4.00 ACRES



SIGNATURE/
BLOCK:



STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION

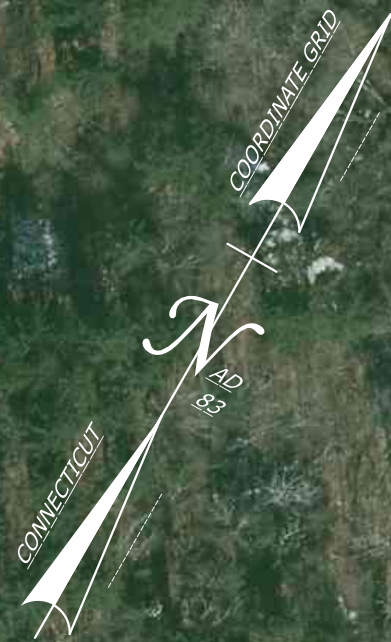


PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: SITE AREA

DRAWING NO.
SP-03
SHEET NO.

FIGURE A-2

STATE PROJECT 0047-0122
SITE AREA



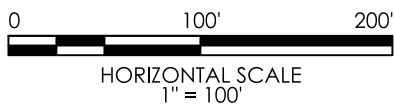
MATCH MARK - SEE DRAWING NO. SP-03

ROUTE 140 (CRYSTAL LAKE ROAD)

PROJECT AREA

SITE CONDITIONS

TOTAL SITE AREA	12.70 Acres
TOTAL DISTURBED ERODIBLE AREA	8.80 ACRES
IMPERVIOUS AREA PRE-CONSTRUCTION	3.65 ACRES
IMPERVIOUS AREA POST-CONSTRUCTION	4.00 ACRES



SIGNATURE/
BLOCK:



STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION



PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: SITE AREA

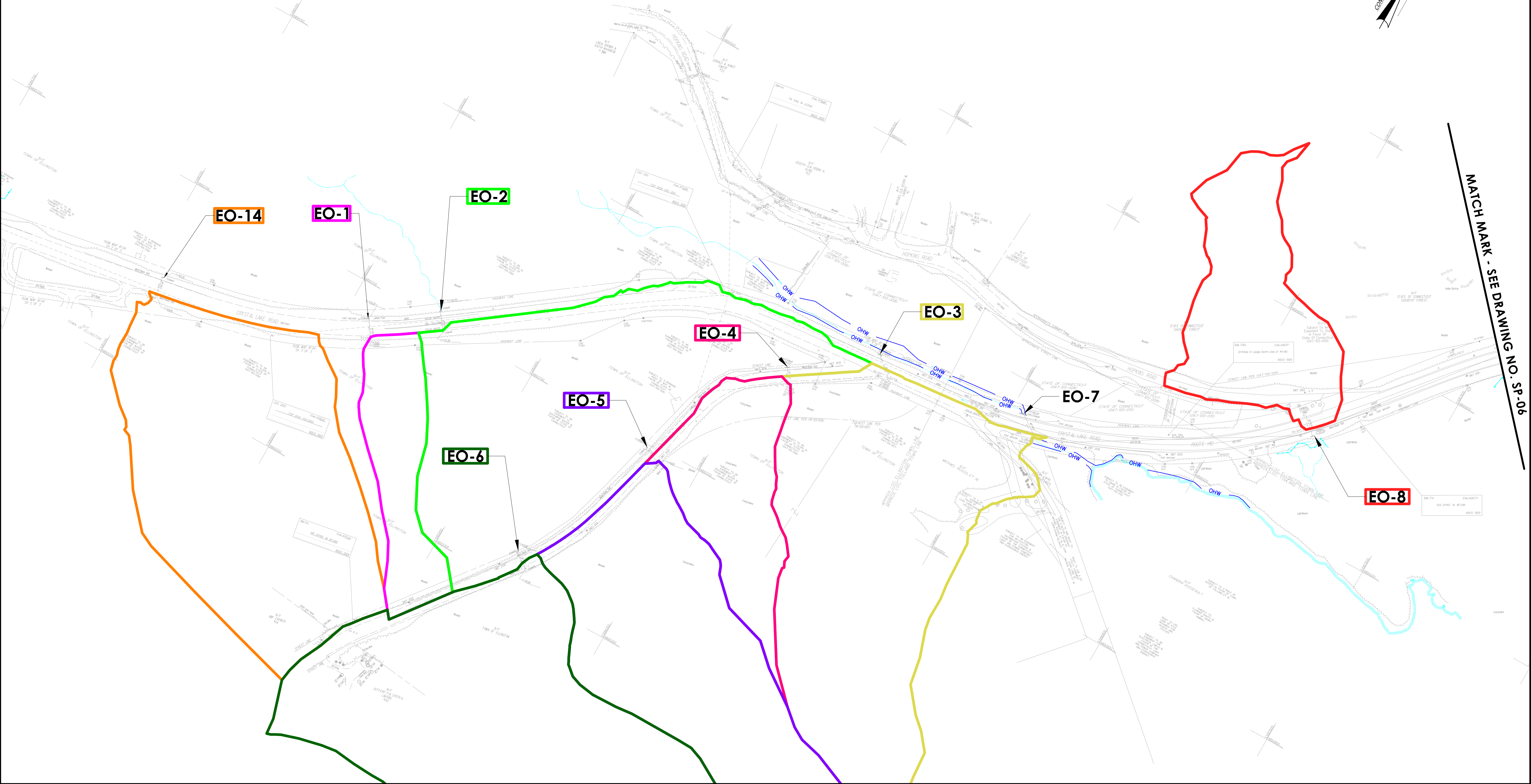
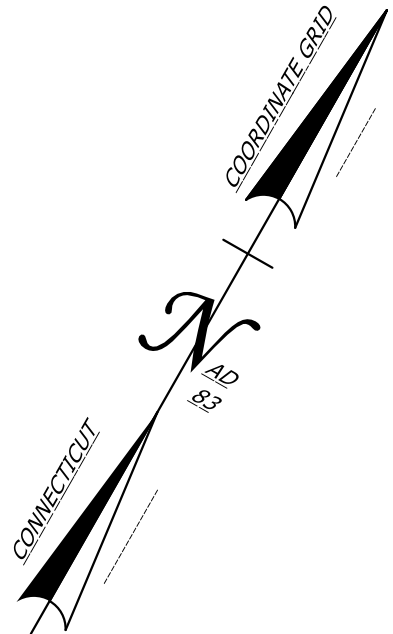
DRAWING NO.
SP-04
SHEET NO.

OUTLET	TOTAL AREA TO OUTFLOWS (EXISTING CONDITION)						
	AREA		IMPERVIOUS AREA		PERVIOUS AREA		% IMPERVIOUS
	(SF)	ACRE	(SF)	ACRE	(SF)	ACRE	
EO-1	63715	1.46	1660	0.04	62055	1.42	2.61%
EO-2	300951	6.91	32723	0.75	268228	6.16	10.87%
EO-3	309590	7.11	8620	0.20	300970	6.91	2.78%
EO-4	92300	2.12	4870	0.11	87430	2.01	5.28%
EO-5	268820	6.17	3610	0.08	265210	6.09	1.34%
EO-6	546650	12.55	14270	0.33	532380	12.22	2.61%
EO-7*	12283920	282.00	0	0.00	12283920	282.00	0.00%
EO-8	121080	2.78	8940	0.21	112140	2.57	7.38%
EO-14	293120	6.73	540	0.01	292580	6.72	0.18%

*WATERSHED AREA DETERMINED FROM HYDRAULIC ANALYSIS DATED JANUARY 2024

STATE PROJECT 0047-0122

EXISTING STORMWATER OUTLETS



REV	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: M.ROSHKOWSKI
CHECKED BY: M. CARVALHO

SIGNATURE/ BLOCK:

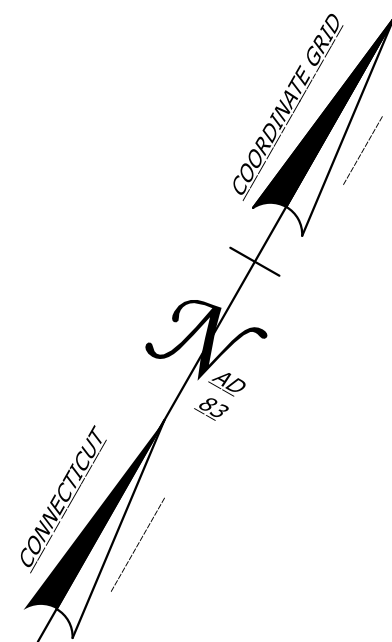
PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: EXISTING STORMWATER OUTLETS

DRAWING NO. SP-05
SHEET NO.

FIGURE A-3

STATE PROJECT 0047-0122

EXISTING STORMWATER OUTLETS



MATCH MARK - SEE DRAWING NO. SP-05

EO-9

EO-10

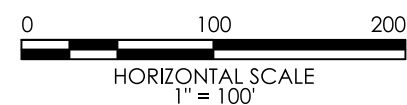
EO-11

EO-12

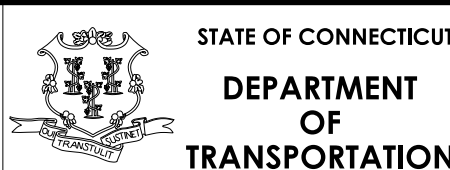
EO-13

TOTAL AREA TO OUTFLOWS (EXISTING CONDITION)							
OUTLET	AREA		IMPERVIOUS AREA		PERVIOUS AREA		% IMPERVIOUS
	(SF)	ACRE	(SF)	ACRE	(SF)	ACRE	
EO-9*	1568160	36	0	0	1568160	36	0.00%
EO-10	165000	3.79	11210	0.26	153790	3.53	6.79%
EO-11	186570	4.28	12640	0.29	173930	3.99	6.77%
EO-12	265290	6.09	32910	0.76	232380	5.33	12.41%
EO-13	286200	6.57	21780	0.50	264420	6.07	7.61%

*WATERSHED AREA DETERMINED FROM HYDRAULIC ANALYSIS DATED JANUARY 2024



SIGNATURE/
BLOCK:



PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: EXISTING STORMWATER OUTLETS

DRAWING NO.
SP-06
SHEET NO.

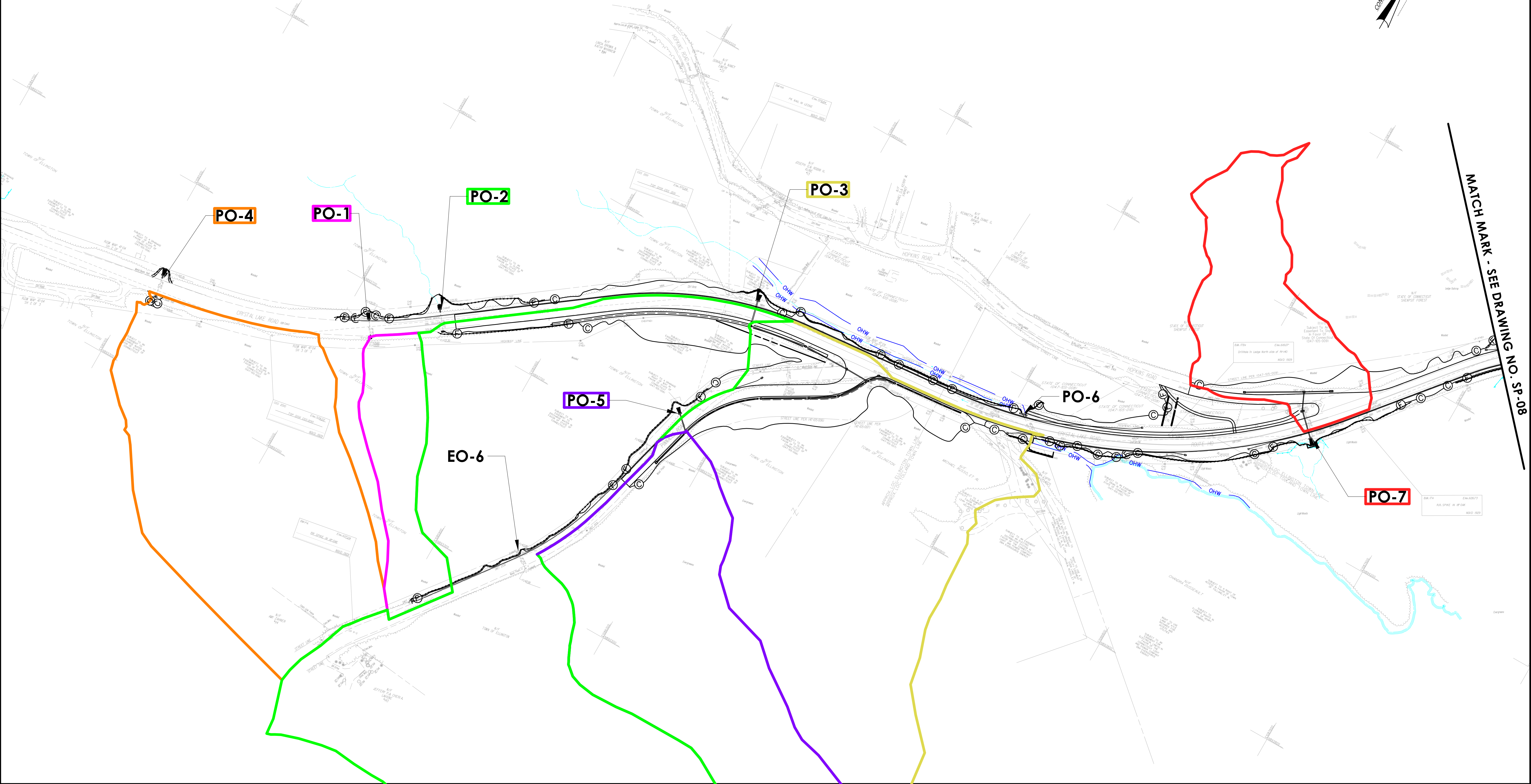
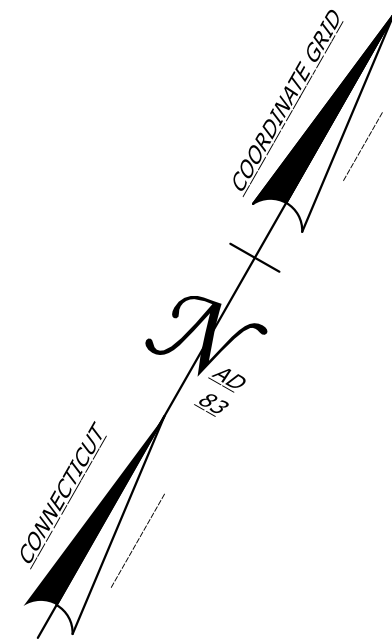
FIGURE A-3

OUTLET	AREA		IMPERVIOUS AREA		PERVIOUS AREA		% IMPERVIOUS
	(SF)	ACRE	(SF)	ACRE	(SF)	ACRE	
PO-1	63715	1.46	1660	0.04	62055	1.42	2.61%
PO-2	822257	18.88	36987	0.85	785270	18.03	4.50%
EO-6*	546650	12.55	14270	0.33	532380	12.22	2.61%
PO-3	399953	9.18	22172	0.51	377781	8.67	5.54%
PO-4	293120	6.73	540	0.01	292580	6.72	0.18%
PO-5	290833	6.68	5160	0.12	285673	6.56	1.77%
PO-6**	12283920	282	0	0	12283920	282	0%
PO-7	123358	2.83	10434	0.24	112924	2.59	8.46%

*THE ENTIRE DRAINAGE AREA FOR OUTLET EO-6 IS INCLUDED IN THE DRAINAGE AREA FOR PO-2.
**WATERSHED AREA DETERMINED FROM HYDRAULIC ANALYSIS DATED JANUARY 2024

STATE PROJECT 0047-0122

PROPOSED STORMWATER OUTLETS



REV	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: M. ROSHKOWSKI
CHECKED BY: M. CARVALHO

0 100 200
HORIZONTAL SCALE
1" = 100'

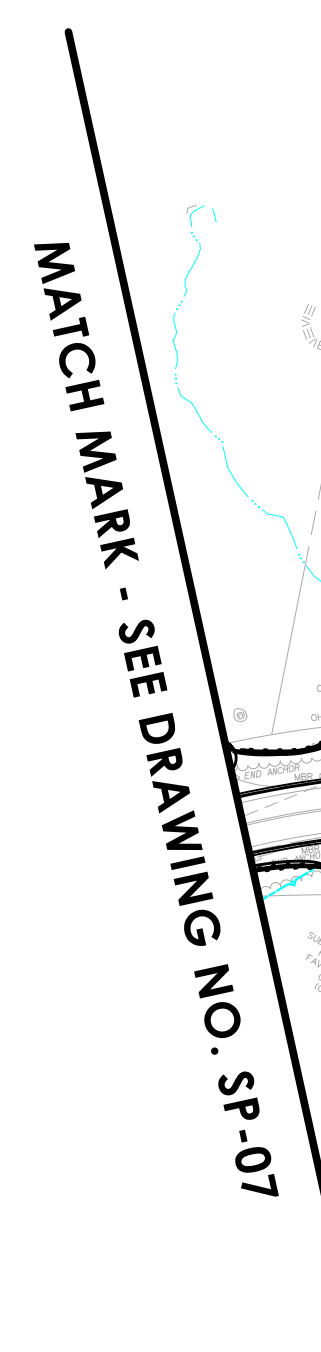
SIGNATURE/ BLOCK:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: PROPOSED STORMWATER OUTLETS

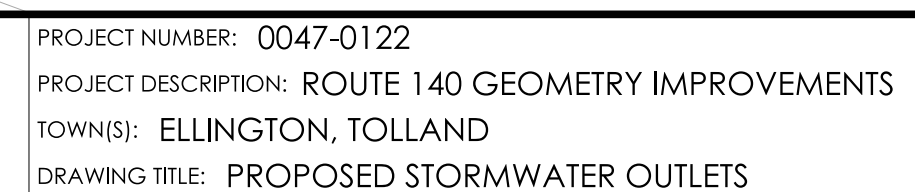
DRAWING NO.
SP-07
SHEET NO.

FIGURE A-4



*WATERSHED AREA DETERMINED FROM HYDRAULIC ANALYSIS DATED JANUARY 2024

REV.	DATE	
DESIGNER/DRAFTER: M. ROŠKOWSKI		CHECKED BY: M. CARVALHO



DRAWING NO.	SP-08
SHEET NO.	

FIGURE A-4

Soil Map—State of Connecticut

Map Scale: 1:12,000 if printed on A landscape (11" x 8.5") sheet.

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

FIGURE A-5

9/29/2023
Page 1 of 3

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



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

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 22, Sep 12, 2022

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

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

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.

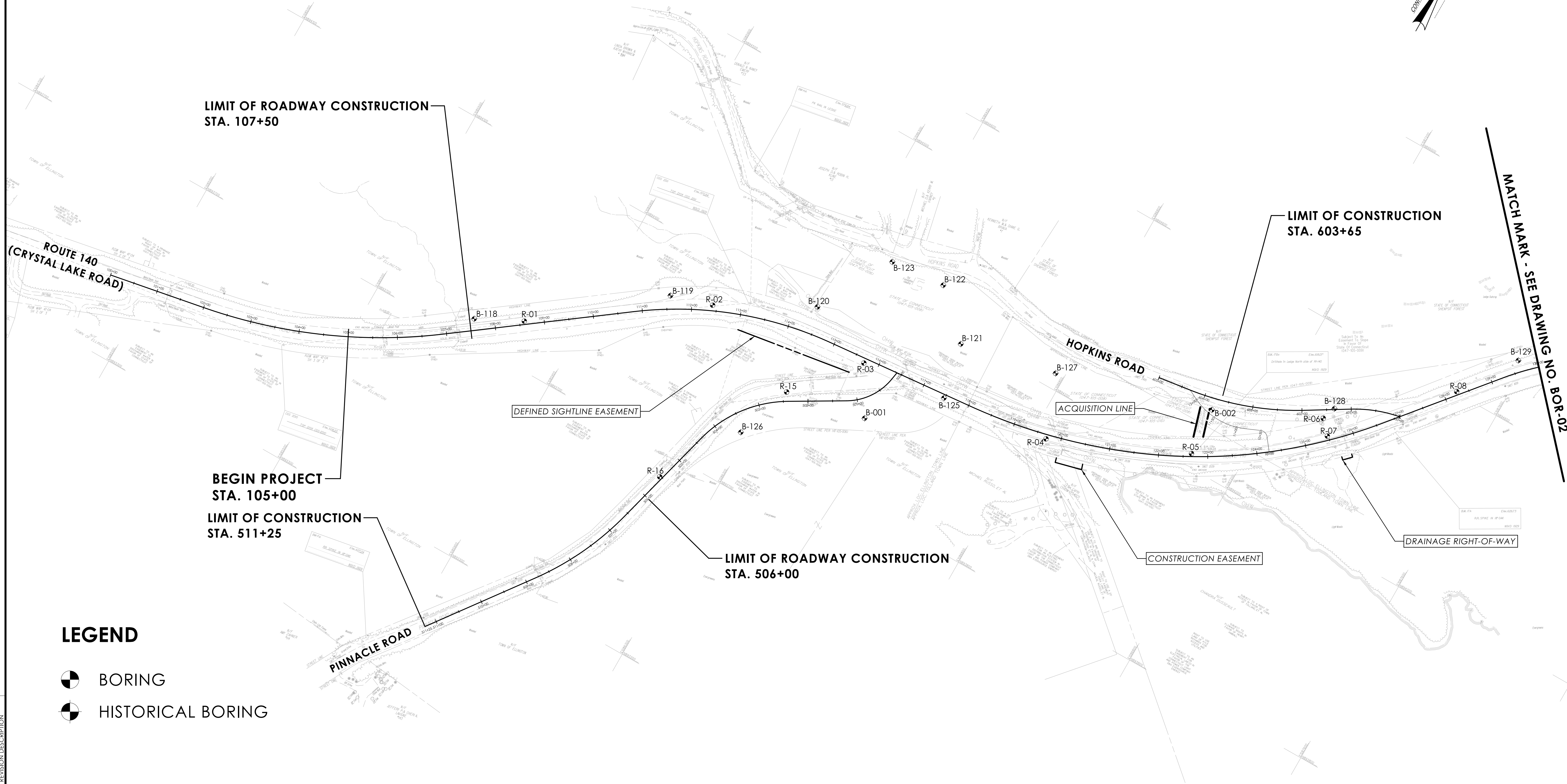
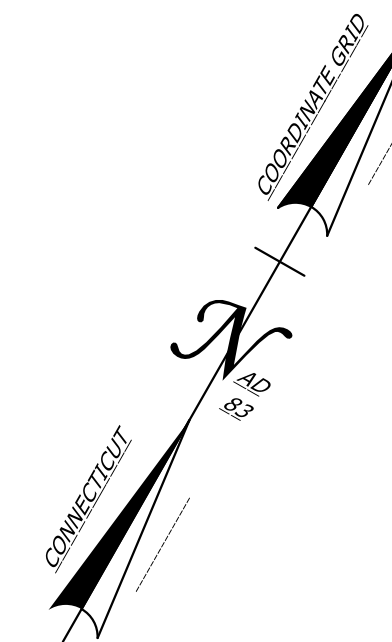
FIGURE A-5

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	71.2	9.7%
17	Timakwa and Natchaug soils, 0 to 2 percent slopes	14.1	1.9%
40B	Ludlow silt loam, 3 to 8 percent slopes	6.2	0.8%
51B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	20.3	2.8%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	41.1	5.6%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	25.1	3.4%
61C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony	23.1	3.2%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	114.0	15.6%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	45.7	6.2%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	254.9	34.8%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	83.6	11.4%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	8.4	1.1%
87B	Wethersfield loam, 3 to 8 percent slopes	0.3	0.0%
88C	Wethersfield loam, 8 to 15 percent slopes, very stony	2.6	0.4%
W	Water	21.3	2.9%
Totals for Area of Interest		731.9	100.0%

STATE PROJECT 0047-0122

BORING LOCATIONS



LEGEND

- BORING
- HISTORICAL BORING

REV	DATE	REVISION DESCRIPTION

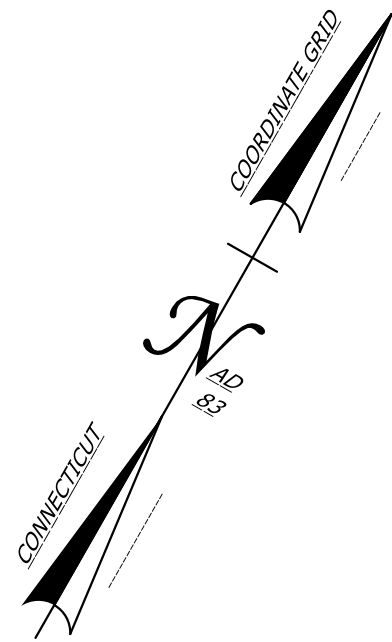
DESIGNER/DRAFTER: M. ROSHKOWSKI CHECKED BY: M. CARVALHO	SIGNATURE/ BLOCK:	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	PROJECT NUMBER: 0047-0122 PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS TOWN(S): ELLINGTON, TOLLAND DRAWING TITLE: BORING LOCATIONS	DRAWING NO. BOR-01 SHEET NO.
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LASTED SAVED BY: Roshkowskim FILE NAME: C:\Users\Roshkowskim\State of Connecticut\0047-0122 - Design\Highways\Contract_Plans\Stormwater Pollution Control Plans\HW_CP_0047_0122_Boring Locations.dgn
PLOTTED DATE: 10/2/2024

FIGURE A-6

STATE PROJECT 0047-0122

BORING LOCATIONS



MATCH MARK - SEE DRAWING NO. BOR-01

LEGEND

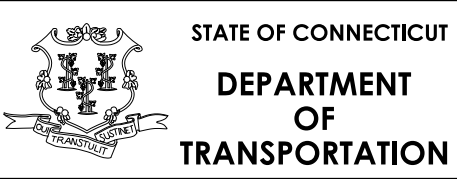
-  BORING
-  HISTORICAL BORING

REV	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: M. ROSKOWSKI
CHECKED BY: M. CARVALHO

HORIZONTAL SCALE
1" = 100'

SIGNATURE/
BLOCK:



PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: BORING LOCATIONS

DRAWING NO.
BOR-02
SHEET NO.

Driller: Mark Childs		Connecticut DOT Boring Report					Hole No.: R-01			
Inspector: Habibullah Karimi		Town: Ellington and Tolland		Stat./Offset: 108+63/6' Left						
Engineer: Nick Assard		Project No.: 0047-0122		Northing: 893788.783						
Start Date: 4-20-22		Route No.: 140		Easting: 1085792.029						
Finish Date: 4-20-22		Bridge No.:		Surface Elevation: 545.5						
Project Description: Safety Improvements on Route 140										
Casing Size/Type: 4"FHJ		Sampler Type/Size: 2"SS			Core Barrel Type:					
Hammer Wt.: Fall: in.		Hammer Wt.: 140		Fall: 30in.						
Groundwater Observations: @10 after 0 hours										
Depth (ft)	SAMPLES							Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches			Pen. (in.)	Rec. (in.)	RQD %		Generalized Strata Description	Material Description and Notes
0										545
	S-1	16	100		11	9		Pavement Structure Misc. Fill	Brown C-F GRAVEL, some c-f sand, trace silt	
5	S-2	1	1	1	3	24	11		Reddish Brown C-F GRAVEL, some c-f sand, trace silt	540
								Glacial Till		
10	S-3	6	20	23	18	24	14		Brown C-F SAND, little f-c gravel, trace silt	535
15	S-4	17	22	38	36	24	15		Brown C-F SAND, little f gravel, trace silt	530
20									END OF BORING 17ft	525
25										520
30										515
35										510
40										505
45										500
50										
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%										
Total Penetration in								NOTES: Encountered 8" of bituminous concrete pavement with no discernible subbase.		Sheet 1 of 1
Earth: 17ft		Rock: 0ft		The borehole caved to 12.2' upon removal of casing. The borehole was backfilled with drill cuttings upon completion of boring.						
No. of Soil Samples: 4		No. of Core Runs: 0								
SM-001-M REV. 1/02										

Driller: Mark Childs		Connecticut DOT Boring Report				Hole No.: R-02					
Inspector: Habibullah Karimi		Town: Ellington and Tolland		Stat./Offset: 112'-45/9' Left							
Engineer: Nick Assard		Project No.: 0047-0122		Northing: 894006.391							
Start Date: 4-20-22		Route No.: 140		Easting: 1086107.935							
Finish Date: 4-20-22		Bridge No.:		Surface Elevation: 566.1							
Project Description: Safety Improvements on Route 140											
Casing Size/Type: 4"FHJ		Sampler Type/Size: 2"SS			Core Barrel Type: NX						
Hammer Wt.: Fall: in.		Hammer Wt.: 140			Fall: 30in.						
Groundwater Observations: @1.5 after 0 hours											
Depth (ft)	SAMPLES						Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches				Pen. (in.)			Rec. (in.)	RQD %	Generalized Strata Description
0									Pavement Structure Misc. Fill	Reddish brown C-F SAND, little f gravel, trace silt	565
5	S-1	30	25	17	20	24	13		Glacial Till	Gray brown C-F SAND, little f gravel, trace silt	560
10	S-2	30	37	36	80	24	16			Gray brown C-F SAND, little f gravel, trace silt	555
15	S-3	35	81			9	9			Gray brown C-F SAND, little f gravel, trace silt	550
20									Bedrock	White coarse grained, massive bedded, moderately fractured, slightly weathered Gneiss Core Times (min/ft): 3, 3.5, 3, 4.5, 4	545
25	C-1					60	56	93		END OF BORING 19ft	540
30											535
35											530
40											525
45											520
50											
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%											
Total Penetration in						NOTES: Encountered 6" of bituminous concrete pavement with no discernible subbase.				Sheet 1 of 1	
Earth: 14ft		Rock: 5ft		The borehole caved to 4.7' upon removal of casing. The borehole was backfilled with drill cuttings upon completion of drilling.							
No. of Soil Samples: 3		No. of Core Runs: 1						SM-001-M REV. 1/02			

Driller: Mark Childs		Connecticut DOT Boring Report				Hole No.: R-03		
Inspector: Habibullah Karimi		Town: Ellington and Tolland				Stat./Offset: 115+36/22' Right		
Engineer: Nick Assard		Project No.: 0047-0122				Northing: 894056.544		
Start Date: 4-20-22		Route No.: 140				Easting: 1086432.649		
Finish Date: 4-21-22		Bridge No.:				Surface Elevation: 584.4		
Project Description: Safety Improvements on Route 140								
Casing Size/Type: 4"HFJ		Sampler Type/Size: 2"SS				Core Barrel Type: NX		
Hammer Wt.: Fall: in.		Hammer Wt.: 140 Fall: 30in.						
Groundwater Observations: @1.2 after 0 hours, @5.5 after 1850+ hours								
Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	ROD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	26 18 26 16	24	18		Pavement Structure Glacial Till	Brown C-F GRAVEL, some c-1 sand, trace silt	
5	S-2	20 24 39 55	19	13		Bedrock	Brown C-F SAND, some c-1 gravel, trace silt	580
10	C-1		60	42	40		Gray medium grained, massive bedded, highly fractured, slightly weathered Gneiss Core Times (min/vt): 3.5, 5.5, 2.5, 5, 4	575
15							END OF BORING 12ft	570
20								565
25								560
30								555
35								550
40								545
45								540
50								535
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%								
Total Penetration in			NOTES: Encountered 8" of bluminous concrete pavement with no discernible subbase.					Sheet
Earth: 7ft Rock: 5ft			The borehole was backfilled with drill cuttings for 2' and a monitoring well consisting of 5' of screen and 5' of riser was installed upon completion of drilling.					1 of 1
No. of Soil Samples: 2 No. of Core Runs: 1								SM-001-M REV. 1/02

Driller: Mark Childs		Connecticut DOT Boring Report				Hole No.: R-04		
Inspector: Habibullah Karimi		Town: Ellington and Tolland				Stat./Offset: 119+707/7 Right		
Engineer: Nick Assard		Project No.: 0047-0122				Northing: 894106.193		
Start Date: 4-21-22		Route No.: 140				Easting: 1086829.901		
Finish Date: 4-21-22		Bridge No.:				Surface Elevation: 600.3		
Project Description: Safety Improvements on Route 140								
Casing Size/Type: 4"HFJ		Sampler Type/Size: 2"SS				Core Barrel Type: NX		
Hammer Wt.: Fall: in.		Hammer Wt.: 140				Fall: 30in.		
Groundwater Observations: @6.6' after 0 hours								
SAMPLES								
Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	ROD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	19 21 19 9	24	13		Pavement Structure Misc. Fill	Reddish brown C-F SAND, little c-f gravel, trace silt	600
5	S-2	10 5 7 11	24	7		Glacial Till	Brown C-F GRAVEL, some c-f sand, trace silt	595
10	S-3	6 36 54 75	24	11			Brown C-F SAND, little f-c gravel, trace silt	590
15	C-1		60	55	58	Bedrock	Gray medium grained, massive bedded, highly fractured, slightly weathered Gneiss Core Times (min/ft): 3.5, 4, 4.5, 5, 5.5	585
20							END OF BORING 18.5ft	580
25								575
30								570
35								565
40								560
45								555
50								
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%								
Total Penetration in Earth: 13.5ft Rock: 5ft No. of Soil Samples: 3 Core Runs: 1			NOTES: Encountered 8" of bluish concrete pavement with no discernible subbase. The borehole caved to 4.6' upon removal of casing. The borehole was backfilled with drill cuttings upon completion of drilling.					Sheet 1 of 1
								SM-001-M REV. 1/02

Driller:		Mark Childs		Connecticut DOT Boring Report				Hole No.:		R-05	
Inspector:		Habibullah Karimi		Town:		Elington and Tolland		Stat./Offset:		122+67/5' Left	
Engineer:		Nick Assard		Project No.:		0047-0122		Northing:		864226.474	
Start Date:		4-21-22		Route No.:		140		Easting:		187101.091	
Finish Date:		4-21-22		Bridge No.:				Surface Elevation:		616	
Project Description: Safety Improvements on Route 140											
Casing Size/Type: 4"HFJ				Sampler Type/Size: 2"SS				Core Barrel Type: NX			
Hammer Wt.: Fall: in				Hammer Wt.: 140				Fall: 30in			
Groundwater Observations: @6.4 after 0 hours											
SAMPLES											
Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches				Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	11	19	26	20	24	10		Pavement Structure Misc. Fill	Reddish brown C-F SAND, some c-f gravel, trace silt	615
5	S-2	25	39	20	25	24	14		Glacial Till	Gray F-C SAND, some f gravel, little silt	610
10									Bedrock		605
15	C-1					60	57	78		White coarse grained, massive bedded, highly fractured, slightly weathered Gneiss Core Times (min): 4.5, 5, 3.5, 4, 3.5	600
20										END OF BORING 15ft	595
25											590
30											585
35											580
40											575
45											570
50											
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%											
Total Penetration in Earth: 10ft Rock: 5ft No. of Soil Samples: 2 No. of Core Runs: 1						NOTES: Encountered 8" of bituminous concrete pavement with no discernible subbase. The borehole caved to 5.8' upon removal of casing. The borehole was backfilled with drill cuttings upon completion of drilling.				Sheet 1 of 1	
SM-001-M REV. 1/02											

Driller:	Ben Crary		Connecticut DOT Boring Report				Hole No.:	R-06			
Inspector:	Habibullah Karimi		Town:	Eliington and Tolland				Stat./Offset:	601+57/19' Left		
Engineer:	Nick Assard		Project No.:	0047.0122				Northing:	894421.223		
Start Date:	5-20-22		Route No.:	140				Easting:	1087297.823		
Finish Date:	5-1-22		Bridge No.:					Surface Elevation:	629.5		
Project Description: Safety Improvements on Route 140											
Casing Size/Type: 4"HFJ			Sampler Type/Size: 2"SS					Core Barrel Type:			
Hammer Wt.: Fall: in			Hammer Wt.: 140			Fall: 30in					
Groundwater Observations: @6' after 0 hours											
SAMPLES											
Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches				Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	1	1	1	2	24	5		Topsoil	Top soil	
									Misc. Fill		625
5	S-2	36	6	7	11	24	14		Glacial Till	Brown F-C SAND, some f gravel, little silt	
10	S-3	34	39	45	40	24	16			Gray F-C SAND, some silt, little f gravel	620
15	S-4	3	1	14	25	24	2			Gray C-F SAND, little f gravel, trace silt	615
20										END OF BORING 16ft	610
25											605
30											600
35											595
40											590
45											585
50											580
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%											
Total Penetration in Earth: 16ft Rock: 0ft No. of Soil Samples: 4 No. of Core Runs: 0						NOTES: Encountered 5" of topsoil. The borehole caved to 6' upon removal of casing. The borehole was backfilled with drill cuttings upon completion of drilling.					Sheet 1 of 1
SM-001-M REV. 1/02											

Driller: Mark Childs		Connecticut DOT Boring Report				Hole No.: R-07					
Inspector: Habibullah Karimi		Town: Ellington and Tolland		Stat/Offset: 125+48/6' Left							
Engineer: Nick Assard		Project No.: 0047-0122		Northing: 894933.994							
Start Date: 4-21-22		Route No.: 140		Easting: 1087322.892							
Finish Date: 4-22-22		Bridge No.:		Surface Elevation: 627							
Project Description: Safety Improvements on Route 140											
Casing Size/Type: 4"HFJ		Sampler Type/Size: 2"SS			Core Barrel Type: NX						
Hammer Wt.: Fall: in.		Hammer Wt.: 40 lb			Fall: 30in.						
Groundwater Observations: @3.75' after 0 hours											
Depth (ft)	SAMPLES						Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches				Pen. (in.)			Rec. (in.)	ROD %	Generalized Strata Description
0	S-1	10	10	39	19	24	12		Pavement Structure Misc. Fill	Reddish brown C-F SAND, little f-c gravel, trace silt with boulder	625
5	S-2	1	4	5	11	24	10		Glacial Till	Brown F-C SAND, little f-c gravel, trace silt	620
10	S-3	44	32	21	27	24	10		Cobble Glacial Till	Reddish brown C-F SAND, some c-f gravel, trace silt with boulder	615
15	S-4	26	17	25	62	20.5	15			Reddish brown C-F GRAVEL, little f sand, trace silt	610
20										END OF BORING 16.7ft	605
25											600
30											595
35											590
40											585
45											580
50											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

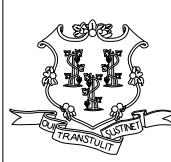
Notes: Encountered 8" of bluminous concrete pavement with no discernible subbase.
Encountered 3" cobble at 12.9' below existing roadway surface.
The borehole caved to 8.4' upon removal of casing. The borehole was backfilled with drill cuttings upon completion of drilling.

Sheet 1 of 1
SM-001-M REV. 1/02

Driller: Mark Childs		Connecticut DOT Boring Report				Hole No.: R-08					
Inspector: Habibullah karimi		Town: Ellington and Tolland		Stat./Offset: 128+251/4' Left							
Engineer: Nick Assard		Project No.: 0047-0122		Northing: 894602.53							
Start Date: 4-22-22		Route No.: 140		Easting: 1087506.145							
Finish Date: 4-22-22		Bridge No.:		Surface Elevation: 626.5							
Project Description: Safety Improvements on Route 140											
Casing Size/Type: 4"HFJ		Sampler Type/Size: 2"SS		Core Barrel Type: NX							
Hammer Wt.: Fall: in.		Hammer Wt.: 140		Fall: 30in.							
Groundwater Observations: @3.4 after 0 hours											
Depth (ft)	SAMPLES						Elevation (ft)				
	Sample Type/No.	Blows on Sampler per 6 inches				Pen. (in.)		Rec. (in.)	ROD %	Generalized Strata Description	Material Description and Notes
0	S-1	18	19	16	15	24	13		Pavement Structure / Misc. Fill	Brown C-F GRAVEL, some c-f SAND, trace silt	-625
5	S-2	10	12	37	82	24	15		Glacial Till	Gray brown C-F SAND, little f gravel, trace silt	-620
10	C-1					60	55	55	Bedrock	Gray medium grained, massive bedded, highly fractured, slightly weathered Gneiss Core Times (min/ft): 3, 2.5, 1.5, 2, 4, 5	-615
15										END OF BORING 14ft	-610
20											-605
25											-600
30											-595
35											-590
40											-585
45											-580
50											
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%											
Total Penetration in						NOTES: Encountered 6" of bituminous concrete pavement with no discernible subbase.				Sheet 1 of 1	
Earth: 9ft		Rock: 5ft		The borehole caved to 3.4' upon removal of casing. The borehole was backfilled with drill cuttings upon completion of drilling.							
No. of Soil Samples: 2		No. of Core Runs: 1						SM-001-M REV. 1/02			

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: S. MCCOLLUM	CHECKED BY: M. CARVALHO	
LASTED SAVED BY: Roshkowski FILE NAME: C:\Users\Roshkowski\State of Connecticut\0047-0122 - Design\Highways\Contract_Plans\Stormwater Pollution Control Plans\HW_CP_0047_0122_SPD_Boring Logs.dgn PLOTTED DATE: 7/22/2024		



STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION



PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: BORING LOGS

DRAWING NO.	BOR-03
SHEET NO.	

FIGURE A-6

Driller: Ben Crary		Connecticut DOT Boring Report				Hole No.: R-09					
Inspector: Habibullah Karimi		Town: Ellington and Tolland				Stat./Offset: 131+62/9' Left					
Engineer: Nick Assard		Project No.: 0047-0122				Northing: 894811.787					
Start Date: 4-17-22		Route No.: 140				Easting: 1087768.867					
Finish Date: 4-17-22		Bridge No.:				Surface Elevation: 622.5					
Project Description: Safety Improvements on Route 140											
Casing Size/Type: 4"HFJ		Sampler Type/Size: 2"SS				Core Barrel Type: NX					
Hammer WL: Fall in		Hammer WL: 140 Fall: 30in.									
Groundwater Observations: @6 after 0 hours											
Depth (ft)	SAMPLES						Elevation (ft)				
	Sample Type/No.	Blows on Sampler per 6 inches			Pen. (in.)	Rec. (in.)		ROD %	Generalized Strata Description	Material Description and Notes	
0	S-1	5	10	17	12	24	13		Pavement Structure Misc. Fill	Brown C-F SAND, some f-c gravel, trace silt	620
5	S-2	11	9	23	11	24	13		Glacial Till	Gray C-F SAND, some c-f gravel, trace silt	615
10	S-3	16	24	50		16	12		Bedrock	Gray C-F SAND, little f-c gravel, trace silt	610
15	C-1					60	60	67		Gray medium grained, massive bedded, moderately fractured, slightly weathered Gneiss Core Times (min/ft): 1.5, 3.5, 3, 3, 4	605
20										END OF BORING 16ft	600
25											595
30											590
35											585
40											580
45											575
50											
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%											
Total Penetration in Earth: 11ft Rock: 5ft						NOTES: Encountered 6" of bituminous concrete pavement with no discernible subbase. The borehole was backfilled with drill cuttings upon completion of drilling.				Sheet 1 of 1	
No. of Soil Samples: 3		No. of Core Runs: 1						SM-001-M REV. 102			

Driller: Ben Crary		Connecticut DOT Boring Report				Hole No.: R-10				
Inspector: Habibullah Karimi		Town: Ellington and Tolland				Stat./Offset: 134+60/5' Right				
Engineer: Nick Assard		Project No.: 0047-0122				Northing: 894890.735				
Start Date: 5-17-22		Route No.: 140				Easting: 1088057.856				
Finish Date: 5-17-22		Bridge No.:				Surface Elevation: 630.8				
Project Description: Safety Improvements on Route 140										
Casing Size/Type: 4"HFJ		Sampler Type/Size: 2"SS				Core Barrel Type: NX				
Hammer Wt.: Fall in.		Hammer Wt.: 140		Fall: 30in.						
Groundwater Observations: @2.75 after 0 hours										
Depth (ft)	SAMPLES							Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches			Pen. (in.)	Rec. (in.)	ROD %		Generalized Strata Description	Material Description and Notes
0	S-1	2	34	23	19	24	15	Pavement Structure Misc. Fill	Brown C-F SAND, some f-c gravel, trace silt	630
5	S-2	24	30	29	61	24	14	Glacial Till	Gray F-C SAND, little silt, little f gravel	625
10	S-3	51				1	0	Bedrock	No Recovery	620
	C-1					60	97		65	
15									END OF BORING 14.1ft	615
20										610
25										605
30										600
35										595
40										590
45										585
50										
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%										
Total Penetration In Earth: 9.1ft Rock: 5ft						NOTES: Encountered 8" of bituminous concrete pavement with no discernible subbase. The borehole was backfilled with drill cuttings upon completion of drilling.			Sheet 1 of 1	
No. of Soil Samples: 3 No. of Core Runs: 1									SM-001-M REV. 102	

Driller: Ben Crary		Connecticut DOT Boring Report				Hole No.: R-11			
Inspector: Habibullah Karimi		Town: Ellington and Tolland		Stat./Offset: 137+62/9' Right					
Engineer: Nick Assard		Project No.: 0047-0122		Northing: 895052.462					
Start Date: 5-18-22		Route No.: 140		Easting: 1088314.623					
Finish Date: 5-18-22		Bridge No.:		Surface Elevation: 649.4					
Project Description: Safety Improvements on Route 140									
Casing Size/Type: 4"HFJ		Sampler Type/Size: 2"SS			Core Barrel Type: NX				
Hammer Wt.: Fall in		Hammer Wt.: 140		Fall: 30in.					
Groundwater Observations: @2.5 after 0 hours									
Depth (ft)	SAMPLES							Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches		Pen. (in.)	Rec. (in.)	ROD %	Generalized Strata Description		Material Description and Notes
	S-1	35	25	23	18	13	Pavement Structure Misc. Fill		Brown C-F SAND, some c-f gravel, trace silt
	S-2	14	19	7 7	24	12	Glacial Till		Brown F-C SAND and SILT, trace f gravel
	S-3	54		0	0		Bedrock		No Recovery
	C-1			60	33	0			Gray medium grained, massive bedded, highly fractured, moderately weathered Gneiss
									Core Times (min/ft): 1.5, 1.5, 1.5, 1, 2
									END OF BORING 14ft

Driller: Ben Crary	Connecticut DOT Boring Report				Hole No.: R-12							
Inspector: Habibullah Karimi	Town: Ellington and Tolland	Stat./Offset: 140+36/6' Right										
Engineer: Nick Assard	Project No.: 0047-0122	Northing: 895256.546										
Start Date: 5-18-22	Route No.: 140	Easting: 1088496.281										
Finish Date: 5-18-22	Bridge No.:	Surface Elevation: 651										
Project Description: Safety Improvements on Route 140												
Casing Size/Type: 4"HFJ		Sampler Type/Size: 2"SS		Core Barrel Type:								
Hammer Wt.:	Fall in:	Hammer Wt.: 140	Fall: 30in.									
Groundwater Observations: @5.3 after 0 hours												
Depth (ft)	SAMPLES					Elevation (ft)						
	Sample Type/No.	Blows on Sampler per 6 inches			Pen. (in.)		Rec. (in.)	ROD %	Generalized Strata Description	Material Description and Notes		
	0	S-1	20	18	22		7	24	12	Pavement Structure Misc. Fill	Reddish brown C-F SAND, and C-F GRAVEL, trace silt	650
	5	S-2	4	3	2		3	24	12		Brown F-C SAND, some silt, little f gravel	645
	10	S-3	48					4	2	Glacial Till	Gray brown C-F SAND, some f gravel, trace silt	640
	15	S-4	16	17	16		25	24	12		Gray red C-F SAND, little f gravel, trace silt	635
	20										END OF BORING 16ft	630
	25											625
	30											620
35										615		
40										610		
45										605		
50												
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%												
Total Penetration in Earth: 16ft Rock: 0ft		NOTES: Encountered 12" of bituminous concrete pavement with no discernible subbase. The borehole caved to 3' upon removal of casing. The borehole was backfilled with drill cuttings upon completion of drilling.				Sheet 1 of 1						
No. of Soil Samples: 4		No. of Core Runs: 0				SM-001-M REV. 102						

Driller: Ben Crary		Connecticut DOT Boring Report				Hole No.: R-13				
Inspector: Habibullah Karimi		Town: Ellington and Tolland		Stat./Offset: 143+71/6' Right						
Engineer: Nick Assard		Project No.: 0047-0122		Northing: 895444.793						
Start Date: 5-18-22		Route No.: 140		Easting: 1088769.699						
Finish Date: 5-18-22		Bridge No.:		Surface Elevation: 658.5						
Project Description: Safety Improvements on Route 140										
Casing Size/Type: 4"HFJ		Sampler Type/Size: 2"SS			Core Barrel Type: NX					
Hammer Wt.: Fall in.		Hammer Wt.: 140		Fall: 30in.						
Groundwater Observations: @8.16 after 0 hours, @14.5 after 1850+ hours										
SAMPLES										
Depth (ft)	Sample type/No.	Blows on Sampler per 6 inches		Pen. (in.)	Rec. (in.)	ROD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)	
0	S-1	15	13	10	8	24	14	Pavement Structure Misc. Fill	Reddish brown C-F SAND, some c-f gravel, trace silt	655
5	S-2	25	13	10	8	24	11		Gray C-F SAND, some f-c gravel, trace silt	650
10	S-3	50				5	3	Glacial Till	Reddish brown C-F SAND, little f gravel, trace silt	650
15	S-4	50				0	0	Bedrock	Reddish brown C-F SAND, little f gravel, trace silt	645
20	C-1					60	97		80	Gray medium grained, massive bedded, moderately fractured, slightly weathered Gneiss Core Times (min/ft): 3, 4, 4.5, 5, 4
20									END OF BORING 18.4ft	
25										635
30										630
35										625
40										620
45										615
50										610
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%										
Total Penetration in Earth: 13.4ft Rock: 5ft				NOTES: Encountered 6" of bituminous concrete pavement with no discernible subbase. Installed monitoring well consisting of 10' of screen and 5' of riser upon completion of drilling.						Sheet 1 of 1
No. of Soil Samples: 4		No. of Core Runs: 1								SM-001-M REV. 102

Driller: Ben Crary		Connecticut DOT Boring Report				Hole No.: R-14					
Inspector: Habibullah Karimi		Town: Ellington and Tolland		Stat./Offset: 147+04/8' Right							
Engineer: Nick Assard		Project No.: 0047-0122		Northing: 895609.201							
Start Date: 5-19-22		Route No.: 140		Easting: 1089059.532							
Finish Date: 5-19-22		Bridge No.:		Surface Elevation: 661.7							
Project Description: Safety Improvements on Route 140											
Casing Size/Type: 4"HFJ		Sampler Type/Size: 2"SS			Core Barrel Type: NX						
Hammer Wt.: Fall in.		Hammer Wt.: 140		Fall: 30in.							
Groundwater Observations: @13 after 0 hours											
Depth (ft)	SAMPLES								Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches				Pen. (in.)	Rec. (in.)	ROD %		Generalized Strata Description	Material Description and Notes
0											
5	S-1	22	15	12	14	24	15		Pavement Structure Misc. Fill	Gray C-F SAND, some c-f gravel, trace silt	660
	S-2	6	4	4	14	24	11			Gray C-F SAND, some f-c gravel, trace silt	655
10	S-3	50				0	0		Bedrock	No Recovery White coarse grained, massive bedded, intensely fractured, moderately weathered Gneiss Core Times (min/ft): 9, 5, 3, 2.5, 2	650
15	C-1					60	33	10			END OF BORING 14ft
20											640
25											635
30											630
35											625
40											620
45											615
50											
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%											
Total Penetration in Earth: 9ft Rock: 5ft						NOTES: Encountered 12" of bituminous concrete pavement with no discernible subbase. The borehole caved to 5.2' upon removal of casing. The borehole was backfilled with drill cuttings upon completion of drilling.				Sheet 1 of 1	
No. of Soil Samples: 3		No. of Core Runs: 1								SM-001-M REV. 102	

Driller: Ben Crary

Connecticut DOT Boring Report										Hole No.: B-001		
Inspector: M. Lawson			Town: Ellington			Stat./Offset: 501'98/44' Left						
Engineer: Haley & Aldrich, Inc.			Project No.: 47-105			Northing: 893959.97						
Start Date: 10-21-98			Route No.: 140			Easting: 1086489.5						
Finish Date: 10-21-98			Bridge No.:			Surface Elevation: 610.24						
Project Description: Realignment of Route 140												
Casing Size/Type: Hammer WL: Fall: in.			Sampler Type/Size: Hammer WL: 140 Fall: 30in.			Core Barrel Type:						
Groundwater Observations: @12 after 0 hours												
Depth (ft)	SAMPLES										Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches			Pen. (in.)	Rec. (in.)	ROD %	Generalized Strata Description	Material Description and Notes			
0	S-1	1	2	2	3	24	12		TOPSOIL	Very loose brown SAND, some silt, little gravel with few cobbles and boulders	610	
5									GLACIAL TILL			
5	S-2	61	31	42	50	24	16			Very dense brown c-f GRAVEL and SAND, trace silt with cobbles and boulders	605	
10	S-3	31	52	50		12	12		BEDROCK	Very dense SAND and GRAVEL, trace silt with cobbles and boulders	600	
15	C-1					60	54			Very hard, fresh, light gray, very coarse to fine grained GNEISS, foliation not discernible, primary joints moderately dipping to horizontal, moderate to extremely close surfaces, rough to smooth, undulating, fresh, tight to open, occasional healed joints	595	
20										Core times (min/ft): 8, 9, 9, 12, 14 C-2 same as C-1, Core times (min/ft): 6, 5, 4, 4	590	
25										END OF BORING 16ft	585	
30											580	
35											575	
40											570	
45											565	
50												
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test												
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%												
Total Penetration in Earth: 11ft Rock: 5ft			NOTES: Split spoon refusal was encountered at 11 feet below the roadway surface. These are historic boring logs that have had the units converted from SI to Imperial units and the station and offset have been revised based on Project 47-122 alignment.								Sheet 1 of 1	
No. of Soil Samples: 3		No. of Core Runs: 1									SM-001-M REV. 1/02	

Driller: J. Yarrow		Connecticut DOT Boring Report					Hole No.: B-002				
Inspector: E. Danaher		Town: Ellington					Stat./Offset: 604' 75/26' Left				
Engineer: Haley & Aldrich, Inc.		Project No.: 47-105					Northing: 894324.15				
Start Date: 10-22-98		Route No.: 140					Easting: 1087093.18				
Finish Date: 10-22-98		Bridge No.:					Surface Elevation: 634.84				
Project Description: Realignment of Route 140											
Casing Size/Type:			Sampler Type/Size:			Core Barrel Type:					
Hammer WL: Fall: in.			Hammer WL: 140 Fall: 30in.								
Groundwater Observations: @NE after 0 hours											
Depth (ft)	SAMPLES								Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches				Pen. (in.)	Rec. (in.)	ROD %		Generalized Strata Description	Material Description and Notes
0	S-1	2	6	7	9	24	12		TOPSOIL	Medium dense orange brown c-f SAND, some silt, little gravel	
5	S-2	100				2	6		GLACIAL TILL	Very dense gray f SAND and SILT, trace f gravel, trace c sand with few cobbles	630
10	S-3	17	21	20	12	24	18		BEDROCK	Dense gray brown f GRAVEL, some c-f sand, some silt	625
15	C-1					60	56			Hard, slightly weathered, light gray to gray brown fine grained GNEISS, primary joints set dipping, moderately closely to moderately spaced with weathered planar surfaces	620
20	C-2					60	60			Core times (min/ft): 5, 5, 4, 4, 4	615
25										Hard, slightly weathered, light gray to gray brown fine grained GNEISS, primary joints set dipping, moderately closely to moderately spaced with weathered planar surfaces	610
30										Core times (min/ft): 3, 3, 5, 3, 3	605
35											600
40											595
45											590
50											585
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test											
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%											
Total Penetration in Earth: 13ft Rock: 10ft						NOTES: These are historic boring logs that have had the units converted from SI to Imperial units and the station and offset have been revised based on Project 47-122 alignment.					Sheet 1 of 1
No. of Soil Samples: 3		No. of Core Runs: 2								SM-001-M REV. 1/02	

Driller: O. Cone		Connecticut DOT Boring Report				Hole No.: B-118				
Inspector: P. Carrera		Town: Ellington				Sta./Offset: 107+58.23' Left				
Engineer: Haley & Aldrich, Inc.		Project No.: 47-105				Northing: 893742.45				
Start Date: 12-1-99		Route No.: 140				Easting: 1085701.44				
Finish Date: 12-1-99		Bridge No.: NA				Surface Elevation: 539.70				
Project Description: Realignment of Route 140										
Casing Size/Type: 2.25" SSA				Sampler Type/Size: 1.4" SS			Core Barrel Type:			
Hammer WL: Fall: in.				Hammer WL: 140 Fall: 30in.						
Groundwater Observations: @NE after 0 hours										
Depth (ft)	SAMPLES						Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches				Material Description and Notes				
0										
	S-1	16	34	17	16	24	12	PAVEMENT STRUCTURE	Very dense brown c-f SAND, some silt, some c-f gravel	
	S-2	16	6	7	18	24	8	GLACIAL TILL	Medium dense brown c-f SAND, some m-f gravel, some silt	535
5	S-3	3	3	50	50	24	8		Very dense brown c-f SAND, some gravel, little silt (moist)	
10									END OF BORING 7ft	530
15										525
20										520
25										515
30										510
35										505
40										500
45										495
50										490
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test										
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%										
Total Penetration in Earth: 7ft		Rock: 0ft		NOTES: Encountered 6 inches of bituminous concrete pavement. Encountered 2 inches of cobbles approximately 4.3 feet below roadway surface. Fractured rock was in the spoon tip for sample S-3. Mobile Drill B-53 with wire winch was used to drive safety hammer. Borehole backfilled with drill cuttings upon completion of drilling.					Sheet 1 of 1	
No. of Soil Samples: 3		No. of Core Runs: 0							SM-001-M REV. 1/02	

Driller: O. Cone		Connecticut DOT Boring Report				Hole No.: B-119				
Inspector: P. Carrera		Town: Ellington		Stat./Offset: 111+60/25' Left						
Engineer: Haley & Aldrich, Inc.		Project No.: 47-105		Northing: 893980.97						
Start Date: 11-24-99		Route No.: 140		Easting: 1086023.95						
Finish Date: 11-24-99		Bridge No.: NA		Surface Elevation: 561.35						
Project Description: Realignment of Route 140										
Casing Size/Type: 2.25" SSA		Sampler Type/Size: 1.4" SS			Core Barrel Type:					
Hammer Wt.: Fall: in.		Hammer Wt.: 140 Fall: 30in.								
Groundwater Observations: @NE after 0 hours										
Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches			ROD %					
0	S-1	2	3	5	6	24	16	MISC. FILL	Loose dark brown c-f SAND, some f gravel, trace silt with bituminous concrete and glass particles	560
	S-2	3	4	6	6	24	12		Medium dense brown c-f SAND, some m-f gravel, some silt with occasional cobbles	
5	S-3	2	3	2	2	24	16		Dark brown SILT and c-f SAND, trace f gravel	555
	S-7	6	8	15	50	24	2	GLACIAL TILL	Same as D3 except medium dense and no organics	
10									Medium dense brown c-f SAND and SILT, little gravel	550
									Encountered refusal at 9 feet.	
15									END OF BORING 9ft	545
20										540
25										535
30										530
35										525
40										520
45										515
50										
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test										
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%										
Total Penetration in Earth: 9ft Rock: 0ft		NOTES: Mobile Drill B-53 with wire winch was used to drive safety hammer. Borehole backfilled with drill cuttings upon completion of drilling.								Sheet 1 of 1
No. of Soil Samples: 4		No. of Core Runs: 0		These are historic boring logs that have had the units converted from SI to Imperial units and the station and offset have been revised based on						SM-001-M REV. 1/02

Driller: T. Carpenter		Connecticut DOT Boring Report				Hole No.: B-120			
Inspector: P. Carrera		Town: Ellington				Sta./Offset: 114+45/55' Left			
Engineer: Haley & Aldrich, Inc.		Project No.: 47-105				Northing: 894108.92			
Start Date: 12-2-99		Route No.: 140				Easting: 1086294.29			
Finish Date: 12-2-99		Bridge No.: NA				Surface Elevation: 566.93			
Project Description: Realignment of Route 140									
Casing Size/Type: 2.25" SSA				Sampler Type/Size: 1.4" SS		Core Barrel Type:			
Hammer WL: Fall: in.				Hammer WL: 140 Fall: 30in.					
Groundwater Observations: @2 after 0 hours									
SAMPLES									
Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches		Pen. (in.)	Rec. (in.)	ROD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	1	1 6 8	24	6		TOPSOIL	Loose dark brown loamy c of SAND and GRAVEL, with roots, leaves and wood	565
5	S-2	11	16 8 20	24	12		GLACIAL TILL	Medium dense brown c of SAND and GRAVEL, little silt	560
10	S-3	56	29 38 63	24	12			Very dense brown m-f GRAVEL and c-f SAND, little silt	560
15								END OF BORING 7ft	555
20									550
25									545
30									540
35									535
40									530
45									525
50									520
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test									
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%									
Total Penetration in Earth: 7ft Rock: Off				NOTES: Mobile Drill B-53 with wire winch was used to drive safety hammer. Borehole backfilled with drill cuttings upon completion of drilling.				Sheet 1 of 1	
No. of Soil Samples: 3		No. of Core Runs: 0		These are historic boring logs that have had the units converted from SI to Imperial units and the station and offset have been revised based on Project 2-199 alignment				SM-2001-MEV, 1/02	

Driller: O. Cone		Connecticut DOT Boring Report				Hole No.: B-125	
Inspector: P. Carrera		Town: Ellington				Stat./Offset: 117+52/10' Right	
Engineer: Haley & Aldrich, Inc.		Project No.: 47-105				Northing: 894075.46	
Start Date: 12-9-99		Route No.: 140				Easting: 1086608.92	
Finish Date: 12-9-99		Bridge No.: NA				Surface Elevation: 589.57	
Project Description: Realignment of Route 140							
Casing Size/Type: 2.25" SSA/3" NW						Sampler Type/Size: 1.4" SS	
Hammer Wt.: 300lb		Fall: 60in.		Hammer Wt.: 140lb		Fall: 30in.	
Groundwater Observations: @4.5 after 0 hours							
Depth (ft)	SAMPLES				Generalized Strata Description	Material Description and Notes	Elevation (ft)
	Sample Type/No.	Blows on Sampler per 6 inches		Pen. (in.)			
0							
5	S-1	15 16 18 20	24	16	PAVEMENT STRUCTURE MISC. FILL GLACIAL TILL BEDROCK	Dense red brown c-f SAND, some m-f gravel, little silt Very dense white SILT and f SAND Very Dense brown c-f SAND, little gravel, trace silt	585
	S-2	26 50	12	2			
	S-3	7 50	10	2			
10	C-1		60	93		Gray and white, fine grained, hard, fresh to slightly weathered granodioritic Gneiss Core Times (min/20-inch): 4.0, 4.0, 5.0	580
15	C-2		60	69		Gray and white, fine grained, hard, fresh to slightly weathered granodioritic Gneiss Core Times (min/20-inch): 5.0, 5.0, 6.0	575
20						END OF BORING 16.5ft	570
25							565
30							560
35							555
40							550
45							545
50							540
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%							

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test	
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%	
Total Penetration in Earth: 6.5ft	Rock: 10ft
No. of Soil Samples: 3	No. of Core Runs: 2
NOTES: Encountered 4 inches of bituminous concrete pavement with no discernible subbase. Borehole collapsed after removal of the casing. Mobile Drill B-53 with wire winch was used to drive safety hammer. Borehole backfilled with drill cuttings and patched with bituminous concrete upon completion of drilling. NW casing was advanced to 8.5 feet	
These are historic boring logs that have had the units converted from SI to Imperial units and the station and offset have been revised based on Project 47-122 alignment.	
Sheet 1 of 1	
SM-001-M REV. 102	

Driller: T. Carpenter		Connecticut DOT Boring Report				Hole No.: B-126		
Inspector: P. Carrera / S. Walker		Town: Ellington				Stat./Offset: 503+58/42' Left		
Engineer: Haley & Aldrich, Inc.		Project No.: 47-105				Northing: 893810.7		
Start Date: 12-2-99		Route No.: 140				Easting: 1086285.43		
Finish Date: 12-2-99		Bridge No.: NA				Surface Elevation: 620.41		
Project Description: Realignment of Route 140								
Casing Size/Type: 3" NW				Sampler Type/Size: 1.4" SS		Core Barrel Type: NQ		
Hammer Wt.: 300lb		Fall: 60in.		Hammer Wt.: 140lb		Fall: 30in.		
Groundwater Observations: @NE after 0 hours								
Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)
	Sample Type/No.	Blows on Sampler per 6 inches		Pen. (in.)	Rec. (in.)			
0	S-1	6	60	7	4		TOPSOIL	620
							GLACIAL TILL	
	C-1			30	6		BOULDER	
5	S-2	37	111	12	9		Very dense brown c-f SAND, some f-m gravel, some silt	615
							GLACIAL TILL	
10	S-3	38	71	122	18	15	Very dense brown c-f SAND, some silt, little gravel	610
							WEATHERED BEDROCK	
15	C-2			60	54	78	Gray medium to fine grained, hard, fresh granodiorite Gneiss Core Times (min/20-inches): 9.0, 8.0, 9.0	605
20	C-3			60	52	76	Gray medium to fine grained, hard, fresh granodiorite Gneiss Core Times (min/20-inches): 9.0, 9.0, 8.0	600
25							END OF BORING 22ft	595
30								590
35								585
40								580
45								575
50								
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test	
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%	
Total Penetration in Earth: 12ft	Rock: 10ft
No. of Soil Samples: 3	No. of Core Runs: 2
NOTES: Encountered 12 inches of topsoil. Encountered auger refusal at 2.5, cored through boulder to 5 feet then spun the casing to 5 feet. Advanced roller bit from 11.2 feet to 12 feet and started coring from 12 feet. Mobile Drill B-53 with wire winch was used to drive safety hammer. Borehole backfilled with drill cuttings upon completion of drilling. Advanced NW casing to 18 feet below ground surface.	
These are historic boring logs that have had the units converted from SI to Imperial units and the station and offset have been revised based on Project 47-122 alignment.	
Sheet 1 of 1	
SM-001-M REV. 102	

Driller: T. Carpenter		Connecticut DOT Boring Report				Hole No.: B-127					
Inspector: S. Walker		Town: Ellington				Stat./Offset: 119+51/125' Left					
Engineer: Haley & Aldrich, Inc.		Project No.: 47-105				Northing: 894231.3					
Start Date: 11-30-99		Route No.: 140				Easting: 1086780.84					
Finish Date: 12-2-99		Bridge No.: NA				Surface Elevation: 620.73					
Project Description: Realignment of Route 140											
Casing Size/Type: 2.25" SSA/3" NWSampler Type/Size: 1.4" SS						Core Barrel Type: NQ					
Hammer Wt.: 300lb		Fall: 60in.		Hammer Wt.: 140lb		Fall: 30in.					
Groundwater Observations: @NE after 0 hours											
Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches			Pen. (in.)				Rec. (in.)	RCD %	
0	S-1	4	7	14	56	24	12		TOPSOIL	Medium dense brown c-f SAND, little silt with roots	620
5	C-1					60	24		GLACIAL TILL	Boulder	615
10	S-2	68	98			12	12		GLACIAL TILL	Very dense gray brown c-f SAND, some f-m gravel, little silt	610
15	C-2					60	60	86	BEDROCK	Gray coarse to fine grained, very hard, fresh Granitic Gneiss Core Times (min/20-inch): 9.0, 10.0, 10.0	605
20	C-3					60	1.48	84		Gray coarse to fine grained, very hard, fresh Granitic Gneiss Core Times (min/20-inch): 12.0, 14.0, 14.0	600
25										END OF BORING 22.5ft	595
30											590
35											585
40											580
45											575
50											
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test	
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%	
Total Penetration in Earth: 12.5ft	Rock: 10ft
No. of Soil Samples: 2	No. of Core Runs: 3
NOTES: Encountered 3 inches of topsoil. Encountered auger refusal at 3.5 feet below ground surface. Mobile Drill B-53 with wire winch was used to drive safety hammer. Borehole backfilled with drill cuttings upon completion of drilling. Advanced NW casing to 18 feet below ground surface.	
These are historic boring logs that have had the units converted from SI to Imperial units and the station and offset have been revised based on Project 47-122 alignment.	
Sheet 1 of 1	
SM-001-M REV. 102	

Driller: O. Cone		Connecticut DOT Boring Report				Hole No.: B-128					
Inspector: P. Carrera		Town: Ellington				Stat./Offset: 601+34/1' Right					
Engineer: Haley & Aldrich, Inc.		Project No.: 47-105				Northing: 894449.48					
Start Date: 11-24-99		Route No.: 140				Easting: 1087307.74					
Finish Date: 11-24-99		Bridge No.: NA				Surface Elevation: 628.94					
Project Description: Realignment of Route 140											
Casing Size/Type: 2.25" SSA/3" NWSampler Type/Size: 1.4" SS						Core Barrel Type: NQ					
Hammer Wt.: 300lb		Fall: 60in.		Hammer Wt.: 140lb		Fall: 30in.					
Groundwater Observations: @5.5 after 0 hours											
Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)			
	Sample Type/No.	Blows on Sampler per 6 inches			Pen. (in.)				Rec. (in.)	RCD %	
0	S-1	13	15	8	9	24	22	TOPSOIL	Medium dense brown c-f SAND, little silt, trace f gravel	625	
	S-2	5	8	8	10	24	16				
5	S-3	15	18	21	30	24	18	GLACIAL TILL	Dense gray brown c-f SAND, little f-m gravel, little silt	620	
10	S-4	25	30	20	25	24	20		Dense gray brown c-f SAND, little f-m gravel, little silt	615	
15	S-5	28	50			6	6	BOULDER GLACIAL TILL	Very dense orange brown c-f SAND, trace silt Boulder	610	
	C					6	6				
20	C-1					60	55	70	BEDROCK	Gray fine grained, hard, fresh biotite, plagioclase, quartz Schist Core Time (min/20-inch): 7.0, 11.0, 7.0	605
25	C-2					60	60	97	Gray fine grained, hard, fresh biotite, plagioclase, quartz Schist Core Time (min/20-inch): 6.0, 10.0, 10.0	600	
30									END OF BORING 28ft	595	
35										590	
40										585	
45										580	
50											
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test	
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%	
Total Penetration in Earth: 18ft	Rock: 10ft
No. of Soil Samples: 4	No. of Core Runs: 2
NOTES: Encountered 4 feet of topsoil. Encountered boulder from 15.5 to 16 feet below ground surface. Mobile Drill B-53 with wire winch was used to drive safety hammer. Borehole backfilled with drill cuttings upon completion of drilling. Advanced NW casing to 18 feet below ground surface.	
These are historic boring logs that have had the units converted from SI to Imperial units and the station and offset have been revised based on Project 47-122 alignment.	
Sheet 1 of 1	
SM-001-M REV. 102	

Driller: T. Carpenter		Connecticut DOT Boring Report					Hole No.: B-129				
Inspector: P. Carrera		Town: Ellington					Sta./Offset: 129+61/28' Left				
Engineer: Haley & Aldrich, Inc.		Project No.: 47-105					Northing: 894719.49				
Start Date: 12-7-99		Route No.: 140					Easting: 1087583.33				
Finish Date: 12-7-99		Bridge No.: NA					Surface Elevation: 626.64				
Project Description: Realignment of Route 140											
Casing Size/Type: 3" NW			Sampler Type/Size: 1.4" SS				Core Barrel Type: NQ				
Hammer Wt: 300lb			Fall: 60in.		Hammer Wt: 140lb		Fall: 30in.				
Groundwater Observations: @4.5 after 0 hours											
Depth (ft)	SAMPLES								Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches				Pen. (in.)	Rec. (in.)	RCD %		Generalized Strata Description	Material Description and Notes
0	S-1	2	3	11	16	24	14		TOPSOIL	Medium dense brown c-f SAND and m-f GRAVEL, trace silt	625
	S-2	17	25	30	27	24	12		MISC. FILL	Very dense brown to gray c-f SAND and GRAVEL, trace silt with cobbles	
5	S-3	39	86			12	12		GLACIAL TILL	Very dense brown to gray c-f SAND and GRAVEL, trace silt with cobbles	620
10	C-1					60	56	81	BEDROCK	Light to drak gray fine grained, hard, fresh mica quartz plagioclase Gneiss	615
15										END OF BORING 12.5ft	610
20											605
25											600
30											595
35											590
40											585
45											580
50											
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%											

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test	
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%	
Total Penetration in Earth: 7.5ft	Rock: 5ft
No. of Soil Samples: 3	No. of Core Runs: 1
NOTES: Encountered 12 inches of topsoil. Roller bit from 6 feet to 7.5 feet below roadway surface. Mobile Drill B-53 with wire winch was used to drive safety hammer. Borehole backfilled with drill cuttings upon completion of drilling. Advanced NW casing to 7.5 feet below roadway surface.	
These are historic boring logs that have had the units converted from SI to Imperial units and the station and offset have been revised based on Project 47-122 alignment.	
Sheet 1 of 1	
SM-001-M REV. 102	

Driller: O. Cone		Connecticut DOT Boring Report				Hole No.: B-130				
Inspector: P. Carrera		Town: Ellington				Stat./Offset: 133+64/12' Left				
Engineer: Haley & Aldrich, Inc.		Project No.: 47-105				Northing: 894849.74				
Start Date: 12-9-99		Route No.: 140				Easting: 1087865.49				
Finish Date: 12-9-99		Bridge No.: NA				Surface Elevation: 624.02				
Project Description: Realignment of Route 140										
Casing Size/Type: 2.25" SSA										
Hammer Wt.: Fall: in.		Sampler Type/Size: 1.4" SS		Core Barrel Type:						
Groundwater Observations: @10' after 0 hours										
Depth (ft)	SAMPLES						Generalized Soil Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches				Pen. (in.)				Rec. (in.)
0										
5	S-1	50	36	41	40	24	14	PAVEMENT STRUCTURE MISC. FILL	Very dense red brown c-d SAND and m-f GRAVEL, little silt	620
	S-2	25	20	22	100	24	12			
10	S-3	10	7	5	5	24	3	BOULDER MISC. FILL GLACIAL TILL	Medium dense white SILT, little f sand with broken up piece of gravel	615
	S-4	27	27	25	29	24	16			
15								BOULDER		610
20									END OF BORING 17 ft	605
25										600
30										595
35										590
40										585
45										580
50										575
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%										

Appendix B – Drainage Calculations

State Project No. 0047-0122

	Figure/ Drawing #
Outlet Protection Calculations	B-1
Water Quality Calculations	B-2

OUTLET PO-1

PROPOSED SYSTEM OUTLET PROTECTION - VELOCITY DISSIPATION

Project No.: 0047-0122

Town: Ellington

Route: 140

Designed by: S. McCollum

Checked by: M. Carvalho

Station: 105+70 LT

Date: June 5, 2024

Date:

1. Assess the erosion potential at the outlet and other critical site factors

Describe the conditions at the outlet location:

Steep, heavily wooded and vegetated area.

Only headwall and outlet protection are being upgraded. Drainage area unaffected by project.

☒ No well-defined channel

☐ Well-defined channel

Sketch

0.3 m (1 ft.) for reinforced concrete culvert end

2. Determine the tailwater (TW) conditions at the outlet

TW depth: 1.25 ft

TW elevation: 531.55 ft

TW computational method: Manning's Equation

Channel bed elevation: N/A

Estimated velocity in channel: N/A

3. Calculate and evaluate the outlet velocity for the design discharge

Design Discharge: 1.60 cfs

Design Frequency: 10 Year Storm

Outlet Pipe Size: 18 in

Type: RCP

Length: 40 ft

Slope: 4.25%

Outlet Invert Elevation: 530.3 ft

Outlet Velocity at design discharge: 6.50 ft/sec

Velocity computational method: Manning's Equation

4. Select the type of outlet protection

☒ Riprap Apron

(See Figures 11-13 & 11-14)

Type B (A,B,C)

Riprap type: Modified Riprap

Length (La): 5.000 ft USE 12' MIN LENGTH

Width (W1): 4.5 ft ROUND TO 5'

Width (W2): 6.5 ft ROUND TO 7'

Width-Type C (W3): N/A

Riprap Thickness: 12 inches

Granular Fill Thickness: 6 inches

☐ Preformed Scour Hole

(See Figure 11-15)

	Type 1	Type 2
d50		
F		
C		
B		
Sp		

Proposed Type:

Riprap Type:

Riprap Thickness: in

Granular Fill Thickness: in

FIGURE B-1

OUTLET PO-2

PROPOSED SYSTEM OUTLET PROTECTION - VELOCITY DISSIPATION

Project No.: 0047-0122
 Town: Ellington
 Route: 140

Designed by: S. McCollum
 Checked by: M. Carvalho
 Station: 107+22 LT

Date: June 5, 2024
 Date: _____

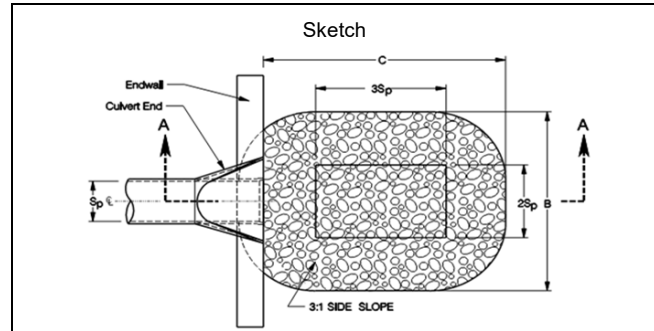
1. Assess the erosion potential at the outlet and other critical site factors

Describe the conditions at the outlet location:

Steep, heavily wooded and vegetated area.
 Dry channel exists
 Existing Pipe to remain in place.
 Drainage area reduced by project

☐ No well-defined channel

☒ Well-defined channel



2. Determine the tailwater (TW) conditions at the outlet

TW depth: 1.56 ft
 TW computational method: Manning's Equation
 Channel bed elevation: N/A

TW elevation: 533.26 ft
 Estimated velocity in channel: N/A

3. Calculate and evaluate the outlet velocity for the design discharge

Design Discharge: 11.20 cfs
 Outlet Pipe Size: 18 in
 Length: 50 ft
 Slope: 11.20%
 Outlet Velocity at design discharge: 17.20 ft/sec
 Velocity computational method: Manning's Equation

Design Frequency: 10 Year Storm
 Type: RCP
 Outlet Invert Elevation: 531.7 ft

4. Select the type of outlet protection

☐ Riprap Apron

(See Figures 11-13 & 11-14)

Type _____ (A,B,C)

Riprap type: _____
 Length (L_a): _____
 Width (W_1): _____
 Width (W_2): _____
 Width-Type C (W_3): _____

Riprap Thickness: _____
 Granular Fill Thickness: _____

☒ Preformed Scour Hole

(See Figure 11-15)

	Type 1	Type 2
d_{50}	0.12 ft	_____
F	0.75 ft	_____
C	9.00 ft	_____
B	7.50 ft	_____
S_p	1.50 ft	_____

USE 8'

Proposed Type: 1
 Riprap Type: Modified Riprap
 Riprap Thickness: 12 inches
 Granular Fill Thickness: 6 inches

FIGURE B-1

OUTLET PO-3

PROPOSED SYSTEM OUTLET PROTECTION - VELOCITY DISSIPATION

Project No.: 0047-0122
Town: Ellington
Route: 140

Designed by: S. McCollum
Checked by: M. Carvalho
Station: 113+75 LT

Date: May 20, 2024
Date:

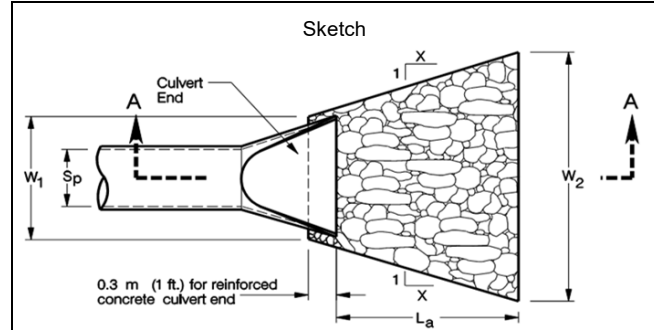
1. Assess the erosion potential at the outlet and other critical site factors

Describe the conditions at the outlet location:

Steep, heavily wooded and vegetated area.
Proposed Outlet would discharge into
Kimballs Brook

☐ No well-defined channel

☒ Well-defined channel



2. Determine the tailwater (TW) conditions at the outlet

TW depth: 1.42 ft

TW elevation: 567.52 ft

TW computational method: Manning's Equation

Channel bed elevation: N/A

Estimated velocity in channel: N/A

3. Calculate and evaluate the outlet velocity for the design discharge

Design Discharge: 5.60 cfs

Design Frequency: 10 Year Storm

Outlet Pipe Size: 24 in

Type: RCP

Length: 54 ft

Slope: 2.04%

Outlet Invert Elevation: 566.1 ft

Outlet Velocity at design discharge: 7.40 ft/sec

Velocity computational method: Manning's Equation

4. Select the type of outlet protection

☒ Riprap Apron

(See Figures 11-13 & 11-14)

Type B (A,B,C)

Riprap type: Modified Riprap

Length (L_a): 11.000 ft **USE 12' MIN LENGTH**

Width (W₁): 6 ft **ROUND TO 6'**

Width (W₂): 10.417 ft **ROUND TO 11'**

Width-Type C (W₃): N/A

Riprap Thickness: 12 inches

Granular Fill Thickness: 6 inches

☐ Preformed Scour Hole

(See Figure 11-15)

Type 1

Type 2

d₅₀

F

C

B

S_p

Proposed Type:

Riprap Type:

Riprap Thickness: in

Granular Fill Thickness: in

FIGURE B-1

OUTLET PO-4

PROPOSED SYSTEM OUTLET PROTECTION - VELOCITY DISSIPATION		
Project No.: 0047-0122 Designed by: S. McCollum Town: Ellington Checked by: M. Carvalho Route: 140 Station: 101+23.50 LT Date: July 24, 2024 Date:		
1. Assess the erosion potential at the outlet and other critical site factors Describe the conditions at the outlet location: Steep, heavily wooded and vegetated area. Only headwall and outlet protection are being upgraded. Drainage area unaffected by project. ☒ No well-defined channel ☐ Well-defined channel Sketch 0.3 m (1 ft.) for reinforced concrete culvert end		

FIGURE B-1

OUTLET PO-5

PROPOSED SYSTEM OUTLET PROTECTION - VELOCITY DISSIPATION

Project No.: 0047-0122

Town: Ellington

Route: 140

Designed by: S. McCollum

Checked by: M. Carvalho

Station: 504+19 RT

Date: June 5, 2024

Date:

1. Assess the erosion potential at the outlet and other critical site factors

Describe the conditions at the outlet location:

No well-defined channel

Well-defined channel

Sketch

Culvert End

A

W₁

Sp

W₂

X

X

L_a

0.3 m (1 ft.) for reinforced concrete culvert end

2. Determine the tailwater (TW) conditions at the outlet

TW depth: 1.12 ft

TW elevation: 610.87 ft

TW computational method: Manning's Equation

Channel bed elevation: N/A

Estimated velocity in channel: N/A

3. Calculate and evaluate the outlet velocity for the design discharge

Design Discharge: 3.70 cfs

Design Frequency: 10 Year Storm

Outlet Pipe Size: 18 in

Type: RCP

Length: 40 ft

Slope: 1.25%

Outlet Invert Elevation: 609.75 ft

Outlet Velocity at design discharge: 5.70 ft/sec

Velocity computational method: Manning's Equation

4. Select the type of outlet protection

Riprap Apron

(See Figures 11-13 & 11-14)

Type B (A,B,C)

Riprap type: Modified Riprap

Length (L_a): 8.000 ft USE 12' MIN LENGTH

Width (W₁): 4.5 ft ROUND TO 5'

Width (W₂): 7.75 ft ROUND TO 8'

Width-Type C (W₃): N/A

Riprap Thickness: 12 inches

Granular Fill Thickness: 6 inches

Preformed Scour Hole

(See Figure 11-15)

Type 1

Type 2

d₅₀

F

C

B

S_p

Proposed Type:

Riprap Type:

Riprap Thickness: in

Granular Fill Thickness: in

FIGURE B-1

OUTLET PO-7

PROPOSED SYSTEM OUTLET PROTECTION - VELOCITY DISSIPATION

Project No.: 0047-0122

Town: Ellington

Route: 140

Designed by: S. McCollum

Checked by: M. Carvalho

Station: 125+75 RT

Date: June 5, 2024

Date:

1. Assess the erosion potential at the outlet and other critical site factors

Describe the conditions at the outlet location:

Wooded area. Outlet discharges into wetland pond

☒ No well-defined channel

☐ Well-defined channel

Sketch

0.3 m (1 ft.) for reinforced concrete culvert end

2. Determine the tailwater (TW) conditions at the outlet

TW depth: 1.1 ft

TW elevation: 622.25 ft

TW computational method: Manning's Equation

Channel bed elevation: N/A

Estimated velocity in channel: N/A

3. Calculate and evaluate the outlet velocity for the design discharge

Design Discharge: 3.30 cfs

Outlet Pipe Size: 18 in

Length: 57 ft

Slope: 1.05%

Design Frequency: 10 Year Storm

Type: RCP

Outlet Invert Elevation: 621.15 ft

Outlet Velocity at design discharge: 5.10 ft/sec

Velocity computational method: Manning's Equation

4. Select the type of outlet protection

☒ Riprap Apron

(See Figures 11-13 & 11-14)

Type B (A,B,C)

Riprap type: Modified Riprap

Length (La): 8.000 ft USE 12' MIN LENGTH

Width (W1): 4.5 ft ROUND TO 5'

Width (W2): 7.75 ft ROUND TO 8'

Width-Type C (W3): N/A

Riprap Thickness: 12 inches

Granular Fill Thickness: 6 inches

☐ Preformed Scour Hole

(See Figure 11-15)

	Type 1	Type 2
d50		
F		
C		
B		
Sp		

Proposed Type:

Riprap Type:

Riprap Thickness: in

Granular Fill Thickness: in

FIGURE B-1

OUTLET PO-9

PROPOSED SYSTEM OUTLET PROTECTION - VELOCITY DISSIPATION

Project No.: 0047-0122
Town: Ellington
Route: 140

Designed by: S. McCollum
Checked by: M. Carvalho
Station: 132+50 RT

Date: June 5, 2024
Date: _____

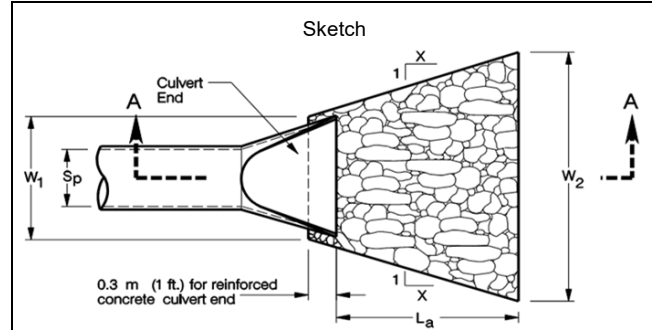
1. Assess the erosion potential at the outlet and other critical site factors

Describe the conditions at the outlet location:

Outlet discharges into wetlands

☒ No well-defined channel

☐ Well-defined channel



2. Determine the tailwater (TW) conditions at the outlet

TW depth: 1.22 ft

TW elevation: 620.62 ft

TW computational method: Manning's Equation

Channel bed elevation: N/A

Estimated velocity in channel: N/A

3. Calculate and evaluate the outlet velocity for the design discharge

Design Discharge: 5.30 cfs

Design Frequency: 10 Year Storm

Outlet Pipe Size: 18 in

Type: RCP

Length: 40 ft

Slope: 1.50%

Outlet Invert Elevation: 619.4 ft

Outlet Velocity at design discharge: 6.80 ft/sec

Velocity computational method: Manning's Equation

4. Select the type of outlet protection

☒ Riprap Apron

(See Figures 11-13 & 11-14)

Type B (A,B,C)

Riprap type: Modified Riprap

Length (La): 11.000 ft **USE 12' MIN LENGTH**

Width (W1): 4.5 ft **ROUND TO 5'**

Width (W2): 8.917 ft **ROUND TO 9'**

Width-Type C (W3): N/A

Riprap Thickness: 12 inches

Granular Fill Thickness: 6 inches

☐ Preformed Scour Hole

(See Figure 11-15)

	Type 1	Type 2
d50	_____	_____
F	_____	_____
C	_____	_____
B	_____	_____
Sp	_____	_____

Proposed Type: _____

Riprap Type: _____

Riprap Thickness: _____ in

Granular Fill Thickness: _____ in

FIGURE B-1

Water Quality Volume (WQV)

PROJECT: 0047-0122 PREPARED BY: S. McCollum
 DATE: 7/15/2024 CHECKED BY: M. Carvalho
 SUBJECT: Drainage Areas: Water Quality Volume (WQV)
 Notes:

STORMWATER OUTLET DRAINAGE AREAS:

Outfall ID	Area (acres)		
	Impervious Area	Pervious Area	Total Area
PO-1	0.04	1.42	1.46
PO-2	0.85	18.03	18.88
PO-3	0.51	8.67	9.18
PO-4	0.01	6.72	6.73
PO-5	0.12	6.56	6.68
PO-6	0.00	282.00	282.00
PO-7	0.24	2.59	2.83
PO-8	0.00	36.00	36.00
PO-9	1.08	6.21	7.29
PO-10	1.18	11.36	12.55

Total	4.03	379.56	383.60
-------	------	--------	--------

WATER QUALITY VOLUME (WQV) CALCULATION

Design Precipitation (P) = 1.3 inch
 % Impervious Cover (I) = 1
 Volumetric Runoff Coefficient (R) = 0.059

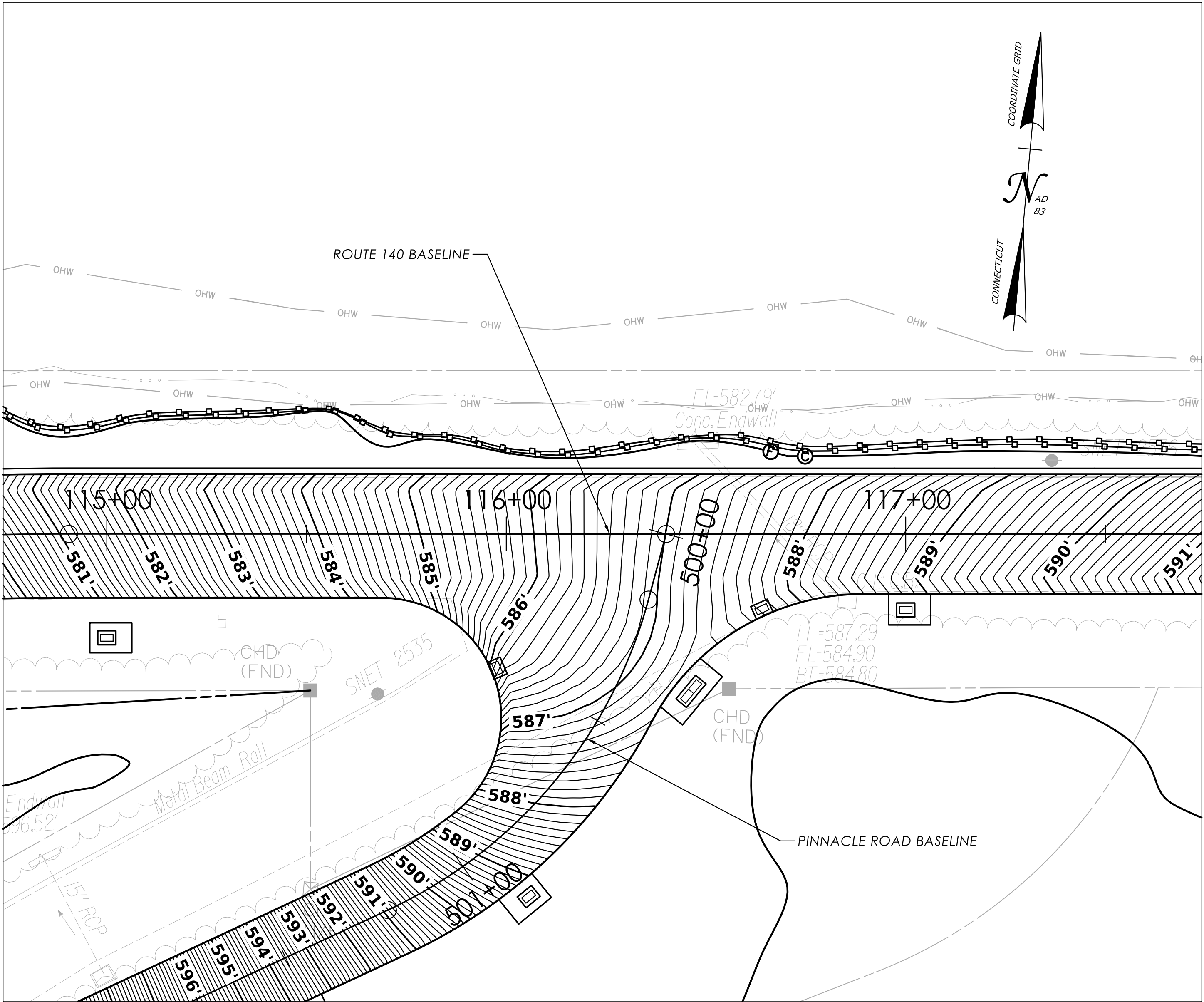
WQV =	2.471	ac-ft
	107626	cu-ft

1/2 WQV=	1.235	ac-ft
=	53813	cu-ft

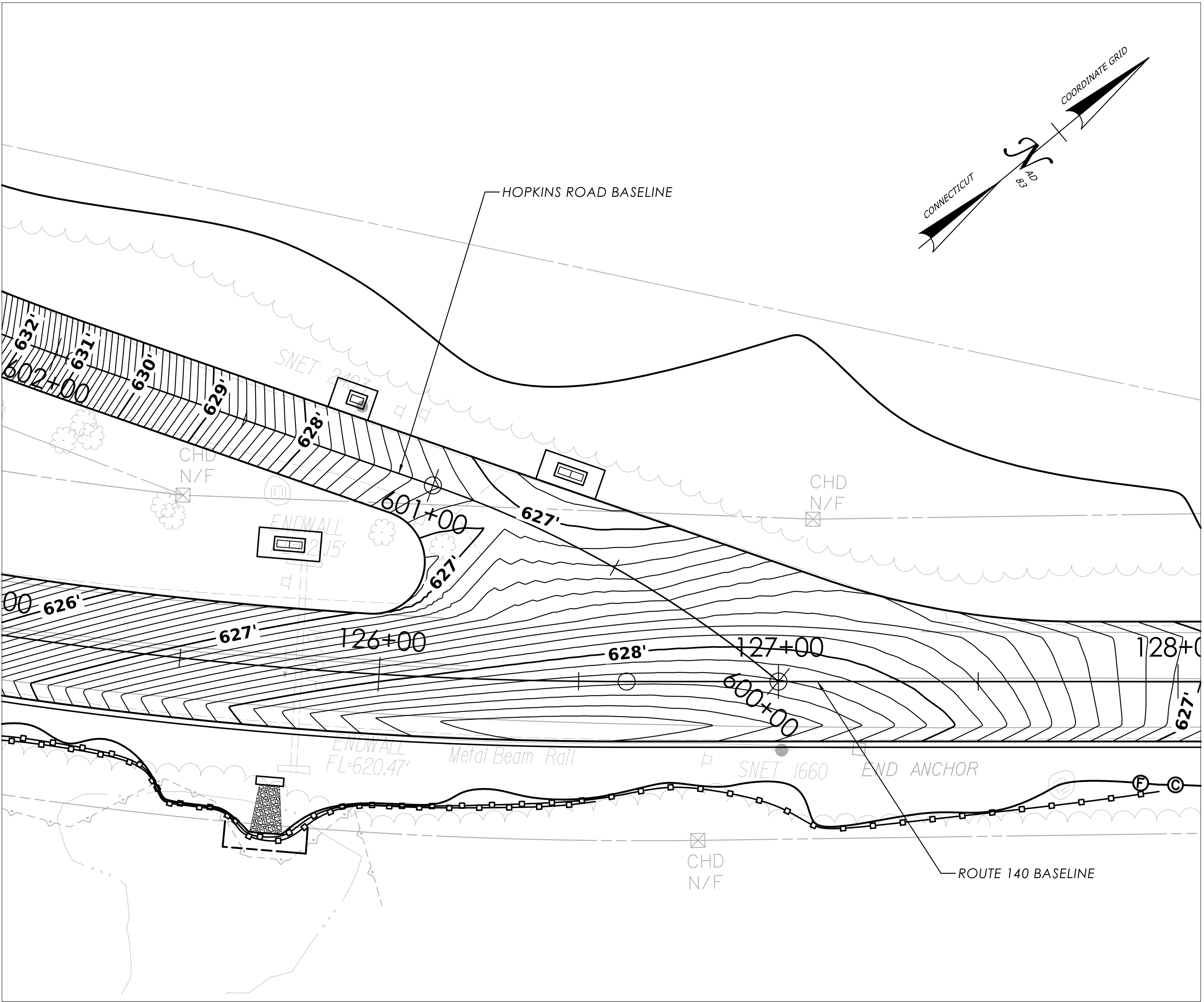
Appendix C – Plan Sheets

State Project No. 0047-0122

	Figure / Drawing #
Intersection Grading Plans	C-1 / IGP
Highway Construction Plans	C-2 / PLN
Drainage Plans	C-3 / DRG
Staging Plans	C-4 / STG
Miscellaneous Stormwater Details	C-5 / MDS



ROUTE 140 AND PINNACLE ROAD INTERSECTION
(CONTOUR INTERVAL = 0.1 FT)

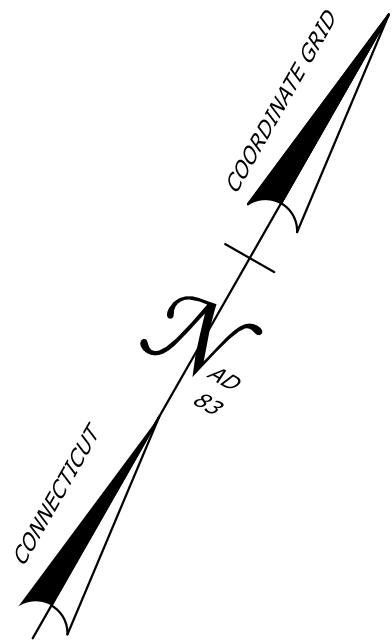


ROUTE 140 AND HOPKINS ROAD INTERSECTION
(CONTOUR INTERVAL = 0.1 FT)

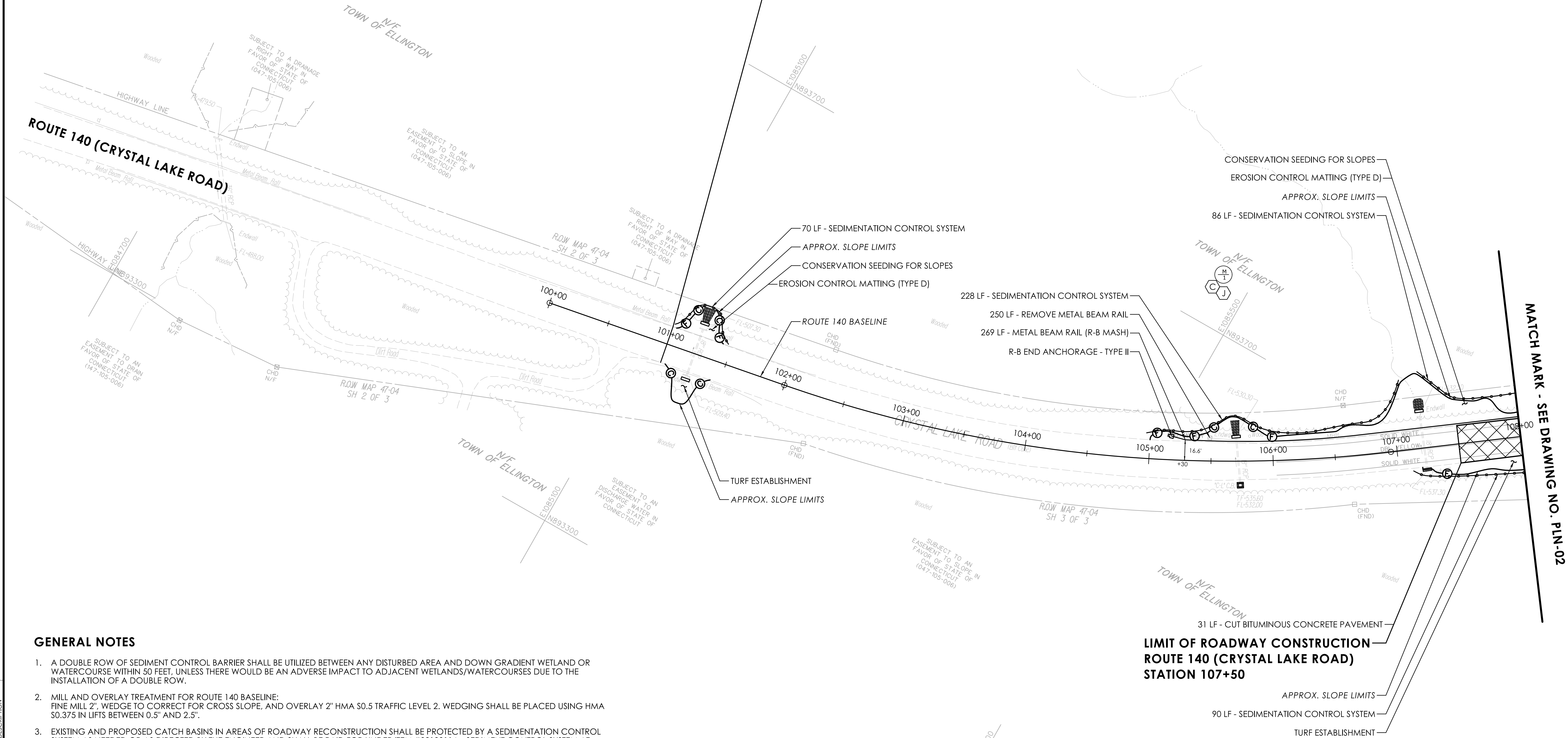
REV.	DATE	REVISION DESCRIPTION

LEGEND

MILL AND OVERLAY TREATMENT
(REFER TO NOTE 2).



BEGIN STATE PROJECT NO. 0047-0122
F.A.P. NO. 0140(012)
ROUTE 140 (CRYSTAL LAKE ROAD)
STATION 101+00

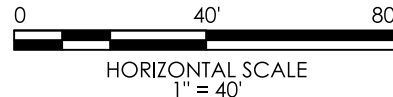


GENERAL NOTES

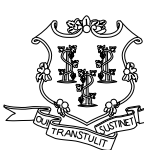
1. A DOUBLE ROW OF SEDIMENT CONTROL BARRIER SHALL BE UTILIZED BETWEEN ANY DISTURBED AREA AND DOWN GRADIENT WETLAND OR WATERCOURSE WITHIN 50 FEET, UNLESS THERE WOULD BE AN ADVERSE IMPACT TO ADJACENT WETLANDS/WATERCOURSES DUE TO THE INSTALLATION OF A DOUBLE ROW.
2. MILL AND OVERLAY TREATMENT FOR ROUTE 140 BASELINE:
FINE MILL 2", WEDGE TO CORRECT FOR CROSS SLOPE, AND OVERLAY 2" HMA S0.5 TRAFFIC LEVEL 2. WEDGING SHALL BE PLACED USING HMA S0.375 IN LIFTS BETWEEN 0.5" AND 2.5".
3. EXISTING AND PROPOSED CATCH BASINS IN AREAS OF ROADWAY RECONSTRUCTION SHALL BE PROTECTED BY A SEDIMENTATION CONTROL SYSTEM AS NEEDED OR AS DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM #0219011A - SEDIMENT CONTROL SYSTEM AT CATCH BASIN.
4. WETLAND AREAS TEMPORARILY IMPACTED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED AND SEEDED USING ITEM #0950043A - WETLAND GRASS ESTABLISHMENT

REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: S. MCCOLLUM CHECKED BY: M. CARVALHO



SIGNATURE/
BLOCK:

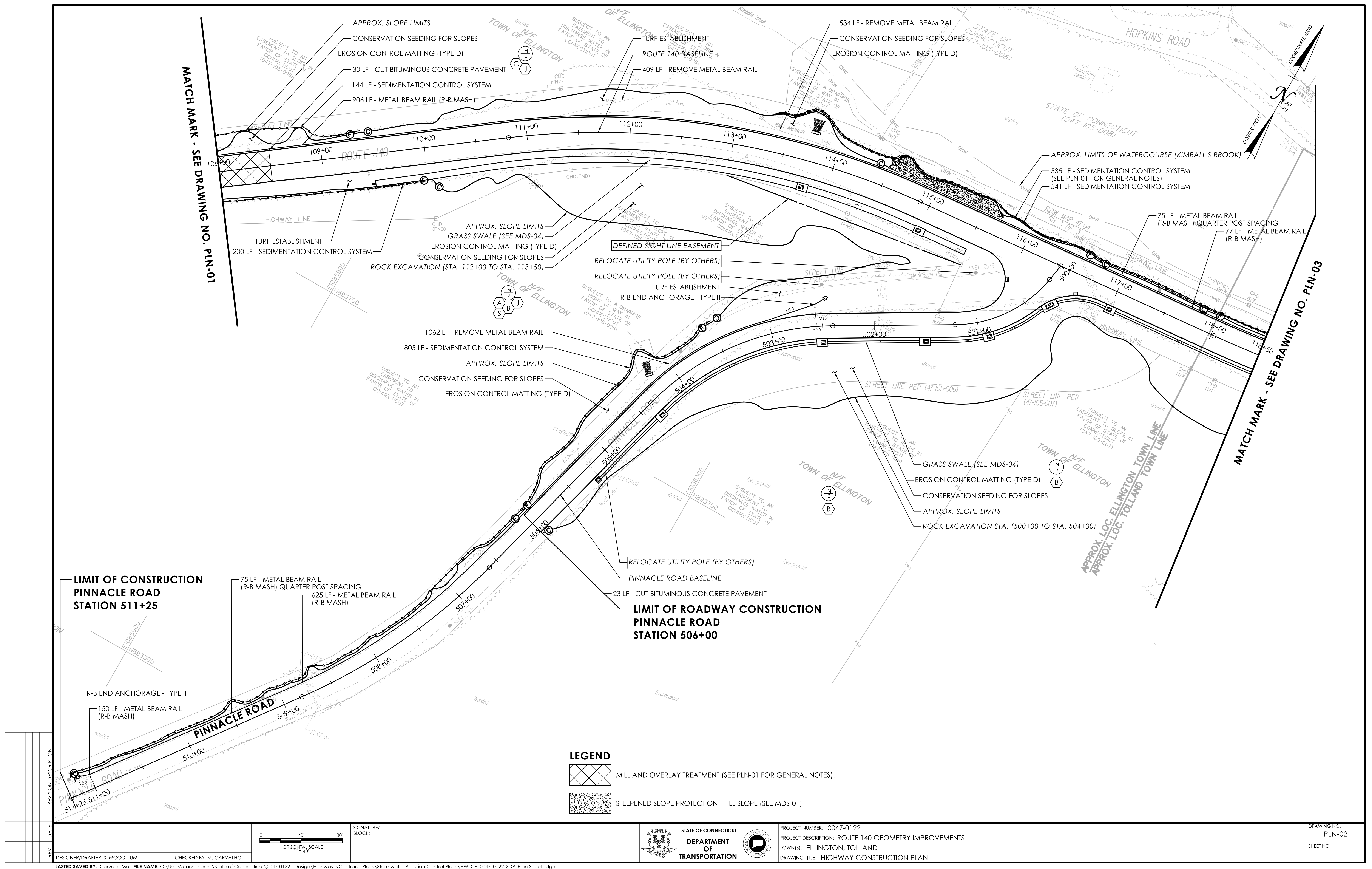


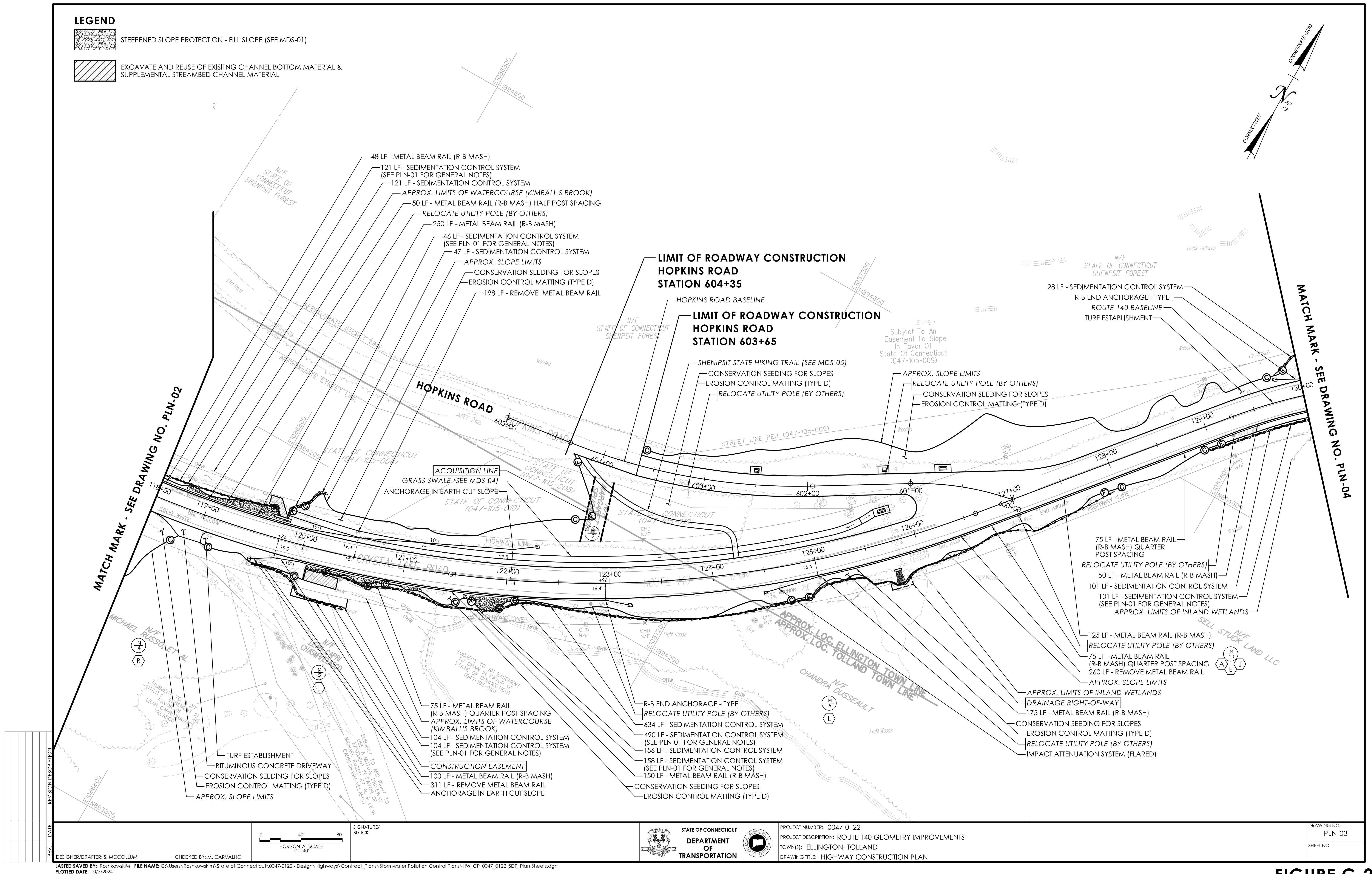
STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION



PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: HIGHWAY CONSTRUCTION PLAN

DRAWING NO.
PLN-01
SHEET NO.





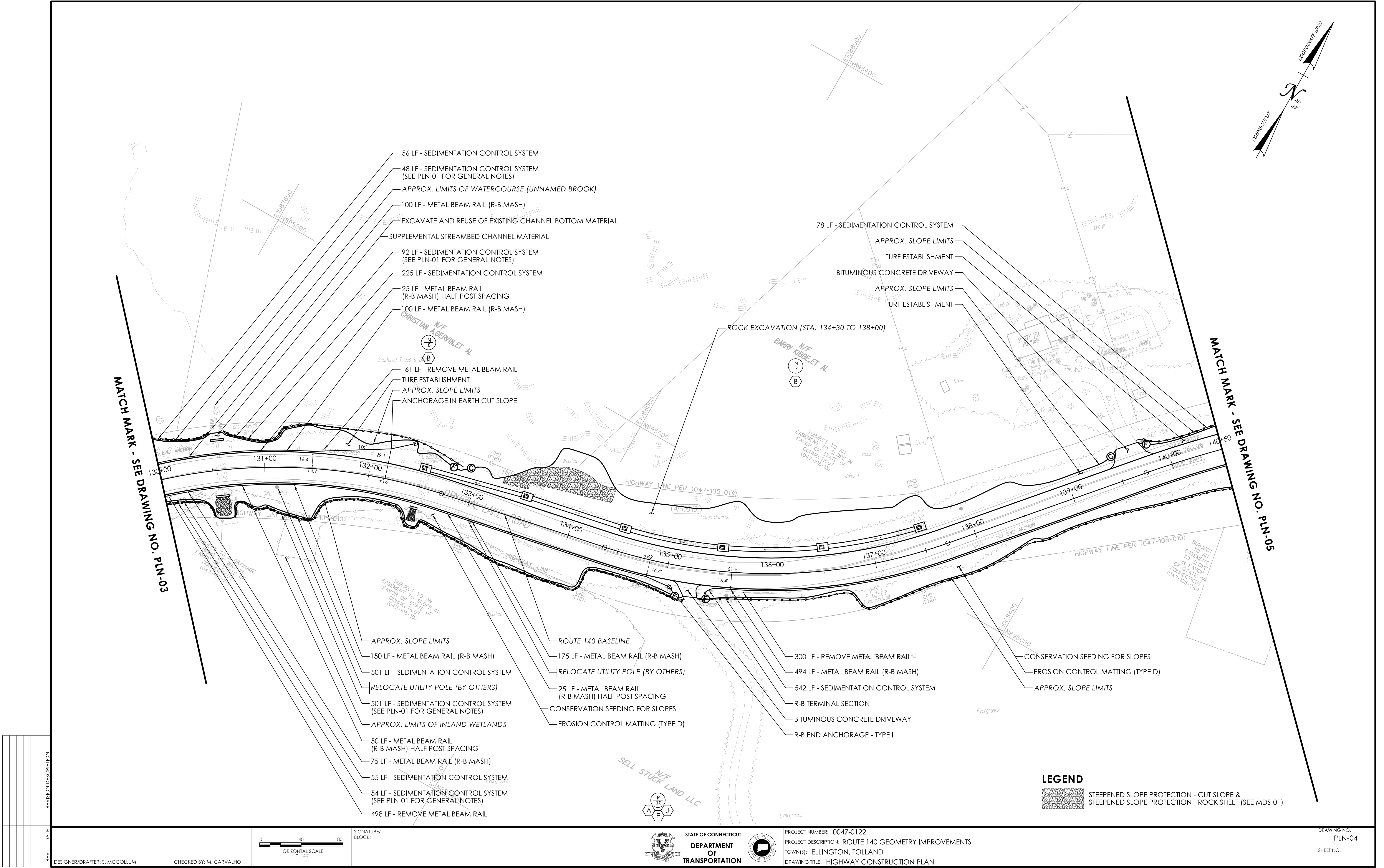


FIGURE C-2

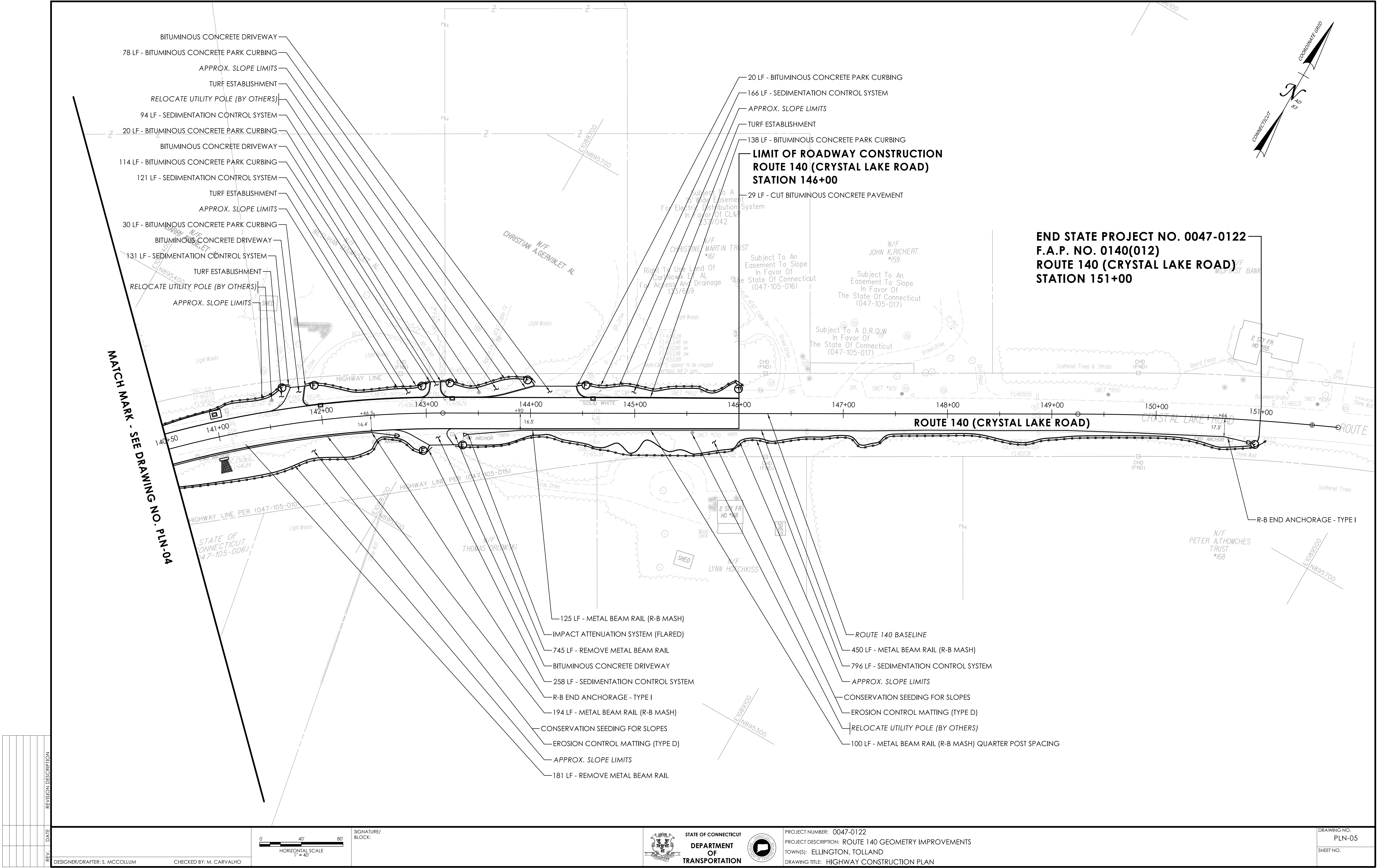
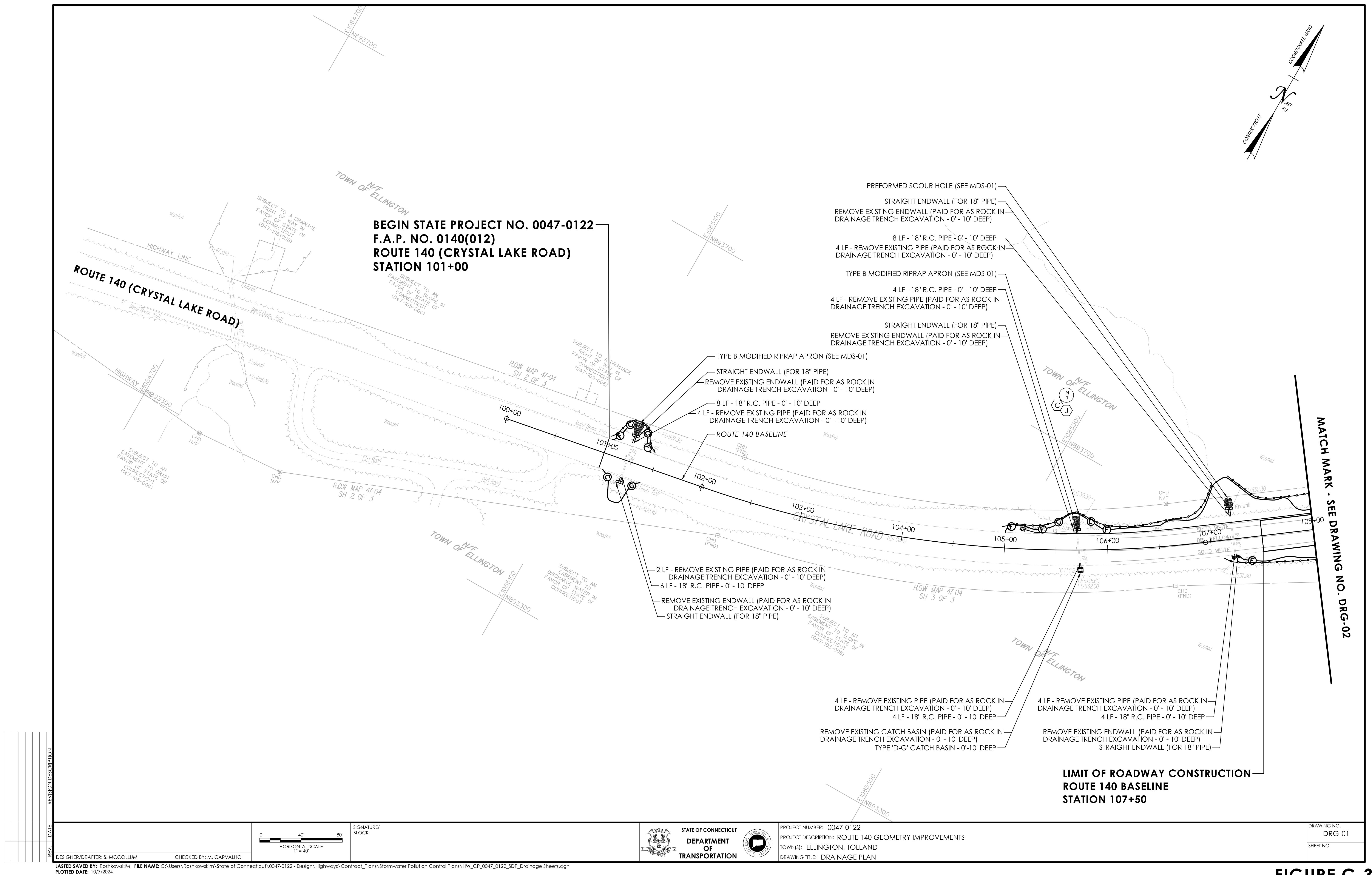


FIGURE C-2



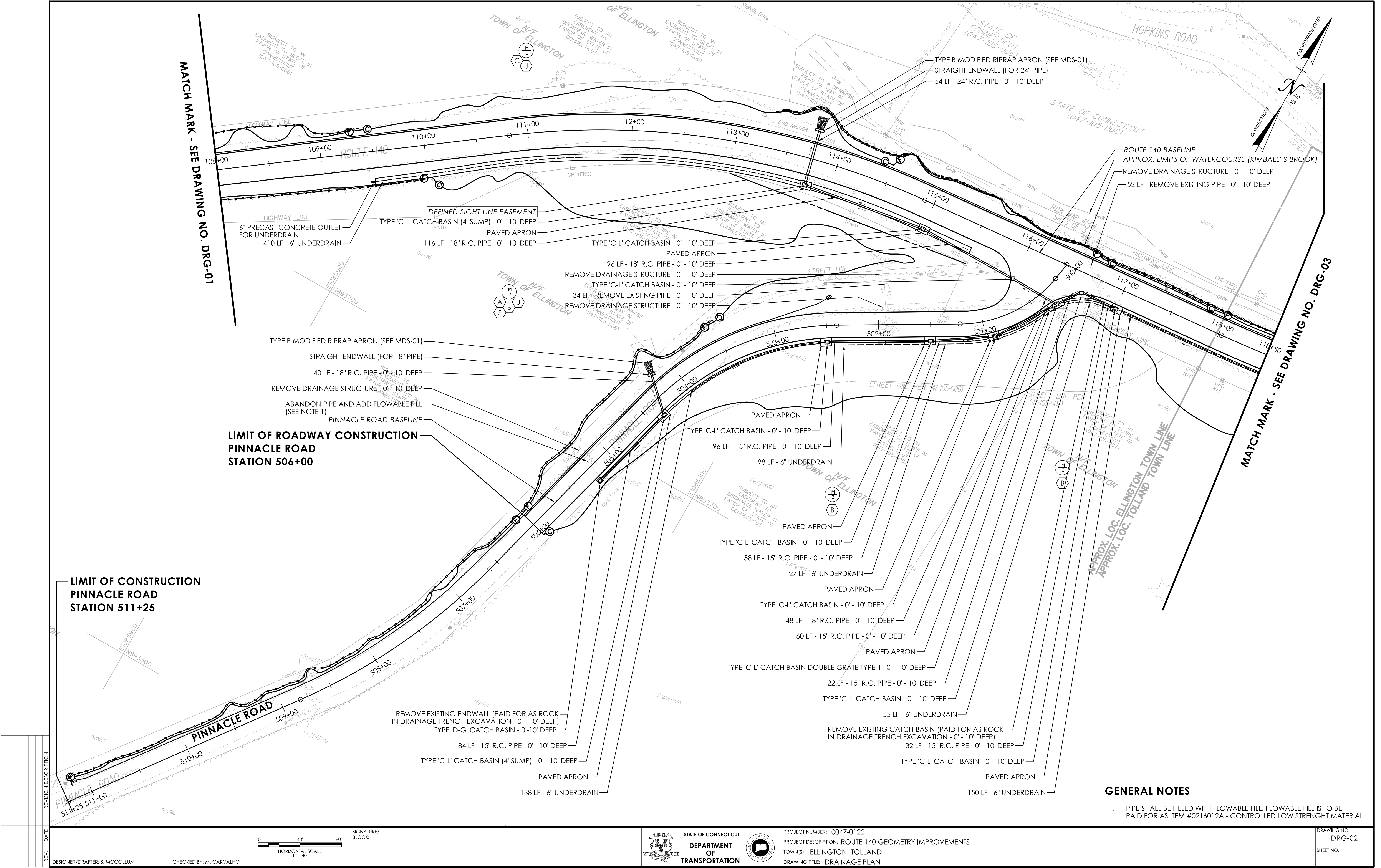
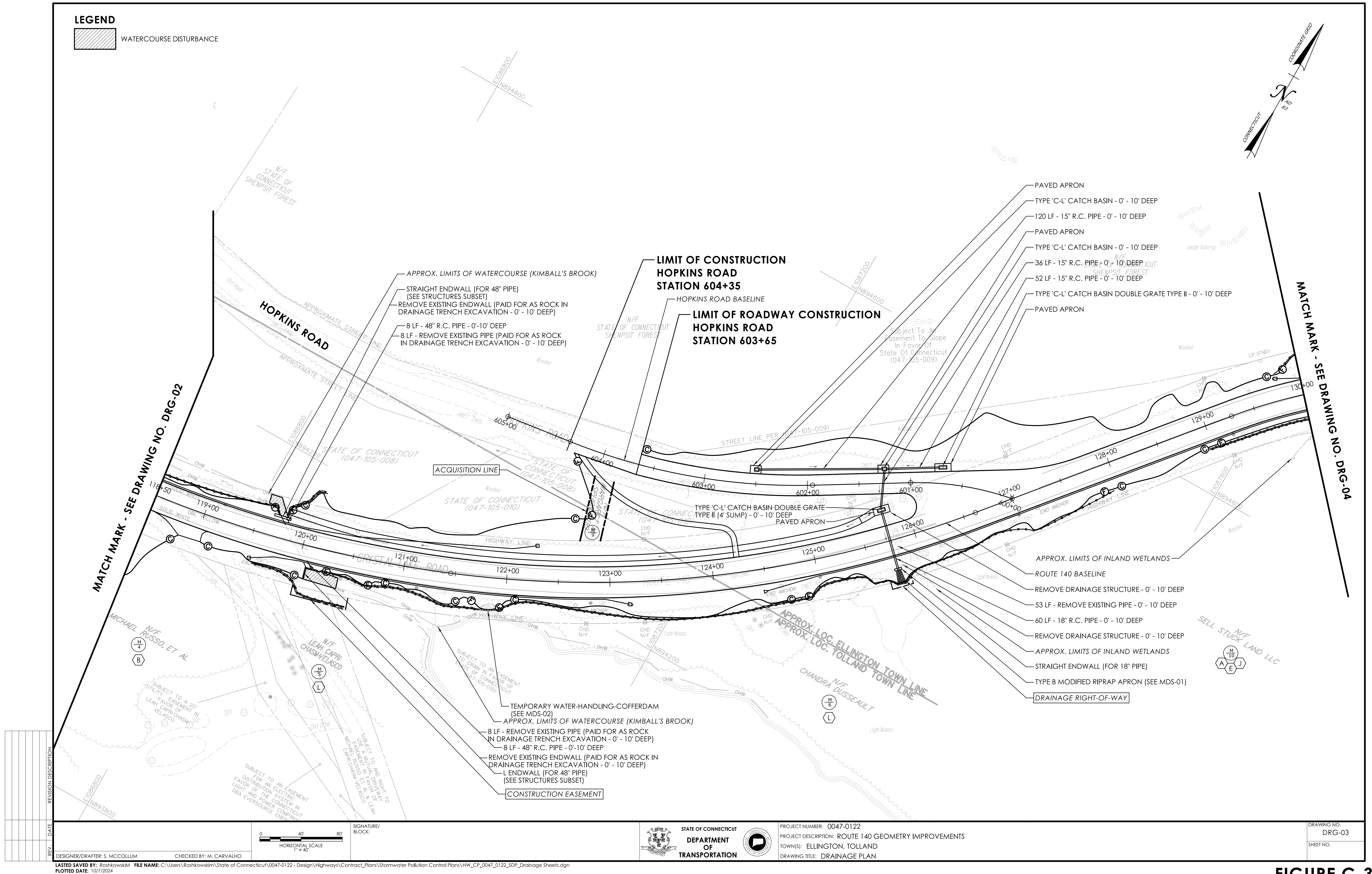


FIGURE C-3



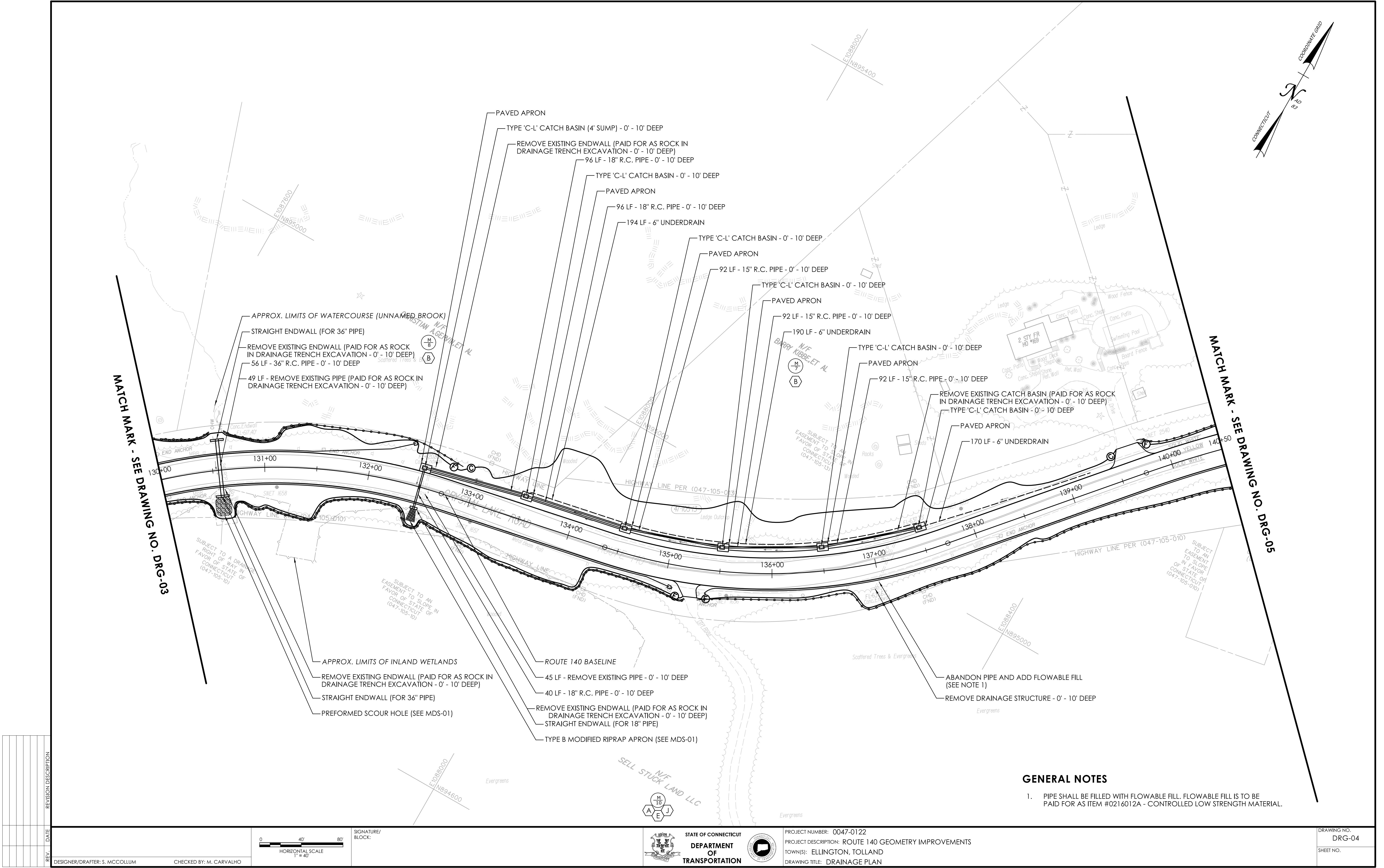
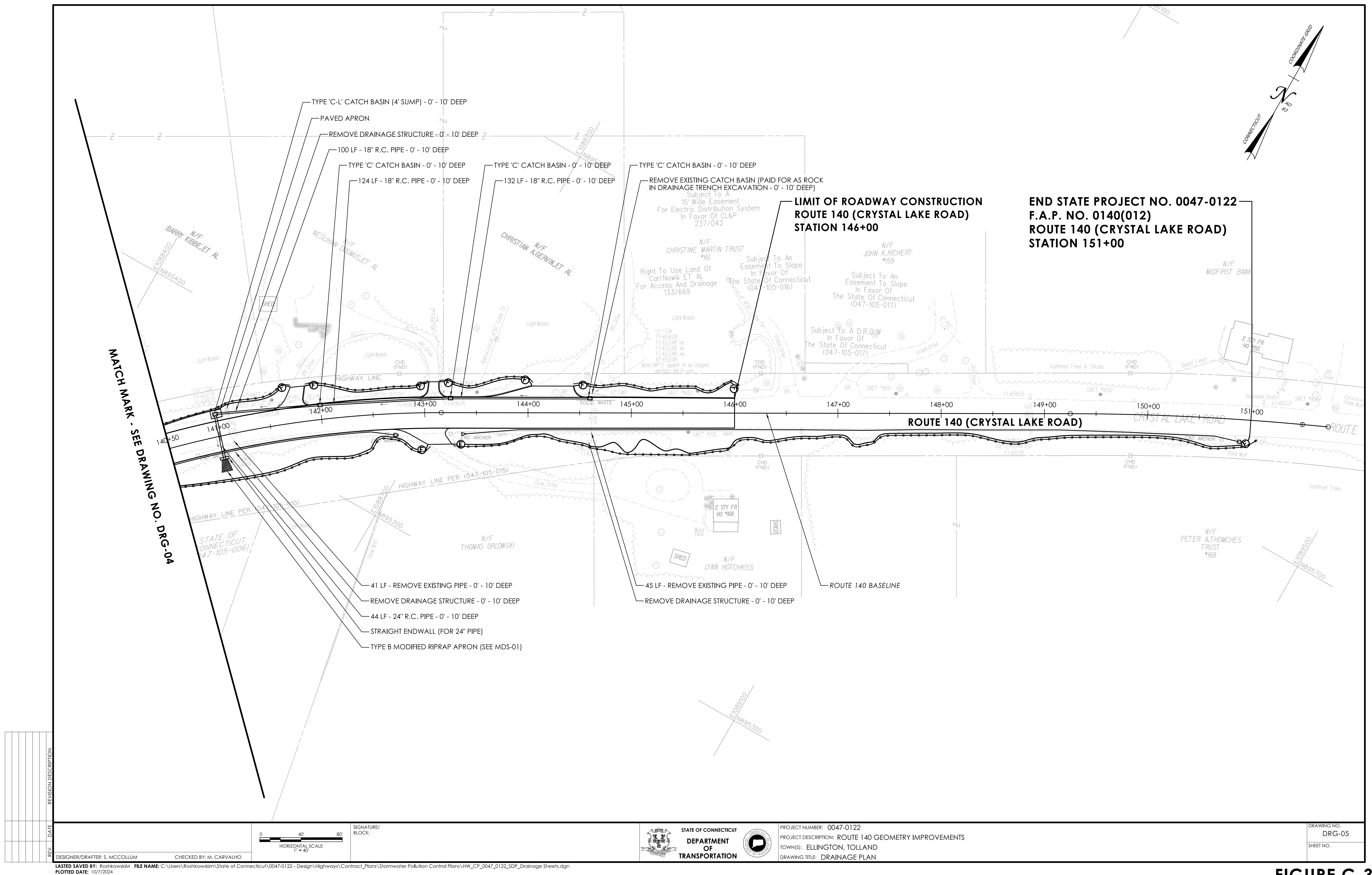


FIGURE C-3



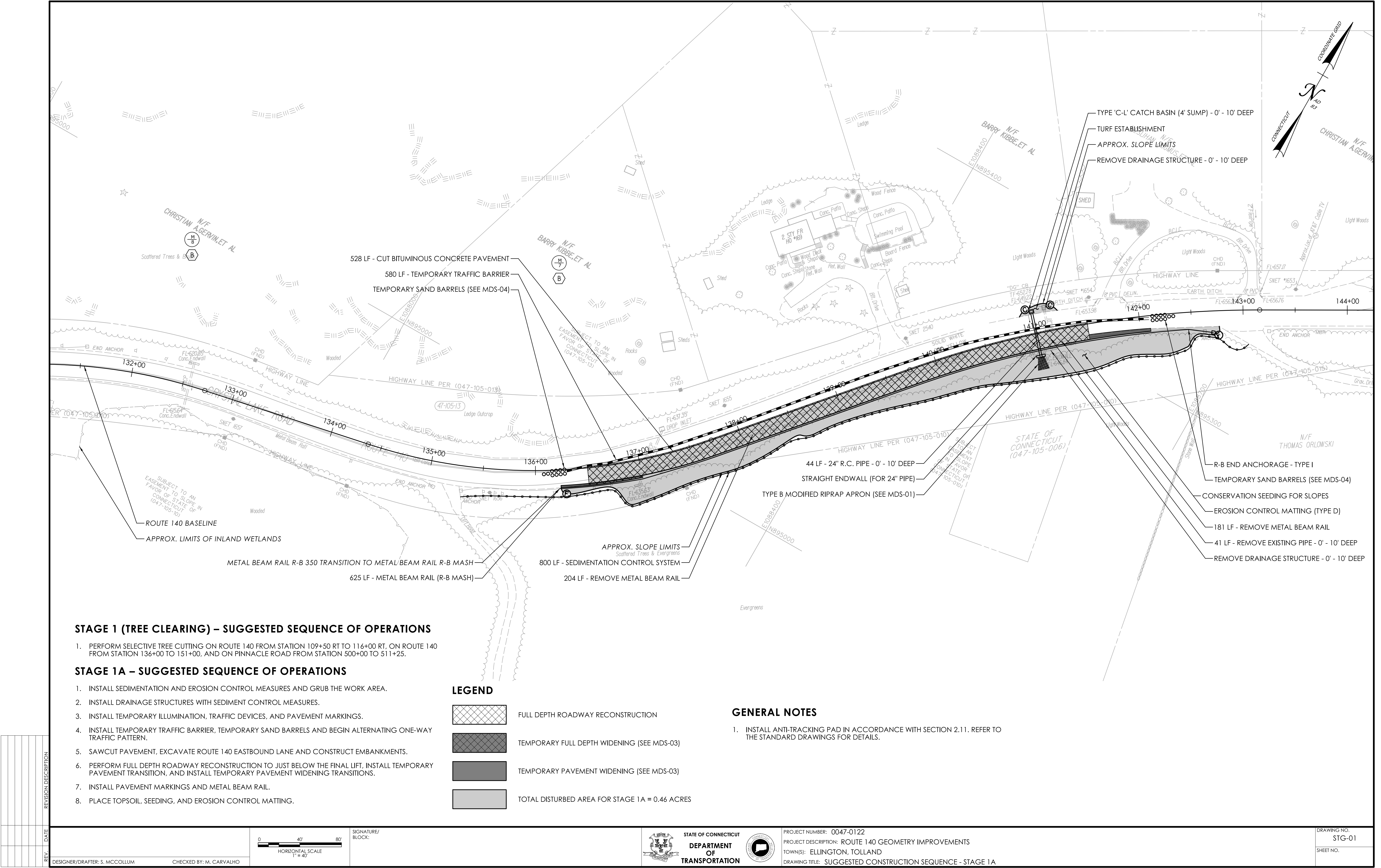
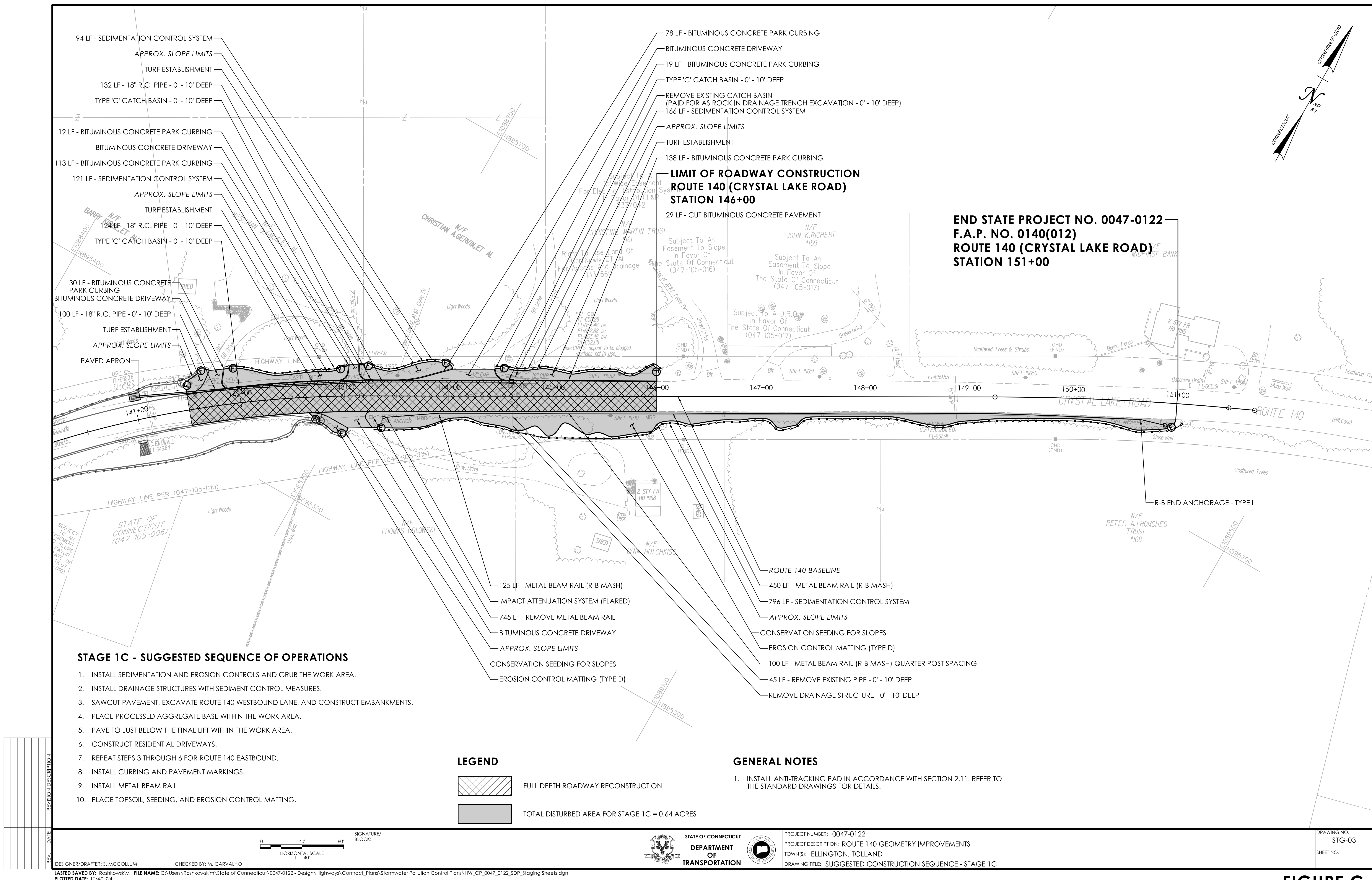


FIGURE C-4



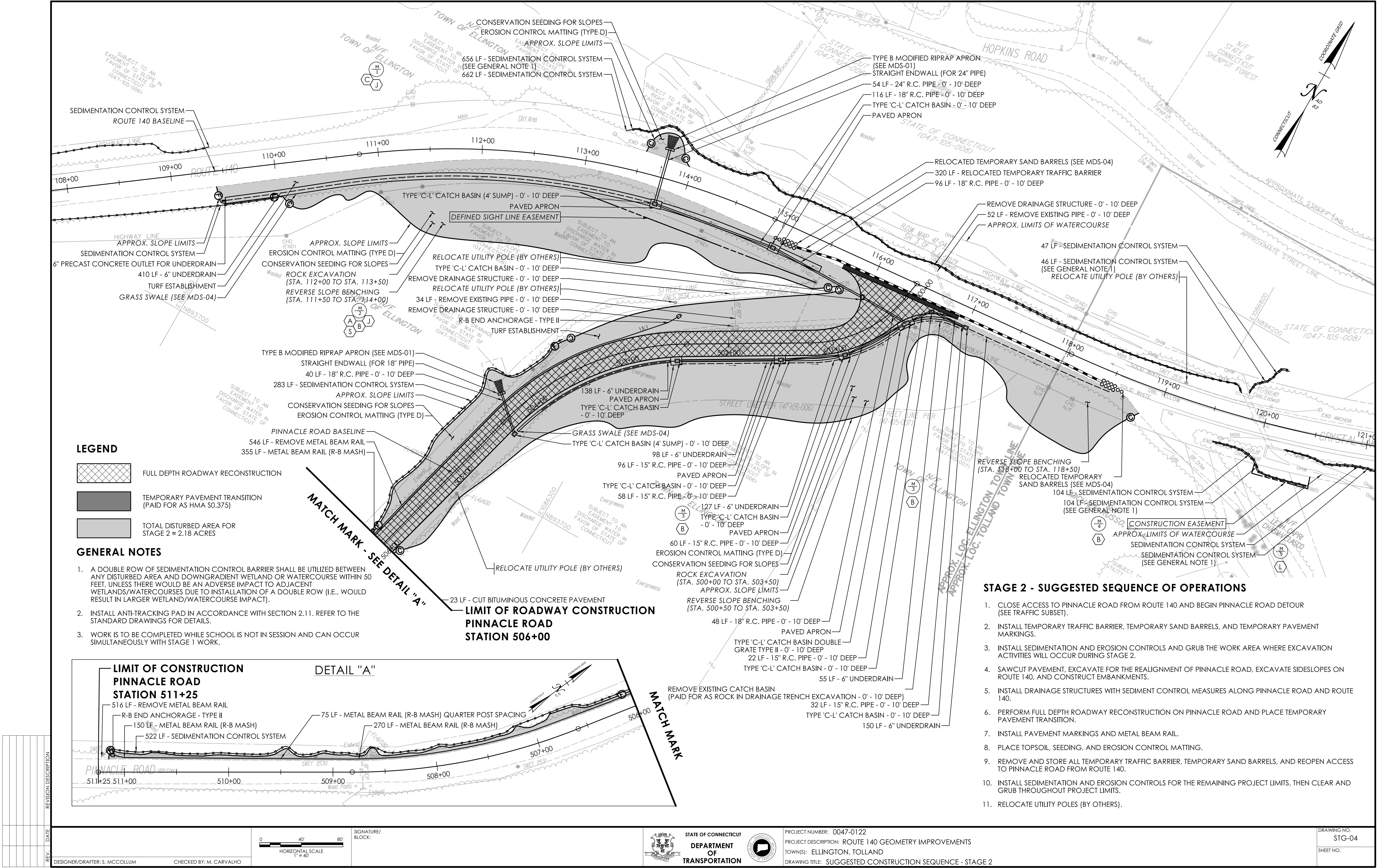


FIGURE C-4

STAGE 3A - SUGGESTED SEQUENCE OF OPERATIONS

- 1. INSTALL DRAINAGE STRUCTURES WITH SEDIMENT CONTROL MEASURES.
- 2. INSTALL TEMPORARY ILLUMINATION, TRAFFIC DEVICES, AND PAVEMENT MARKINGS.
- 3. INSTALL TEMPORARY TRAFFIC BARRIER, TEMPORARY SAND BARRELS AND BEGIN ALTERNATING ONE-WAY TRAFFIC PATTERN.
- 4. SAWCUT PAVEMENT, EXCAVATE ROUTE 140 EASTBOUND LANE, AND CONSTRUCT EMBANKMENTS.
- 5. PERFORM FULL DEPTH ROADWAY RECONSTRUCTION TO JUST BELOW THE FINAL LIFT AND INSTALL TEMPORARY PAVEMENT TRANSITION.
- 6. INSTALL PAVEMENT MARKINGS.
- 7. PLACE TOPSOIL, SEEDING, AND EROSION CONTROL MATTING.

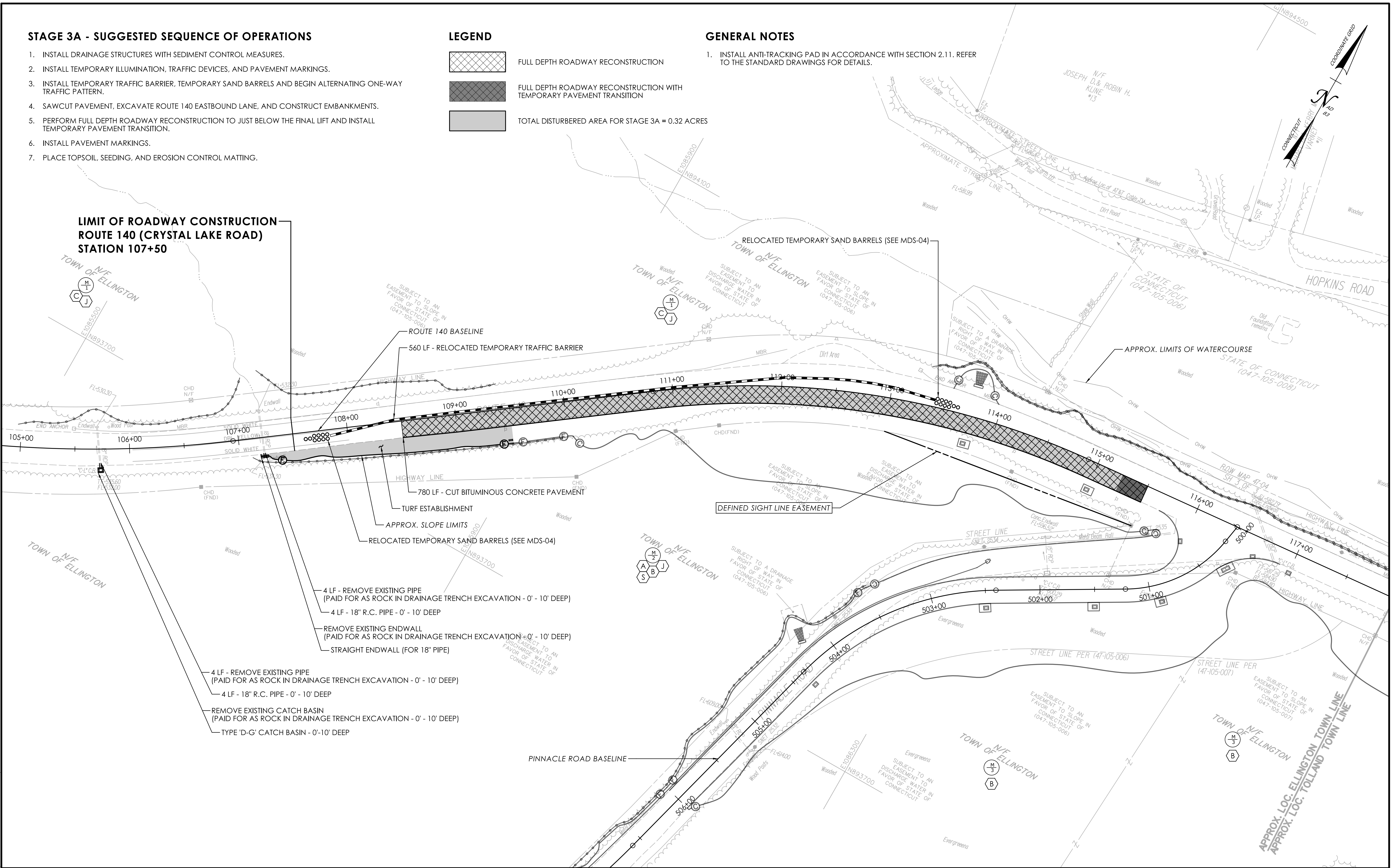
LEGEND

- FULL DEPTH ROADWAY RECONSTRUCTION
- FULL DEPTH ROADWAY RECONSTRUCTION WITH TEMPORARY PAVEMENT TRANSITION
- TOTAL DISTURBED AREA FOR STAGE 3A = 0.32 ACRES

GENERAL NOTES

- 1. INSTALL ANTI-TRACKING PAD IN ACCORDANCE WITH SECTION 2.11. REFER TO THE STANDARD DRAWINGS FOR DETAILS.

LIMIT OF ROADWAY CONSTRUCTION
ROUTE 140 (CRYSTAL LAKE ROAD)
STATION 107+50



REV.	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: S. MCCOLLUM
CHECKED BY: M. CARVALHO

0 40' 80'
HORIZONTAL SCALE
1" = 40'

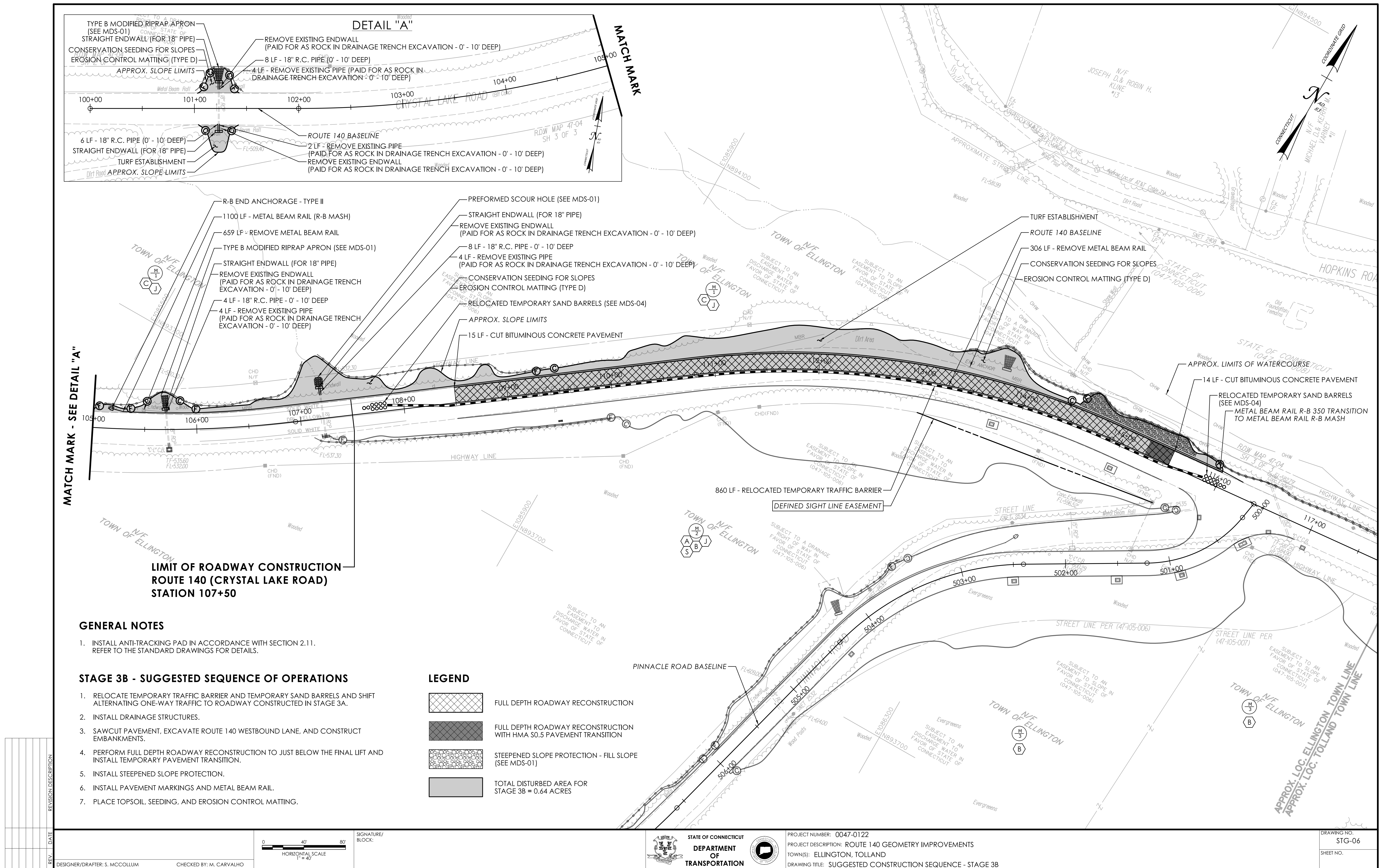
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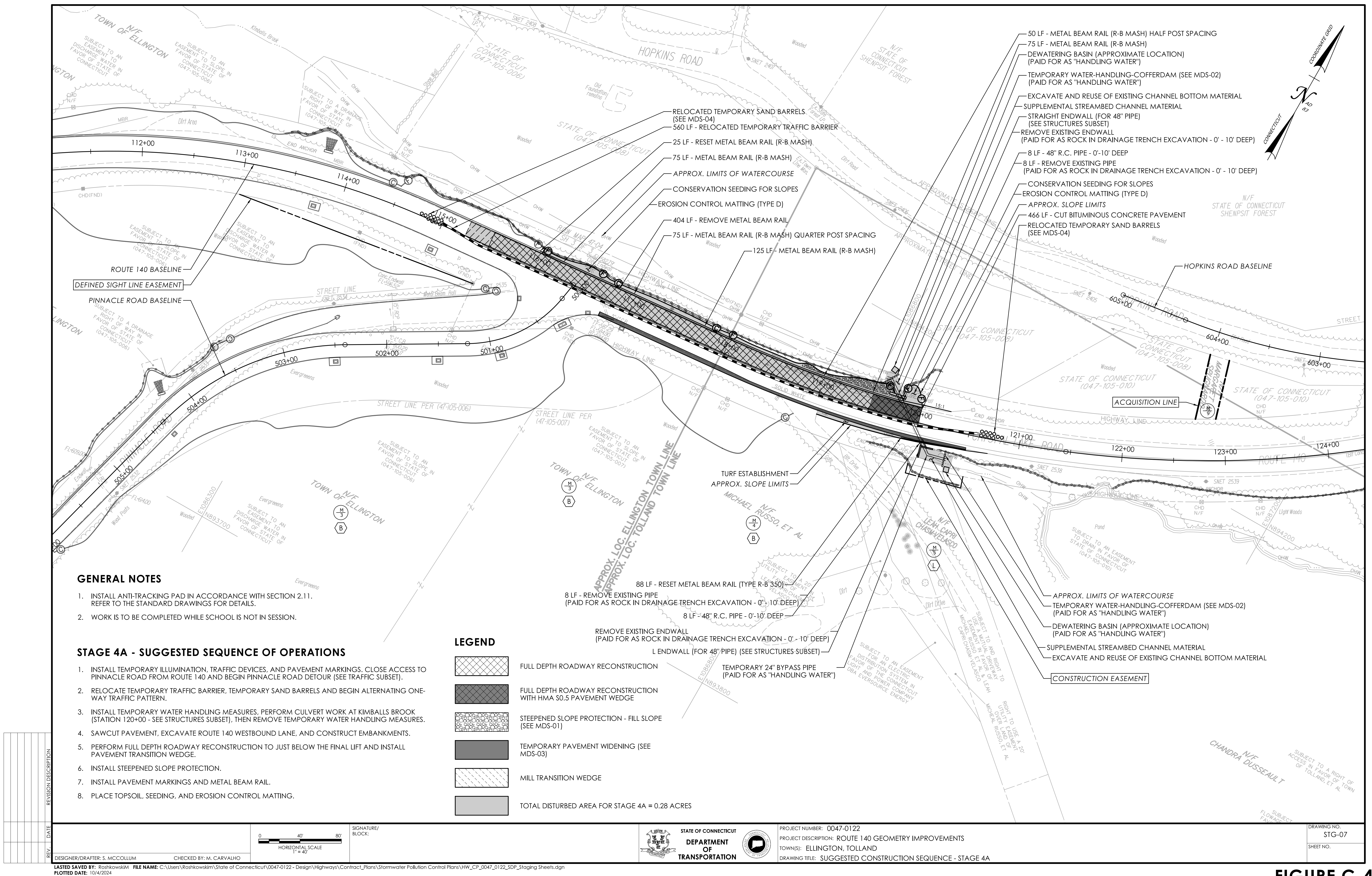
STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION

PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: SUGGESTED CONSTRUCTION SEQUENCE - STAGE 3A

DRAWING NO.
STG-05
SHEET NO.

FIGURE C-4





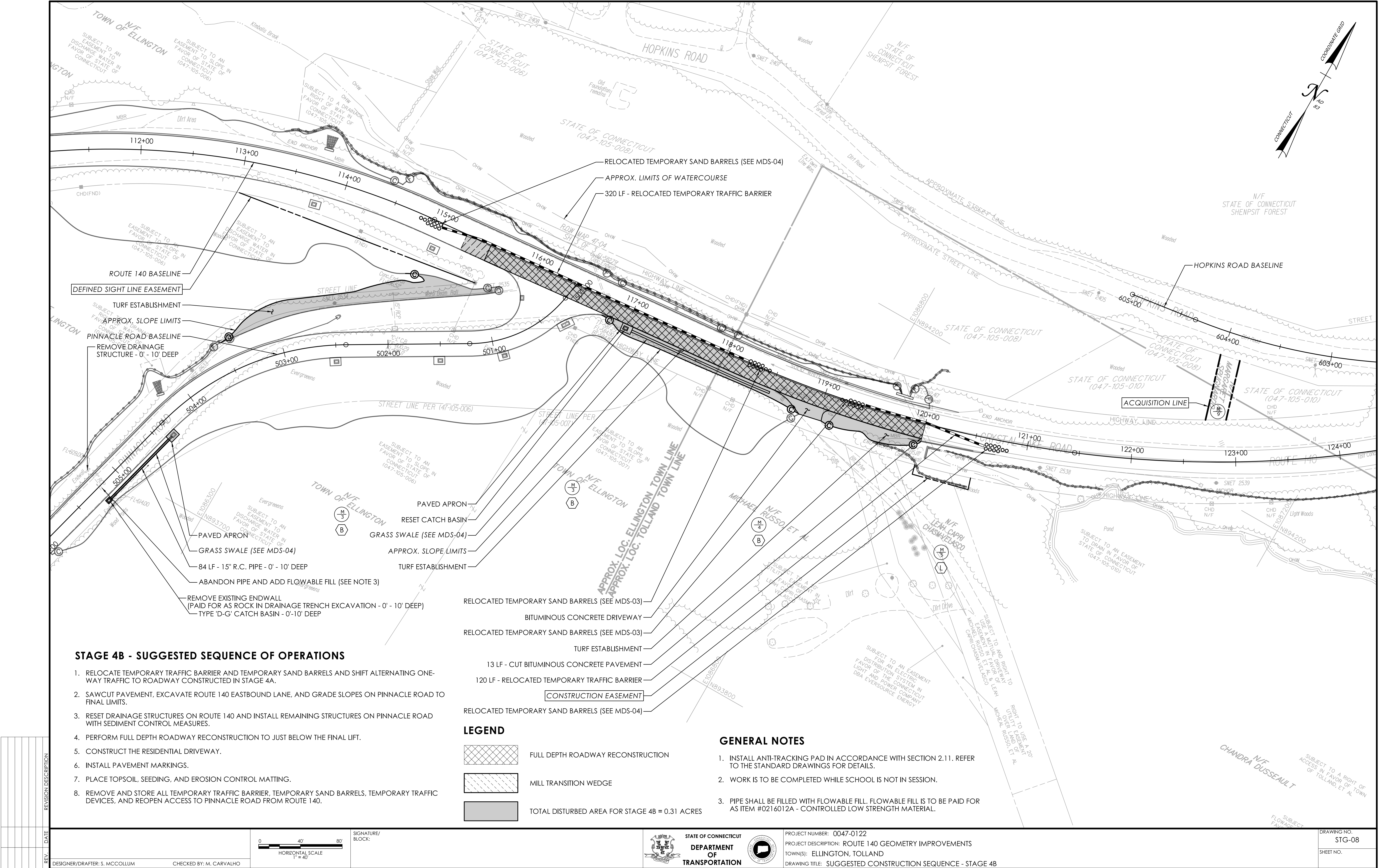


FIGURE C-4

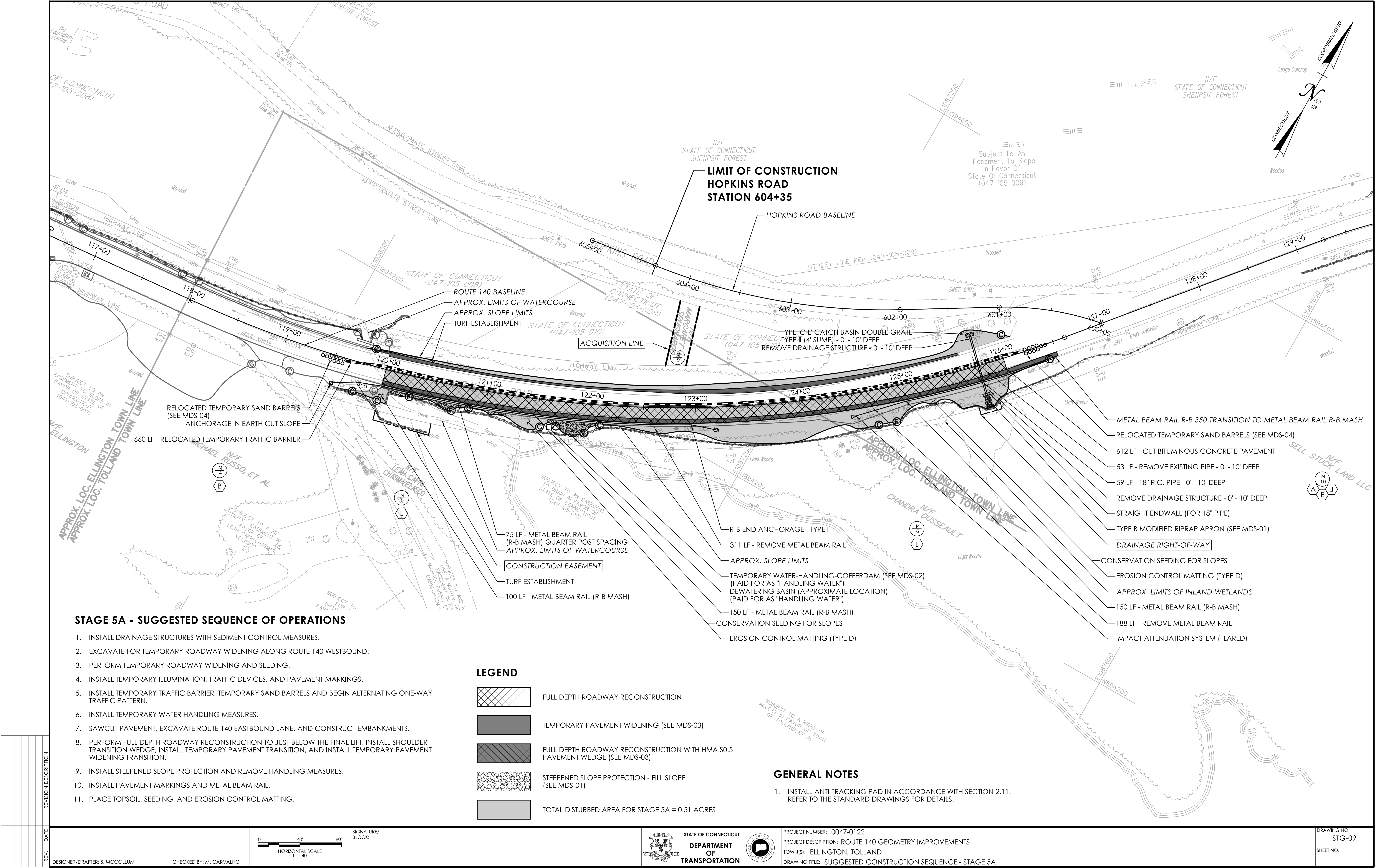
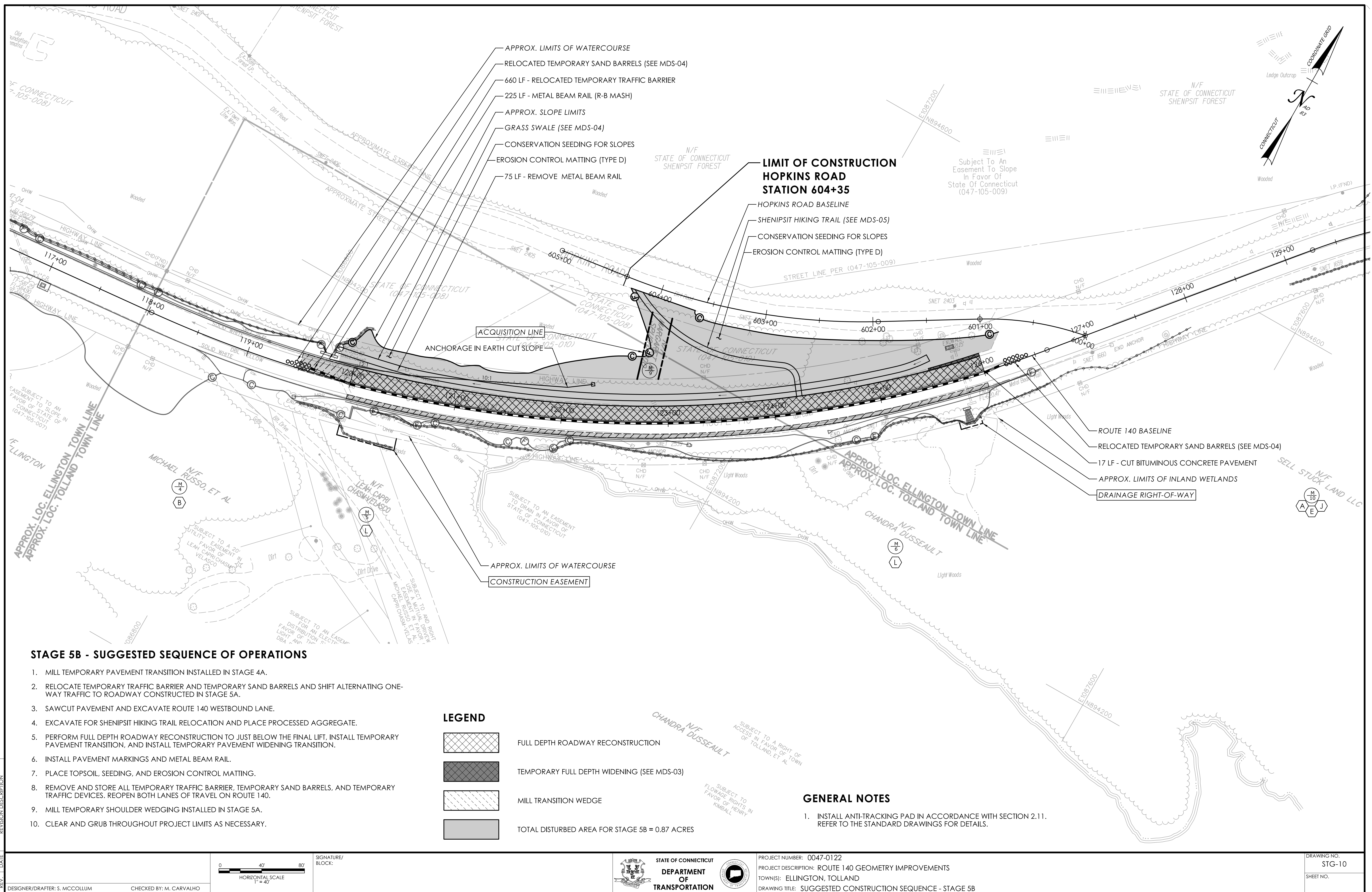


FIGURE C-4



1. INSTALL TEMPORARY WATER HANDLING MEASURES AND PERFORM CULVERT WORK AT UNNAMED BROOK.
2. INSTALL DRAINAGE STRUCTURES WITH SEDIMENT CONTROL MEASURES.
3. EXCAVATE FOR TEMPORARY ROADWAY WIDENING ALONG ROUTE 140 WESTBOUND.
4. PERFORM TEMPORARY ROADWAY WIDENING AND SEEDING.
5. INSTALL TEMPORARY ILLUMINATION, TRAFFIC DEVICES, AND PAVEMENT MARKINGS.
6. INSTALL TEMPORARY TRAFFIC BARRIER, TEMPORARY SAND BARRELS AND BEGIN ALTERNATING ONE-WAY TRAFFIC PATTERN.
7. SAWCUT PAVEMENT, EXCAVATE ROUTE 140 EASTBOUND LANE, REMOVE TEMPORARY WATER HANDLING MEASURES, AND CONSTRUCT EMBANKMENTS.
8. PERFORM FULL DEPTH ROADWAY RECONSTRUCTION TO JUST BELOW THE FINAL LIFT AND INSTALL TEMPORARY PAVEMENT WIDENING TRANSITION.
9. INSTALL PAVEMENT MARKINGS AND METAL BEAM RAIL.
10. PLACE TOPSOIL, SEEDING, AND EROSION CONTROL MATTING.

1. INSTALL ANTI-TRACKING PAD IN ACCORDANCE WITH SECTION 2.11. REFER TO THE STANDARD DRAWINGS FOR DETAILS.

	FULL DEPTH ROADWAY RECONSTRUCTION
	TEMPORARY FULL DEPTH WIDENING (SEE MDS-03)
	TEMPORARY PAVEMENT WIDENING (SEE MDS-03)
	TOTAL DISTURBED AREA FOR STAGE 6A = 0.48 ACRES



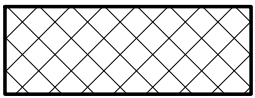
STAGE 6B - SUGGESTED SEQUENCE OF OPERATIONS

1. RELOCATE TEMPORARY TRAFFIC BARRIER, TEMPORARY SAND BARRELS, AND SHIFT ALTERNATING ONE-WAY TRAFFIC TO ROADWAY CONSTRUCTED IN STAGE 6A.
2. SAWCUT PAVEMENT, EXCAVATE ROUTE 140 WESTBOUND LANE, AND CONSTRUCT EMBANKMENTS.
3. INSTALL DRAINAGE STRUCTURES WITH SEDIMENT CONTROL MEASURES.
4. PERFORM FULL DEPTH ROADWAY RECONSTRUCTION TO JUST BELOW THE FINAL LIFT.
5. INSTALL PAVEMENT MARKINGS AND METAL BEAM RAIL.
6. PLACE TOPSOIL, SEEDING, AND EROSION CONTROL MATTING.

GENERAL NOTES

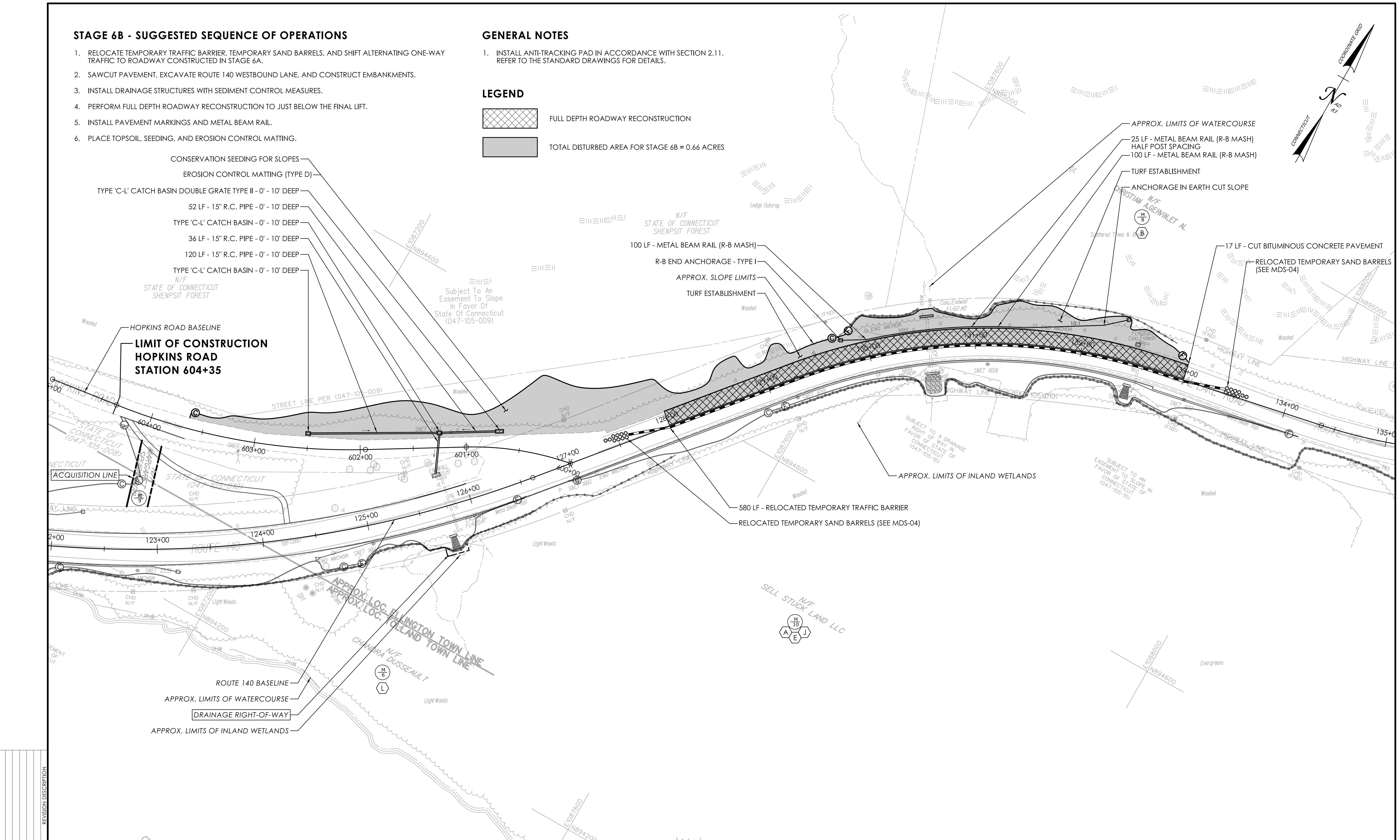
1. INSTALL ANTI-TRACKING PAD IN ACCORDANCE WITH SECTION 2.11. REFER TO THE STANDARD DRAWINGS FOR DETAILS.

LEGEND

- 

FULL DEPTH ROADWAY RECONSTRUCTION
- 

TOTAL DISTURBED AREA FOR STAGE 6B = 0.66 ACRES



REVISION DESCRIPTION			
REV.	DATE	BY	DESCRIPTION

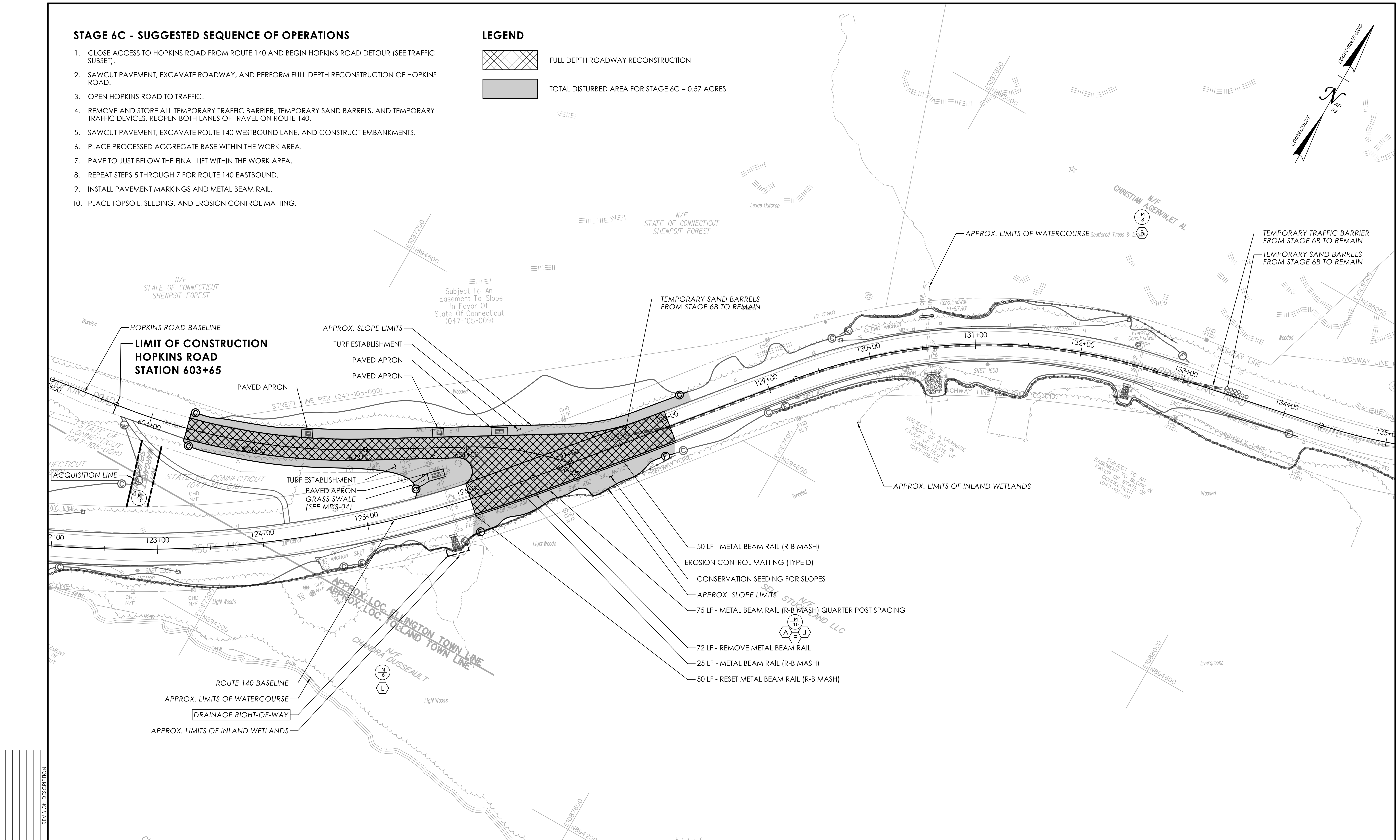
FIGURE C-4

STAGE 6C - SUGGESTED SEQUENCE OF OPERATIONS

1. CLOSE ACCESS TO HOPKINS ROAD FROM ROUTE 140 AND BEGIN HOPKINS ROAD DETOUR (SEE TRAFFIC SUBSET).
2. SAWCUT PAVEMENT, EXCAVATE ROADWAY, AND PERFORM FULL DEPTH RECONSTRUCTION OF HOPKINS ROAD.
3. OPEN HOPKINS ROAD TO TRAFFIC.
4. REMOVE AND STORE ALL TEMPORARY TRAFFIC BARRIER, TEMPORARY SAND BARRELS, AND TEMPORARY TRAFFIC DEVICES. REOPEN BOTH LANES OF TRAVEL ON ROUTE 140.
5. SAWCUT PAVEMENT, EXCAVATE ROUTE 140 WESTBOUND LANE, AND CONSTRUCT EMBANKMENTS.
6. PLACE PROCESSED AGGREGATE BASE WITHIN THE WORK AREA.
7. PAVE TO JUST BELOW THE FINAL LIFT WITHIN THE WORK AREA.
8. REPEAT STEPS 5 THROUGH 7 FOR ROUTE 140 EASTBOUND.
9. INSTALL PAVEMENT MARKINGS AND METAL BEAM RAIL.
10. PLACE TOPSOIL, SEEDING, AND EROSION CONTROL MATTING.

LEGEND

- FULL DEPTH ROADWAY RECONSTRUCTION
- TOTAL DISTURBED AREA FOR STAGE 6C = 0.57 ACRES



REVISION DESCRIPTION			
REV	DATE	BY	DESCRIPTION



FIGURE C-4

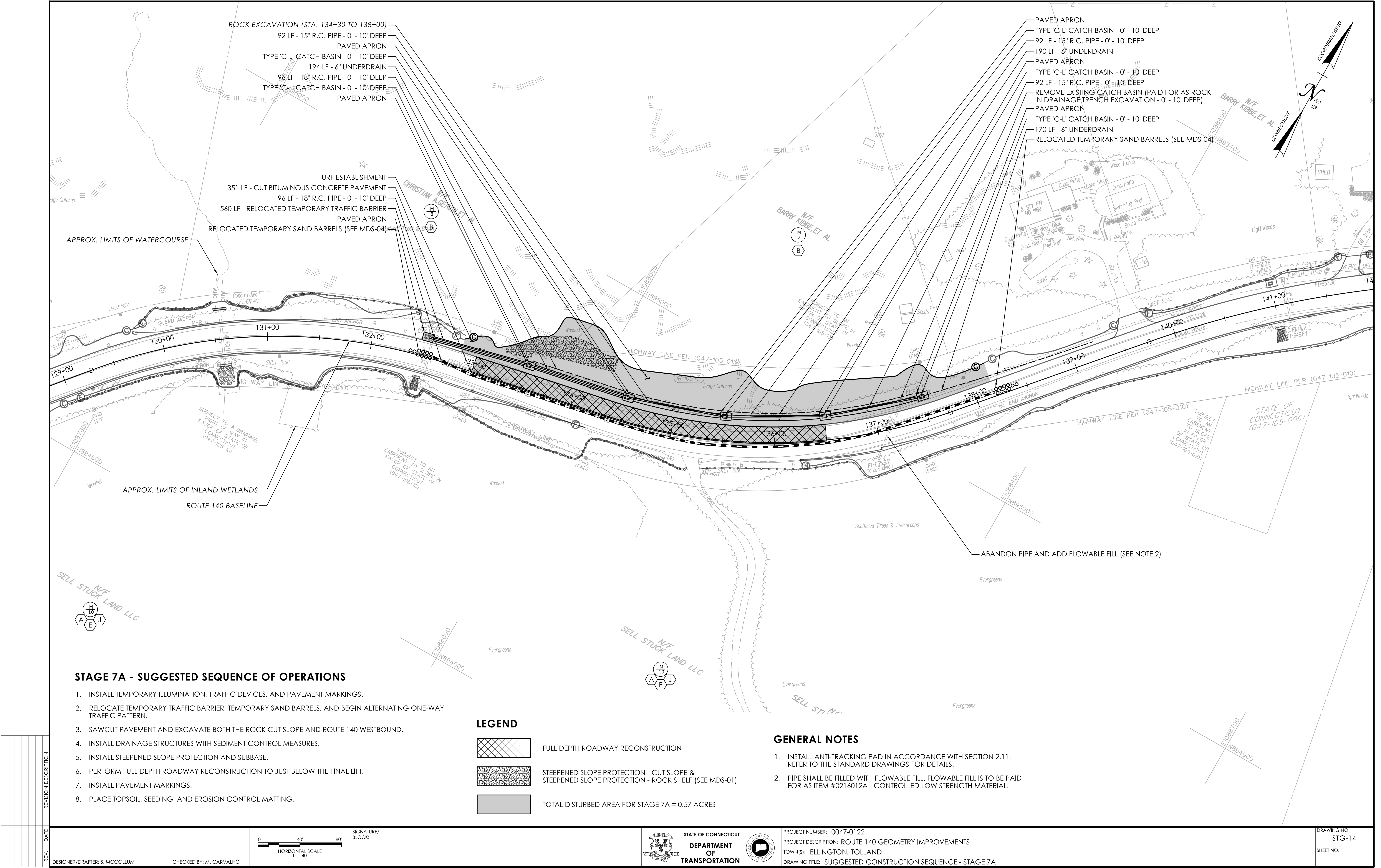


FIGURE C-4

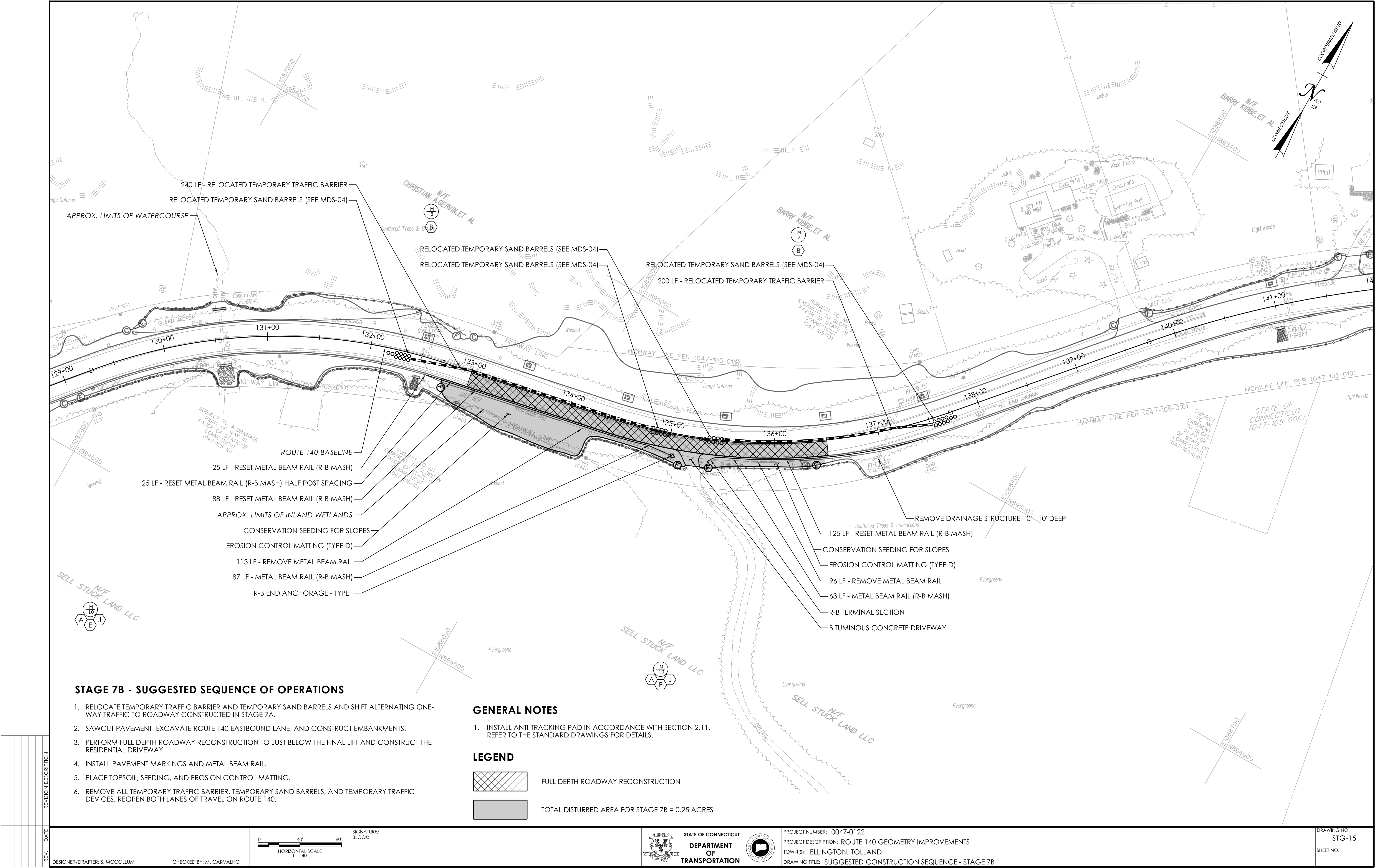
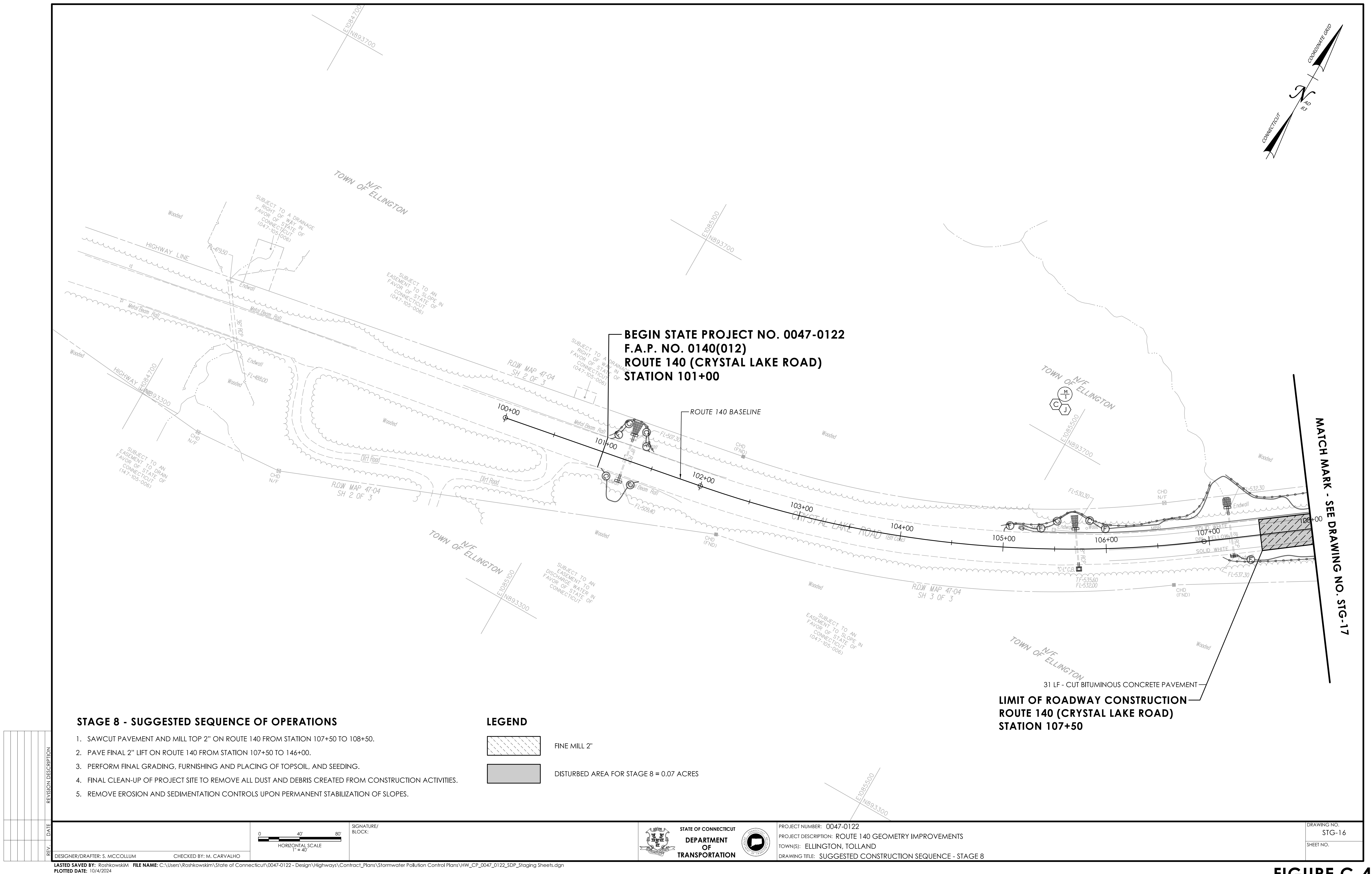


FIGURE C-4



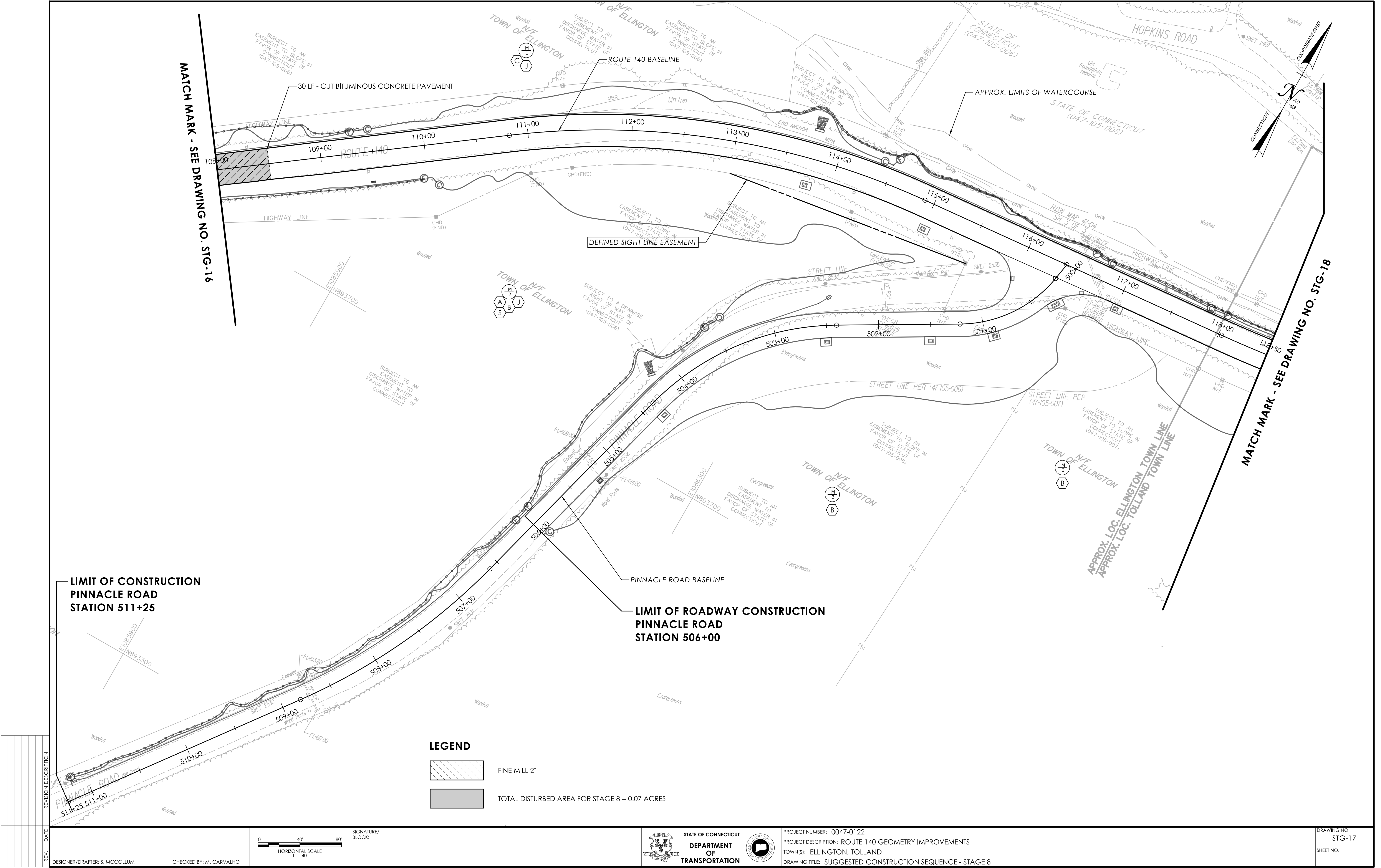


FIGURE C-4

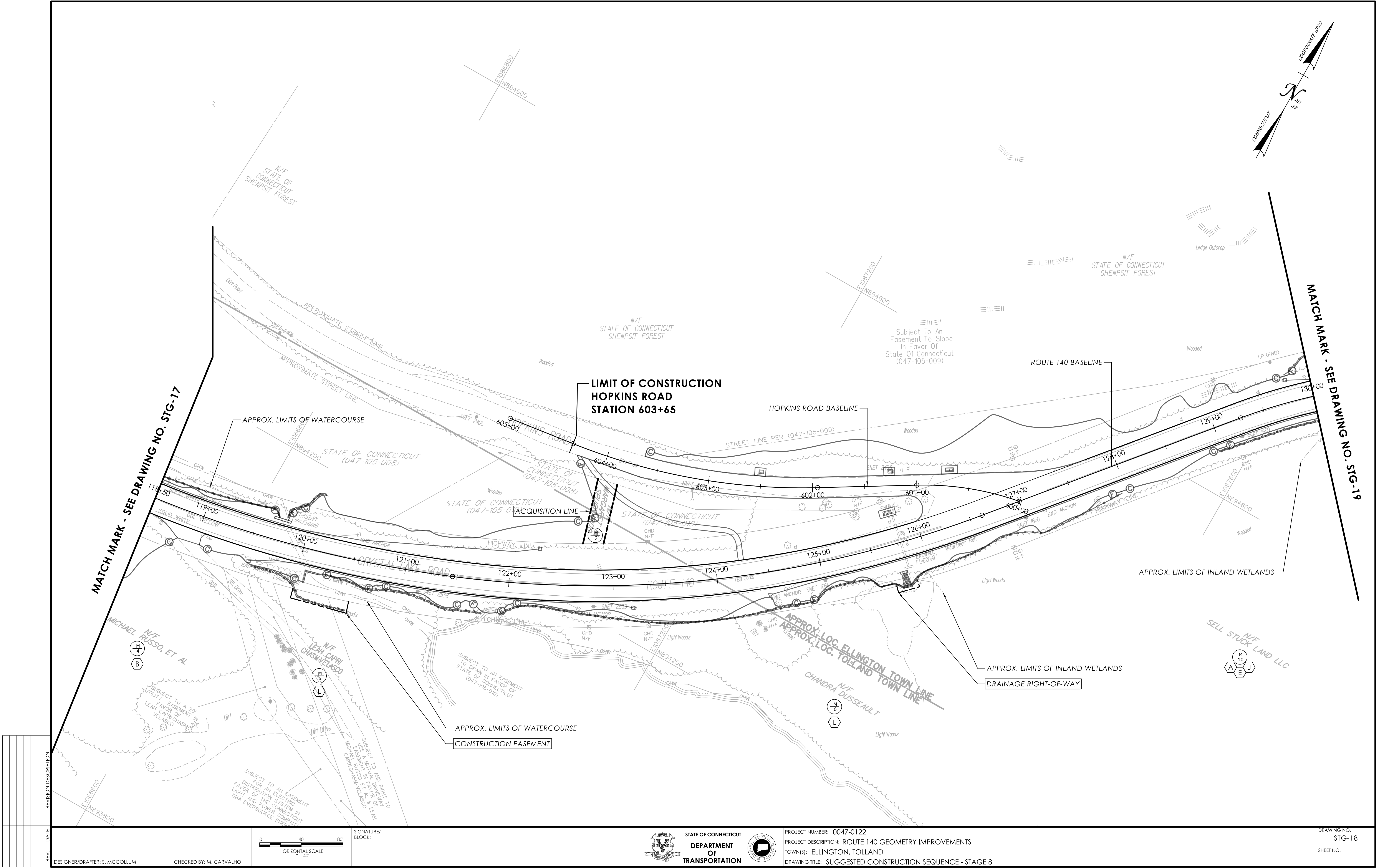
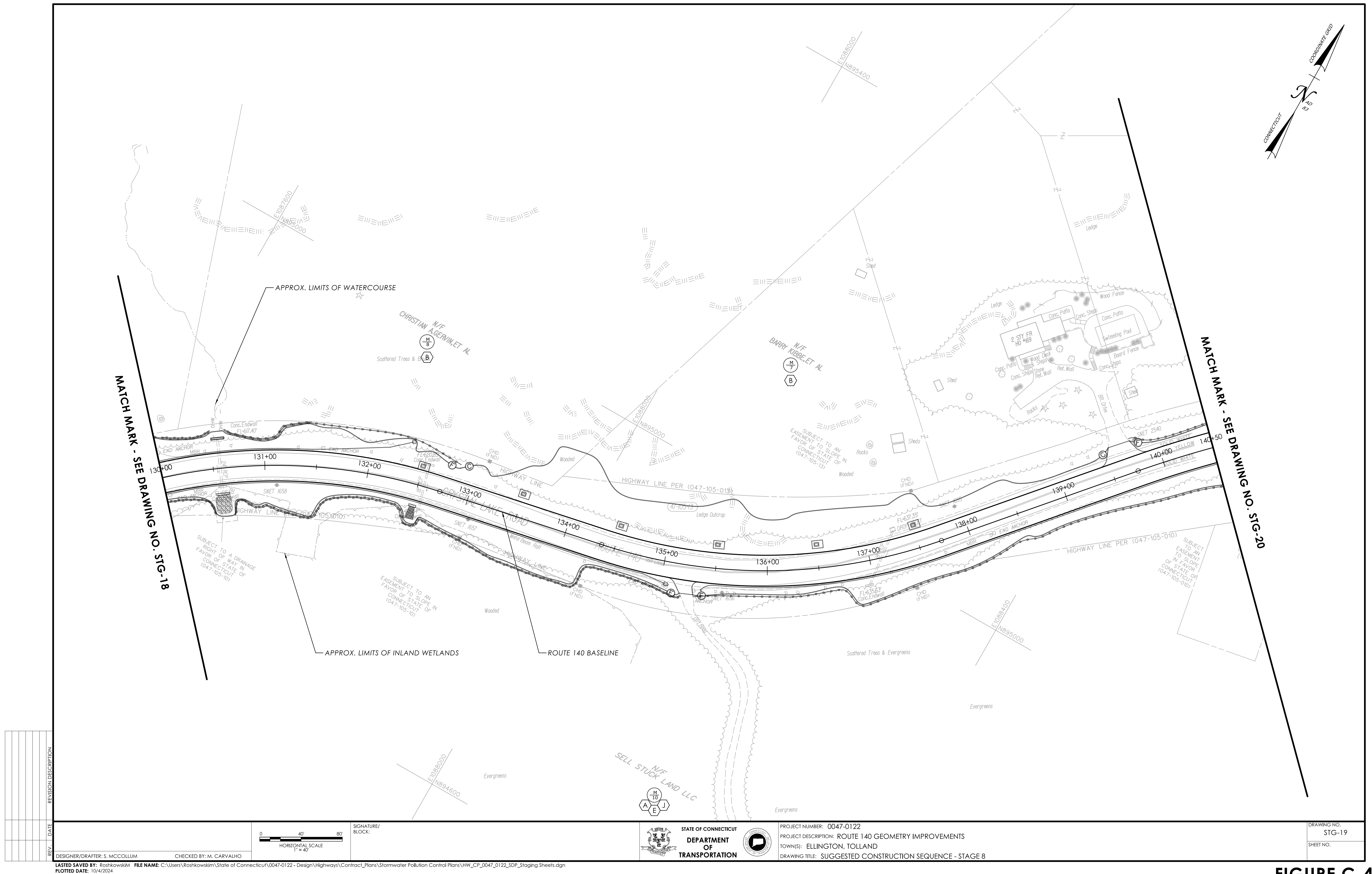


FIGURE C-4



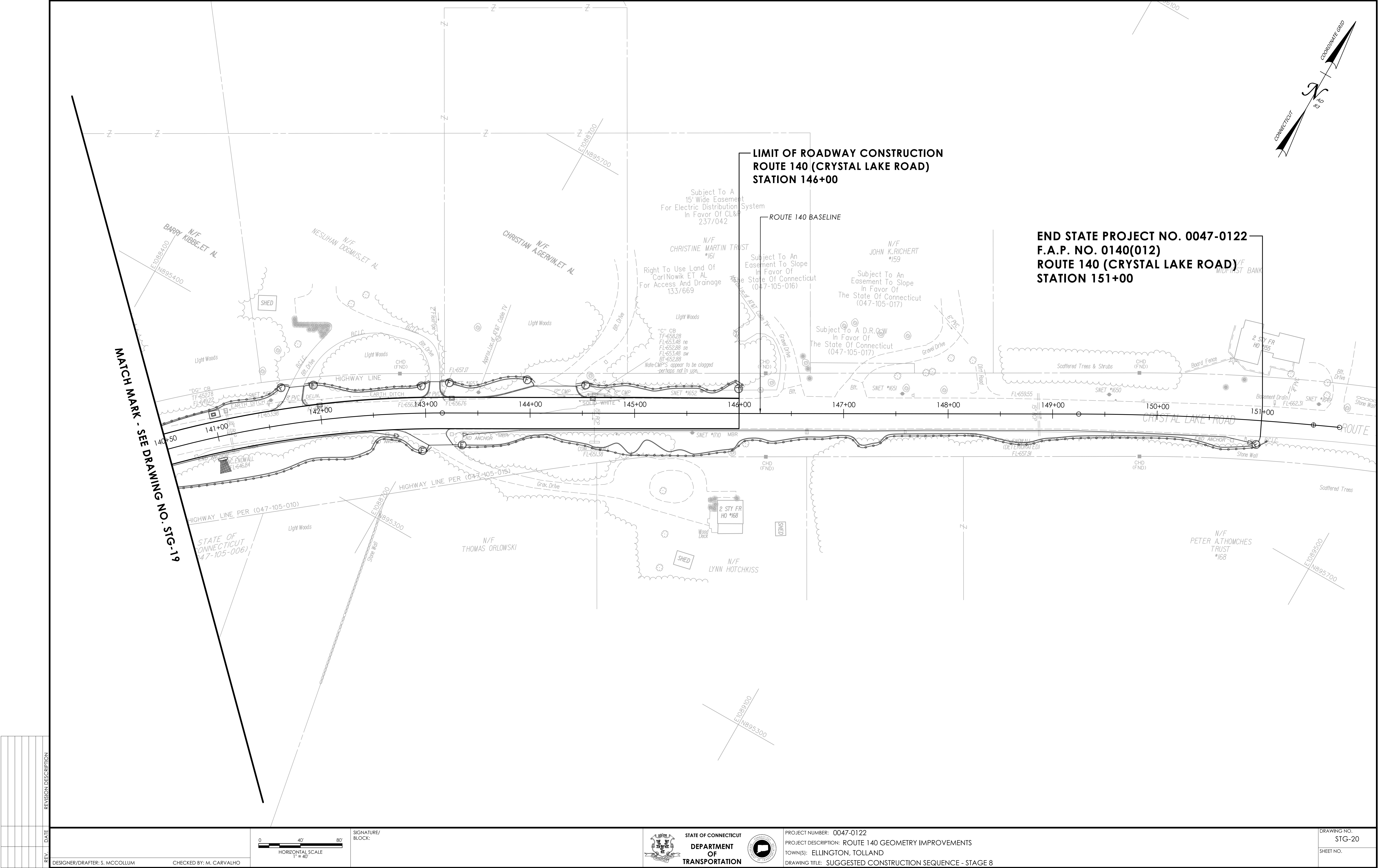
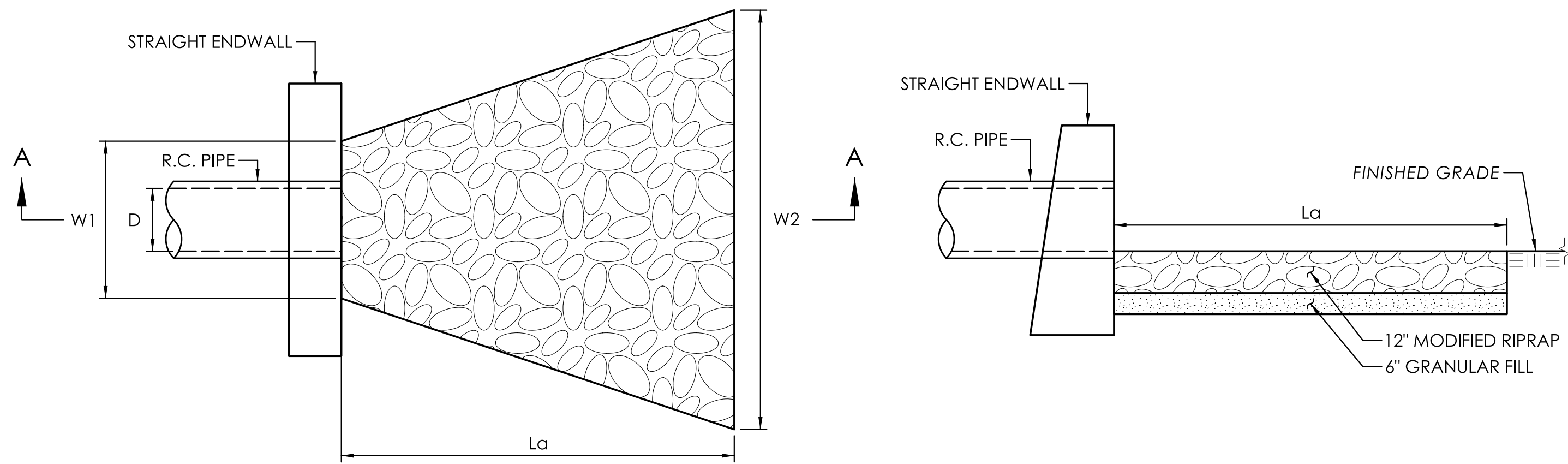


FIGURE C-4

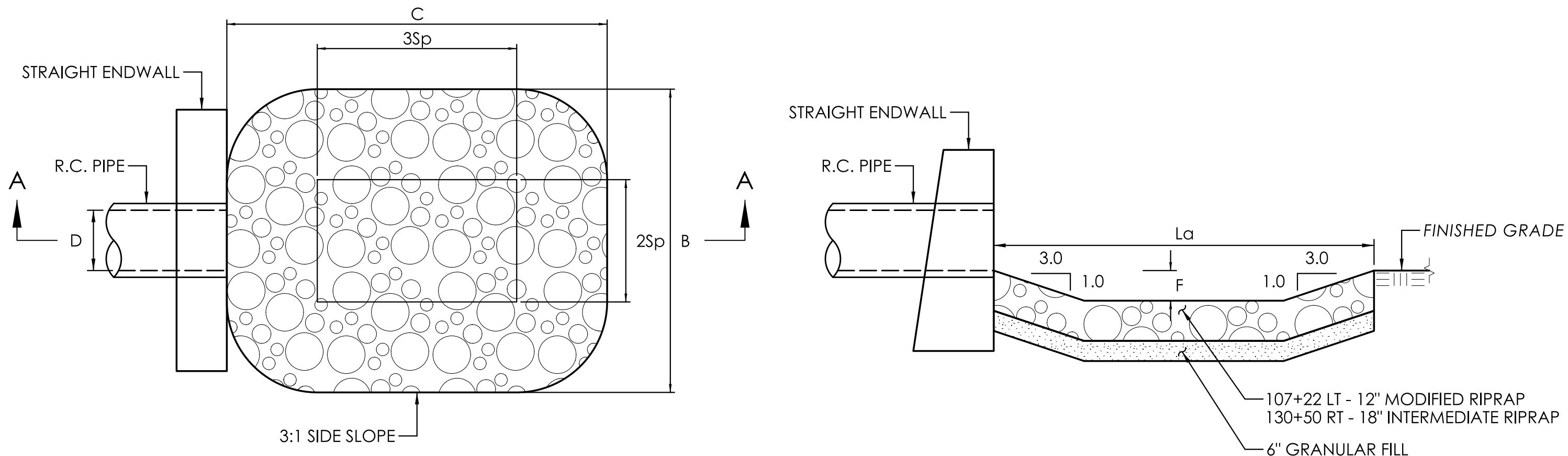


PLAN VIEW

SECTION A-A

LOCATION	STATION	D (INCHES)	La (FT)	W1 (FT)	W2 (FT)
ROUTE 140 BASELINE	101+23 LT	18	12	5	10
ROUTE 140 BASELINE	105+70 LT	18	12	5	7
ROUTE 140 BASELINE	113+75 LT	18	12	6	11
ROUTE 140 BASELINE	125+75 RT	18	12	5	8
ROUTE 140 BASELINE	132+50 RT	18	12	5	9
ROUTE 140 BASELINE	141+00 RT	24	12	6	11
PINNACLE ROAD BASELINE	504+19 RT	18	12	5	8

TYPE B MODIFIED RIPRAP APRON
(NOT TO SCALE)

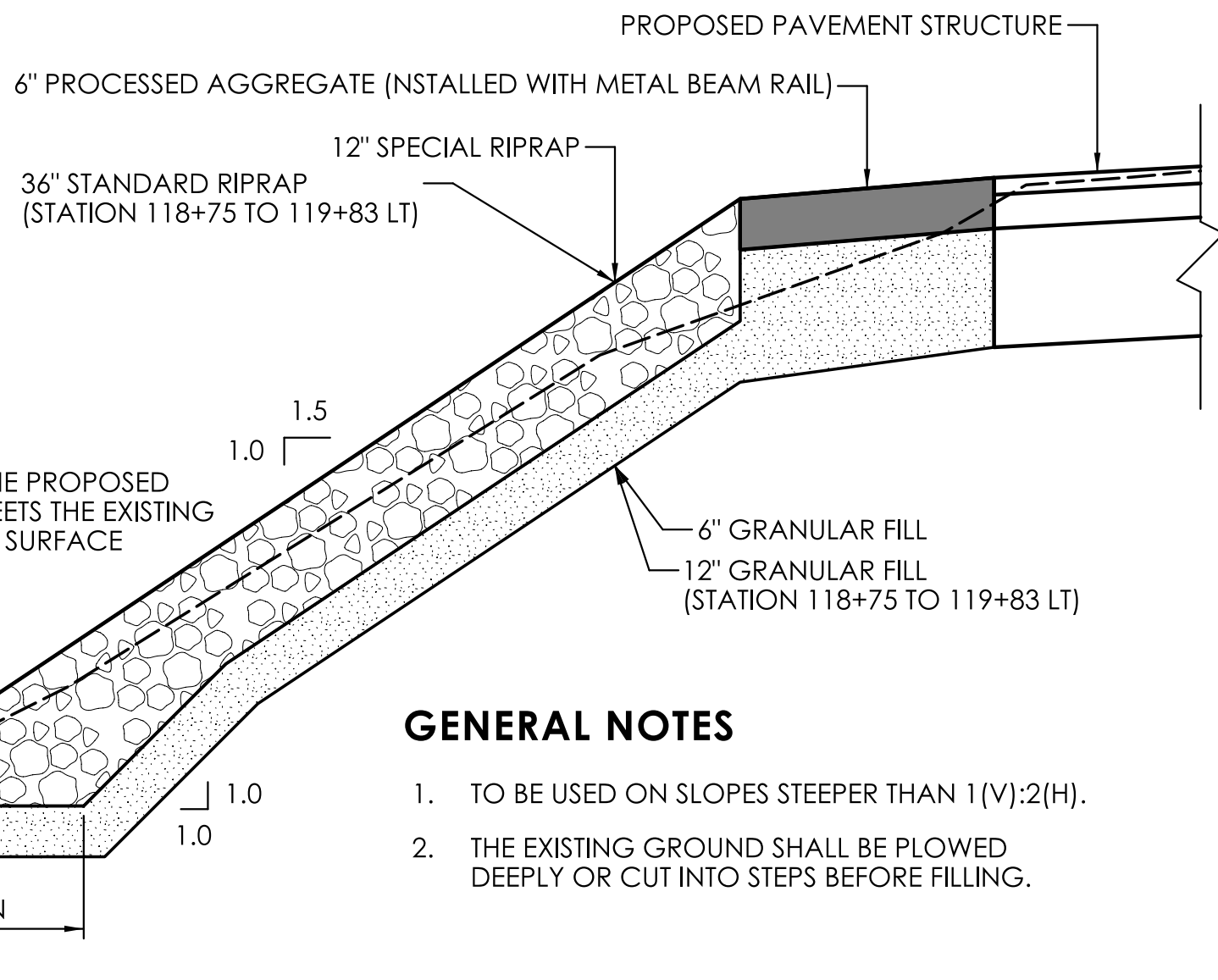


PLAN VIEW

SECTION A-A

LOCATION	STATION	D (INCHES)	F (FT)	C (FT)	B (FT)	Sp (FT)
ROUTE 140 BASELINE	107+22 LT	18	0.75	9	8	1.50
ROUTE 140 BASELINE	130+50 RT	36	1.50	18	15	3.00

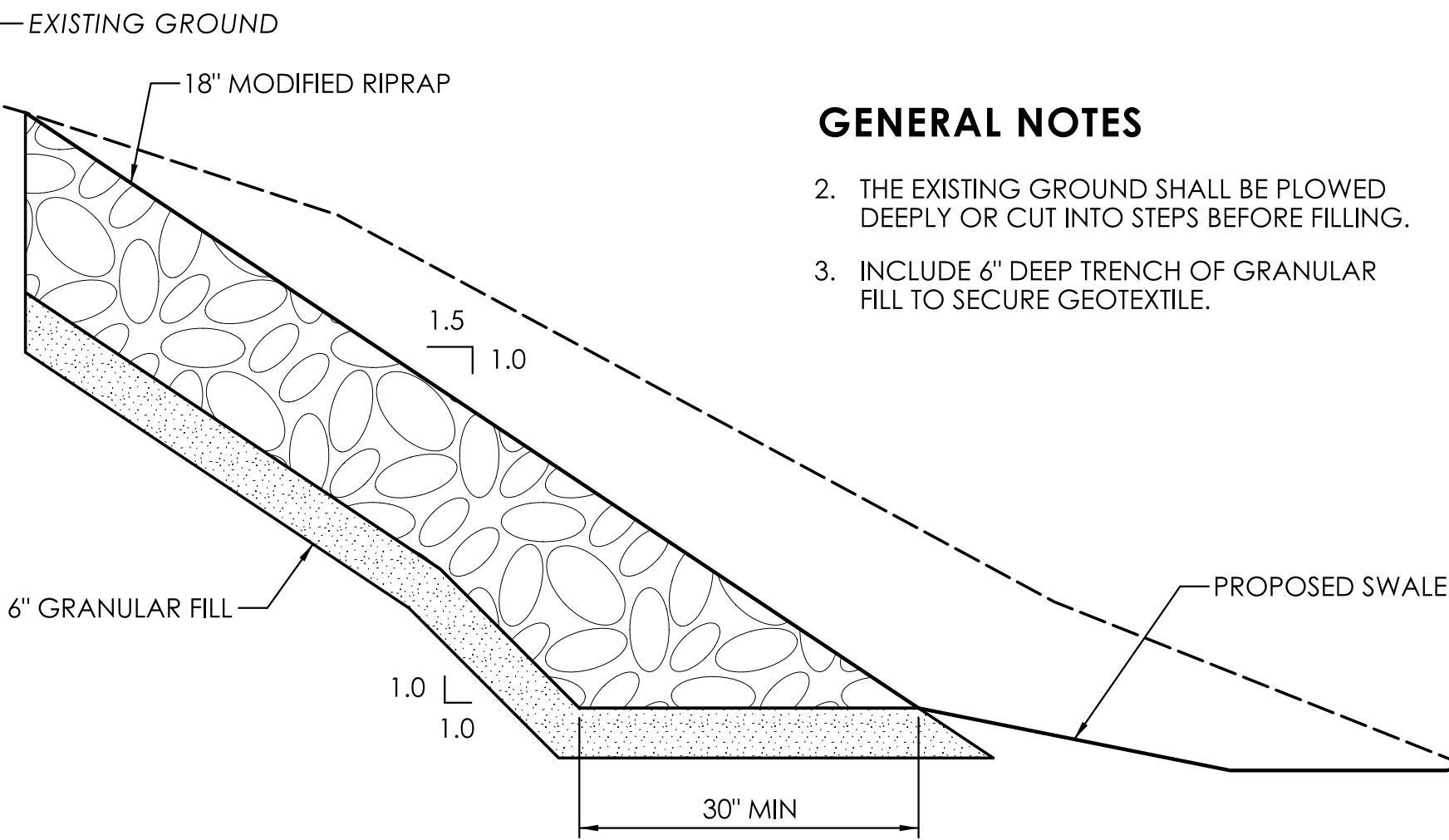
TYPE I PREFORMED SCOUR HOLE
(NOT TO SCALE)



- GENERAL NOTES**
- TO BE USED ON SLOPES STEEPER THAN 1 (V):2(H).
 - THE EXISTING GROUND SHALL BE PLOWED DEEPLY OR CUT INTO STEPS BEFORE FILLING.

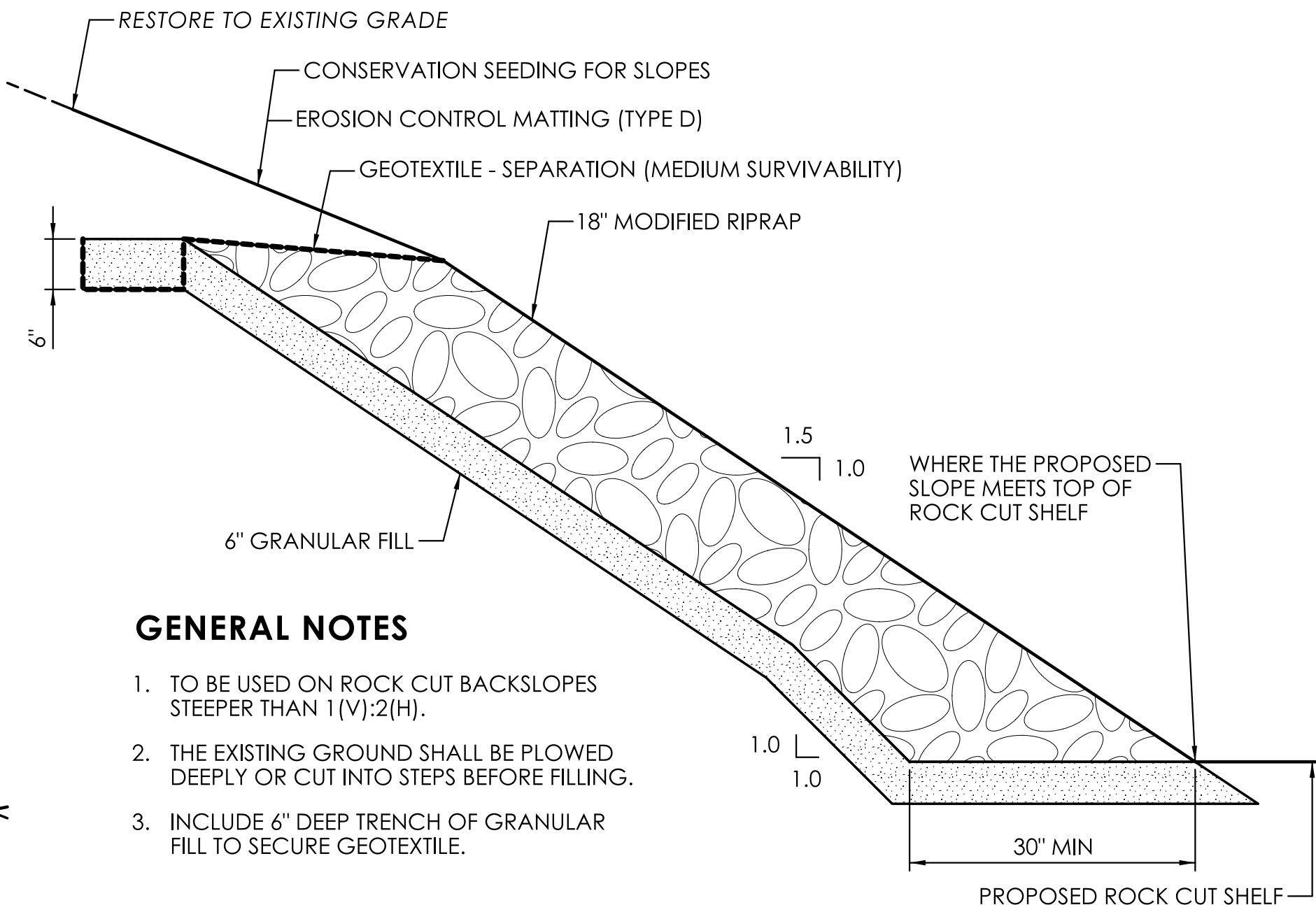
STEEPENED SLOPE PROTECTION - FILL SLOPE

FROM STA. 114+50 TO STA. 115+70 LT,
STA. 118+75 TO 119+83 LT,
STA. 120+07 TO 121+20 RT &
STA. 121+60 TO STA. 122+20 RT
(NOT TO SCALE)



STEEPENED SLOPE PROTECTION - CUT SLOPE

FROM STA. 133+25 TO 133+50 LT
(NOT TO SCALE)



- GENERAL NOTES**
- TO BE USED ON ROCK CUT BACKSLOPES STEEPER THAN 1 (V):2(H).
 - THE EXISTING GROUND SHALL BE PLOWED DEEPLY OR CUT INTO STEPS BEFORE FILLING.
 - INCLUDE 6" DEEP TRENCH OF GRANULAR FILL TO SECURE GEOTEXTILE.

STEEPENED SLOPE PROTECTION - ROCK SHELF

FROM STA. 133+50 TO 134+30 LT
(NOT TO SCALE)

REV.	DATE	REVISION DESCRIPTION



WATER HANDLING NOTES:

1.

THE CONTRACTOR SHALL MAINTAIN WATER THROUGH THE TEMPORARY WATER HANDLING SYSTEM AS REQUIRED DURING CONSTRUCTION OF THE NEW STRUCTURE.
2.

A DEWATERING BASIN SHALL BE ESTABLISHED OUTSIDE OF THE WETLAND LIMITS.
3.

TEMPORARY WATER HANDLING SYSTEM SHALL CONSIST OF AN APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA, SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND SHALL CONFORM TO PERMITS.

ANY WATER HANDLING SCHEME DEPICTED WITHIN THE DEPARTMENT'S 'HANDLING WATER TYPICAL SCHEMATICS' MAY BE UTILIZED UNLESS SPECIFICALLY PROHIBITED. A MEANS AND METHOD FOR WATER HANDLING SYSTEM SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR APPROVAL.

4.

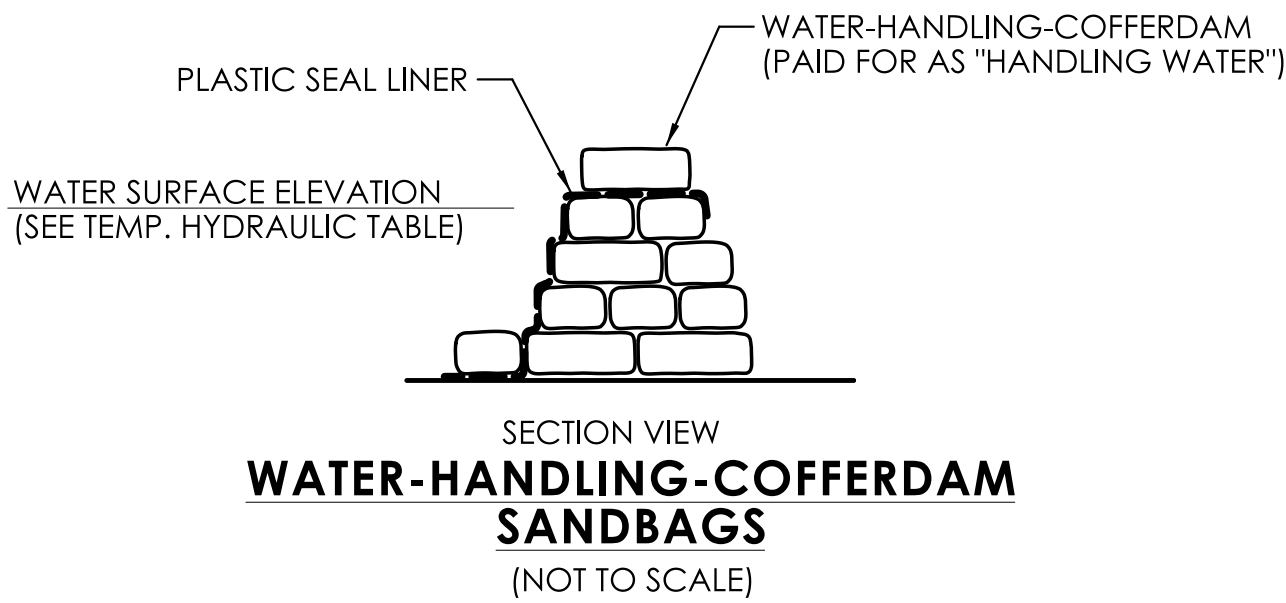
WATER HANDLING SYSTEM SHALL NOT EXCEED IMPACT AREAS SHOWN ON THE WETLAND AND FLOODPLAIN IMPACT SHEETS OF THE PERMIT PLANS.
5.

ANY STORM DRAINAGE DISCHARGING INTO A CONFINED WORK AREA FROM EXISTING OR PROPOSED STORM DRAINAGE PIPES SHALL BE DIVERTED OR PUMPED OUTSIDE THE CONFINED AREAS. PUMPS/PIPES SHALL BE SIZED BY THE CONTRACTOR TO HANDLE THE EXPECTED FLOWS AND BE DISCHARGED TO A STABLE LOCATION. THE CONTRACTOR SHALL SUBMIT THE MEANS AND METHODS OF HANDLING STORM DRAINAGE TO THE ENGINEER FOR APPROVAL.

6.

IF A PUMP SYSTEM IS PROPOSED DURING LOW FLOW CONDITIONS, THE PUMP SYSTEM SHALL BE DESIGNED BY THE CONTRACTOR. PUMP SYSTEM PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

BASED UPON FIELD CONDITIONS, WORK DURATION, AND EXPECTED WEATHER CONDITIONS, THE ENGINEER MAY APPROVE A CONSTRUCTION WATER HANDLING PLAN WITH LOWER PUMPING FLOWS, PROVIDED THAT THIS INCLUDES A CONTINGENCY PLAN, WHICH MINIMIZES NEGATIVE IMPACTS AND SAFELY CONVEYS LARGER FLOWS THROUGH THE WORK AREA.



UNCONFINED IN-STREAM WORK BMP NOTE:

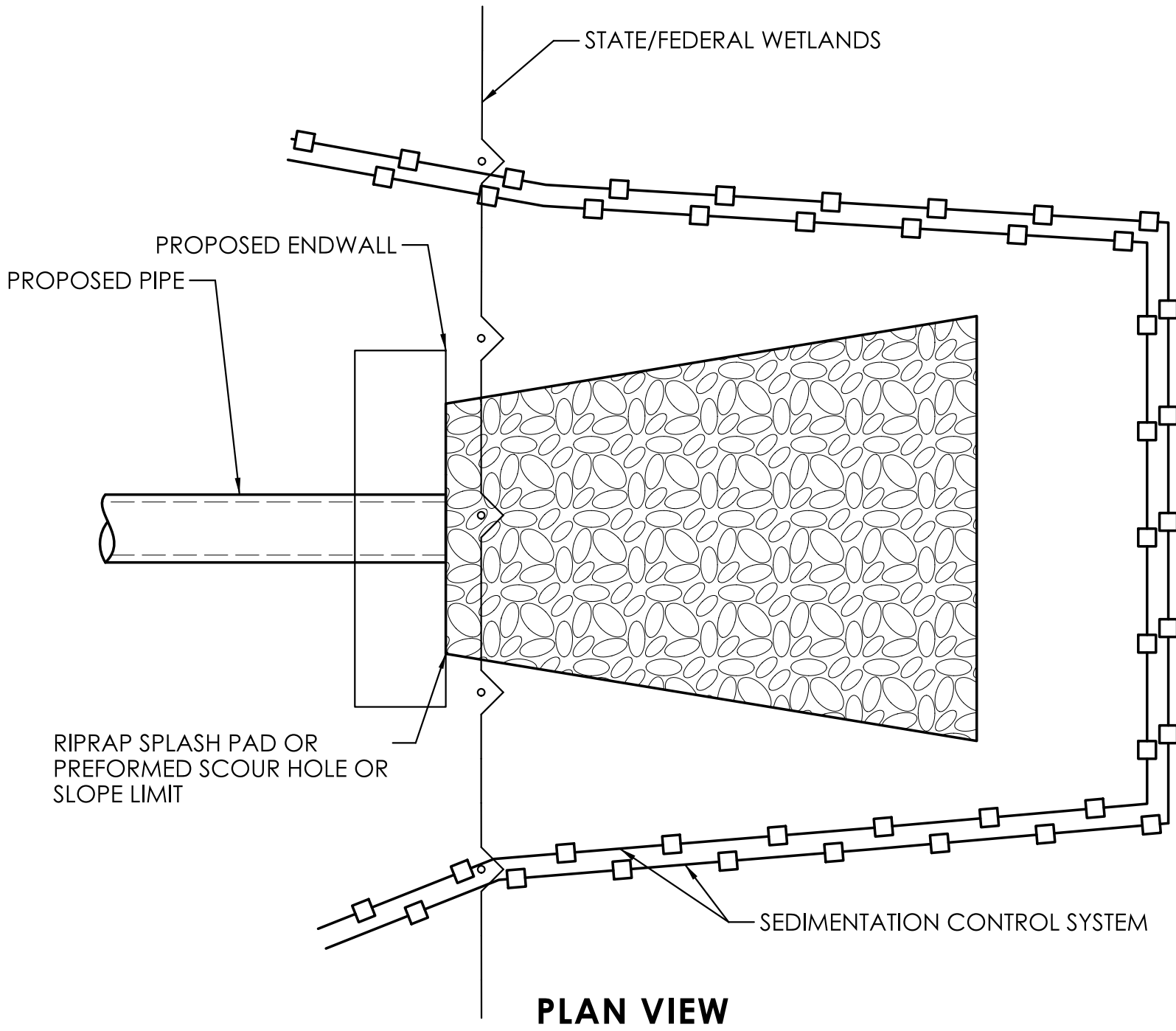
ANY UNCONFINED IN-STREAM WORK WITHIN THE WATERCOURSE SHALL BE RESTRICTED TO THE PERIOD FROM JUNE 1 TO SEPTEMBER 30, INCLUSIVE.

THE DEPARTMENT WILL REVIEW AND MAY APPROVE THE METHODS OF UNCONFINED IN-WATER WORK WITH CONSIDERATION OF THE FOLLOWING:

- * PROPOSED SCHEDULE FOR WORK OPERATIONS
- * ALL UNCONFINED IN-WATER WORK SHALL BE MINOR IN NATURE
- * DISTURBANCE SHALL BE LIMITED TO AREAS THAT HAVE BEEN APPROVED FOR TEMPORARY AND PERMANENT IMPACT
- * BEST MANAGEMENT PRACTICE SHALL BE UTILIZED WHEREVER POSSIBLE TO MINIMIZE TURBIDITY/SEDIMENT TRANSPORT DOWNSTREAM
- * DISTURBED AREAS AND THE DURATION OF DISTURBANCE SHALL BE MINIMIZED TO THE EXTEND POSSIBLE
- * IN-STREAM WORK SHALL BE DONE DURING PERIODS OF LOW FLOW.

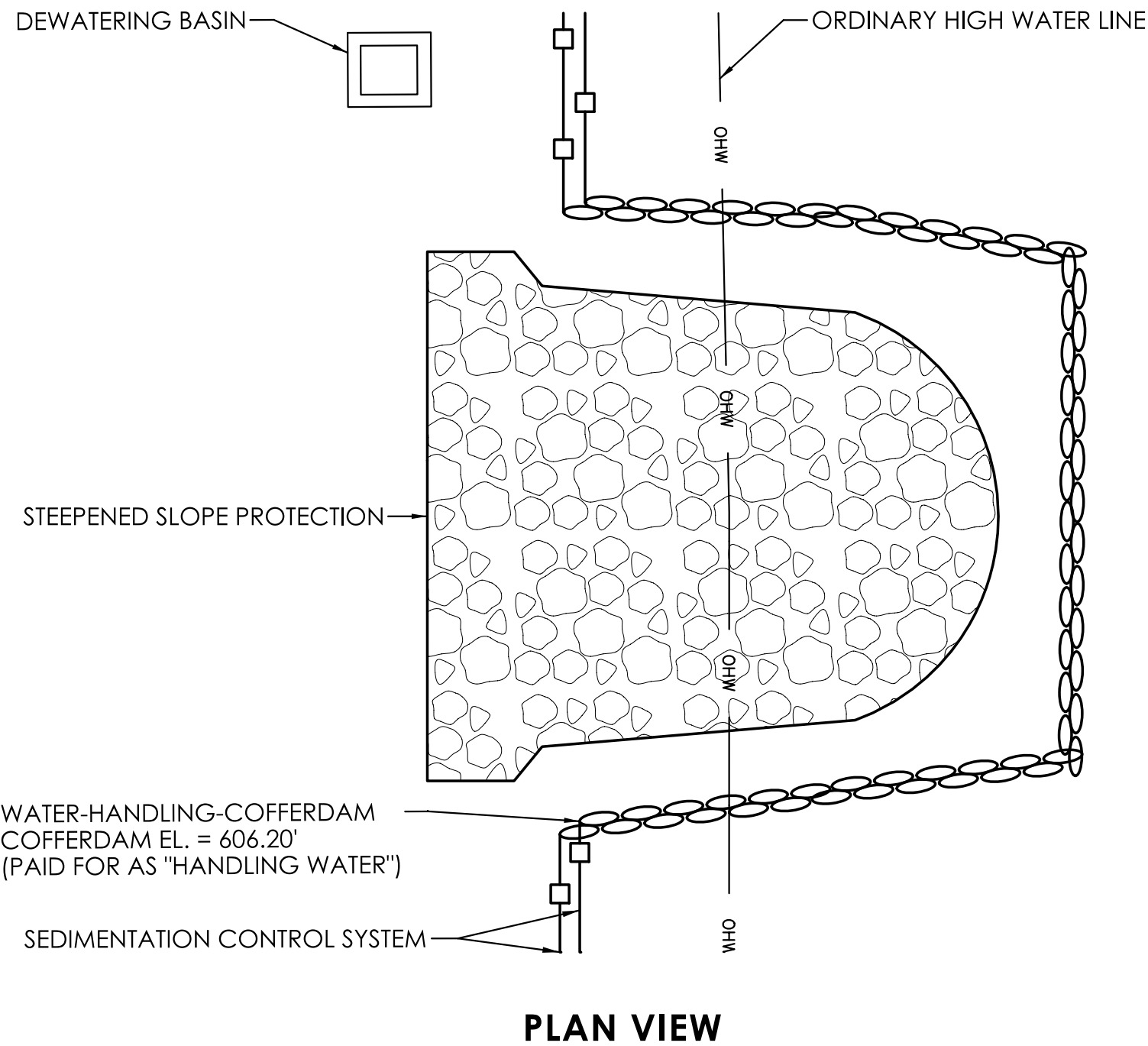
TEMPORARY HYDRAULIC DATA*		
	STA. 120+00	STA. 130+55
AVERAGE DAILY FLOW	0.8 CFS	0.1 CFS
AVERAGE SPRING FLOW	1.6 CFS	0.2 CFS
2-YEAR FREQUENCY DISCHARGE	10.0 CFS	15.0 CFS
LOW FLOW PUMPING TEMPORARY DESIGN DISCHARGE = 3 x AVG SPRING	5.0 CFS	0.6 CFS
GRAVITY FLOW BYPASS PIPE TEMPORARY DESIGN DISCHARGE = 2-YEAR FREQUENCY	10.0 CFS	2.0 CFS
2-YEAR WATER SURFACE ELEVATION UPSTREAM	597.46 FT	618.32 FT
2-YEAR WATER SURFACE ELEVATION DOWNSTREAM	593.77 FT	616.79 FT

* NOTE: VALUES AND ELEVATIONS MAY VARY SLIGHTLY FROM THE CONTRACT PLANS.



EROSION AND SEDIMENT CONTROL FOR OUTLETS/SLOPES IMPACTING WETLANDS (TYP.)

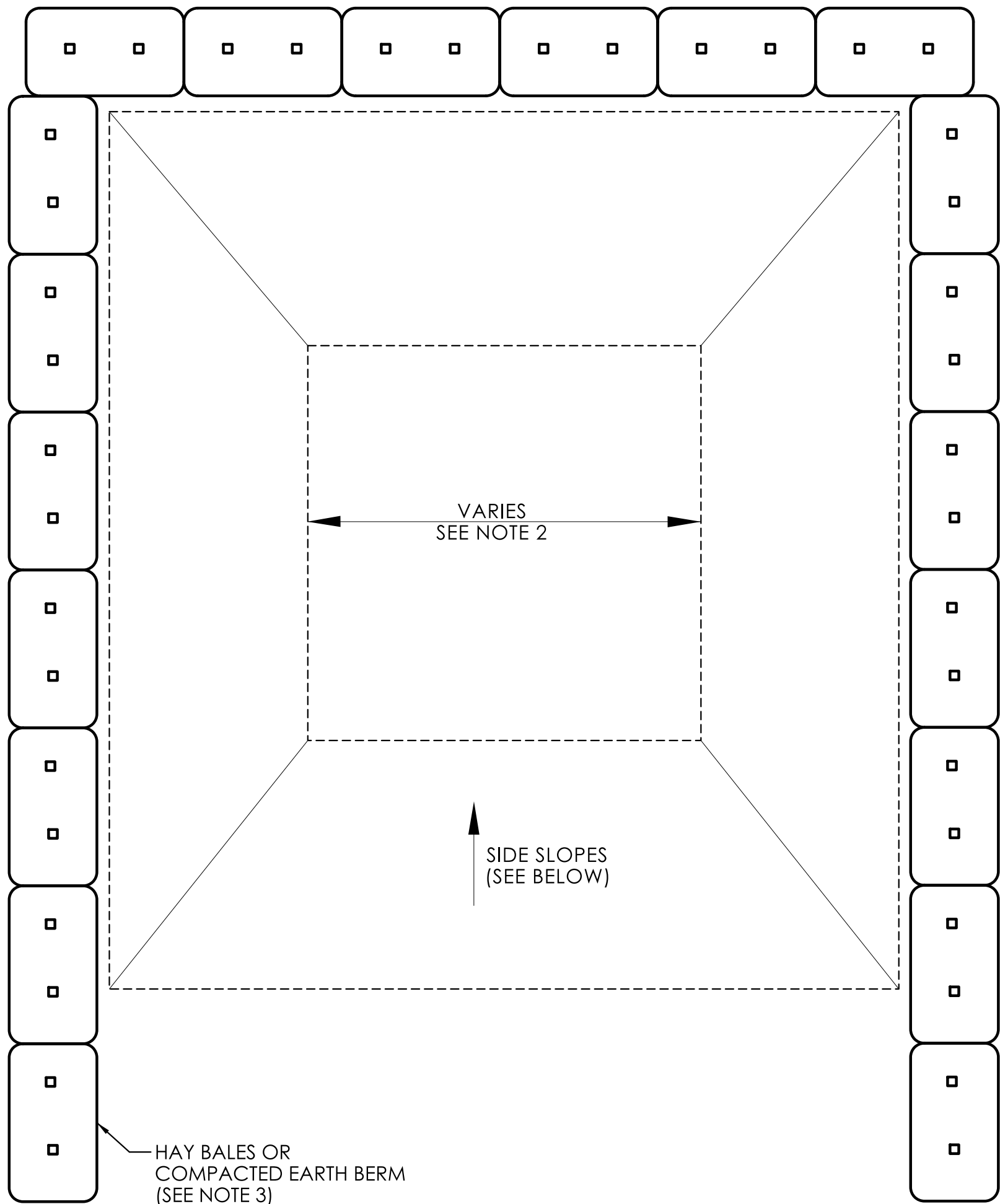
EROSION CONTROL AT STATION 125+75 AND 132+50 (NOT TO SCALE)



WATER-HANDLING FOR SLOPES IMPACTING WATERCOURSES

WATER-HANDLING AT STATION 121+80 (NOT TO SCALE)

REVISION DESCRIPTION			
REV.	DATE	BY	DESCRIPTION



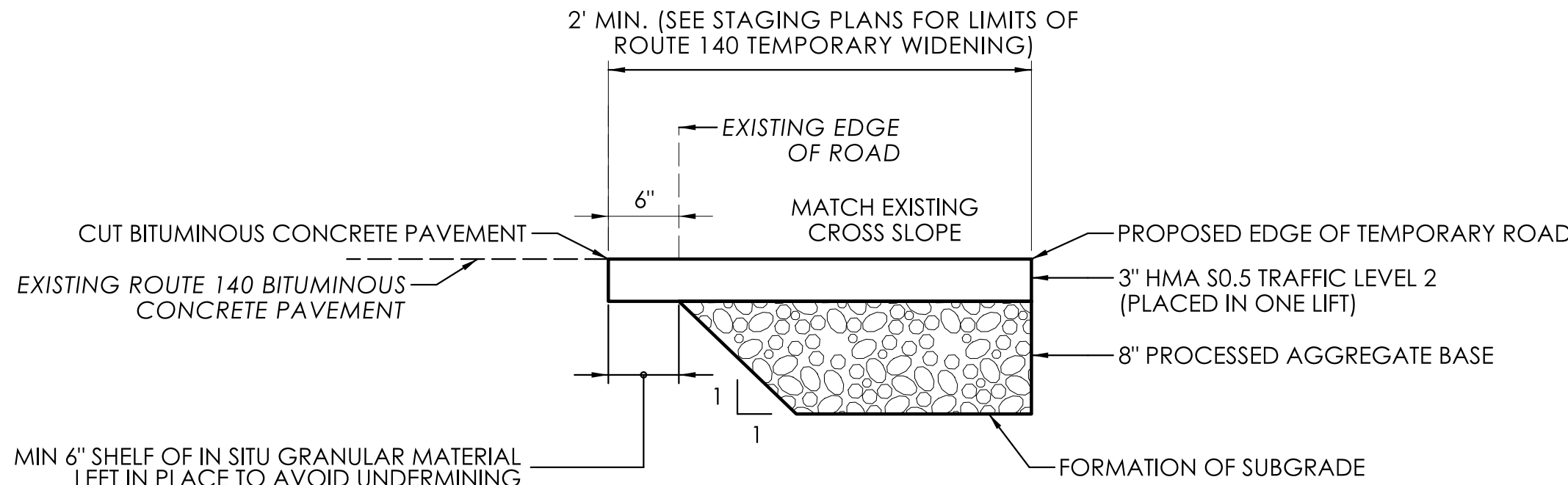
PLAN

GENERAL NOTES

1. CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE. THE CONCRETE WASHOUT AREA SHALL BE ENTIRELY SELF-CONTAINED.
2. THE CONTRACTOR SHALL SUBMIT THE DESIGN, LOCATION AND SIZING OF THE CONCRETE WASHOUT AREA(S) WITH THE PROJECT'S EROSION AND SEDIMENTATION CONTROL PLAN AND SHALL BE APPROVED BY THE ENGINEER.

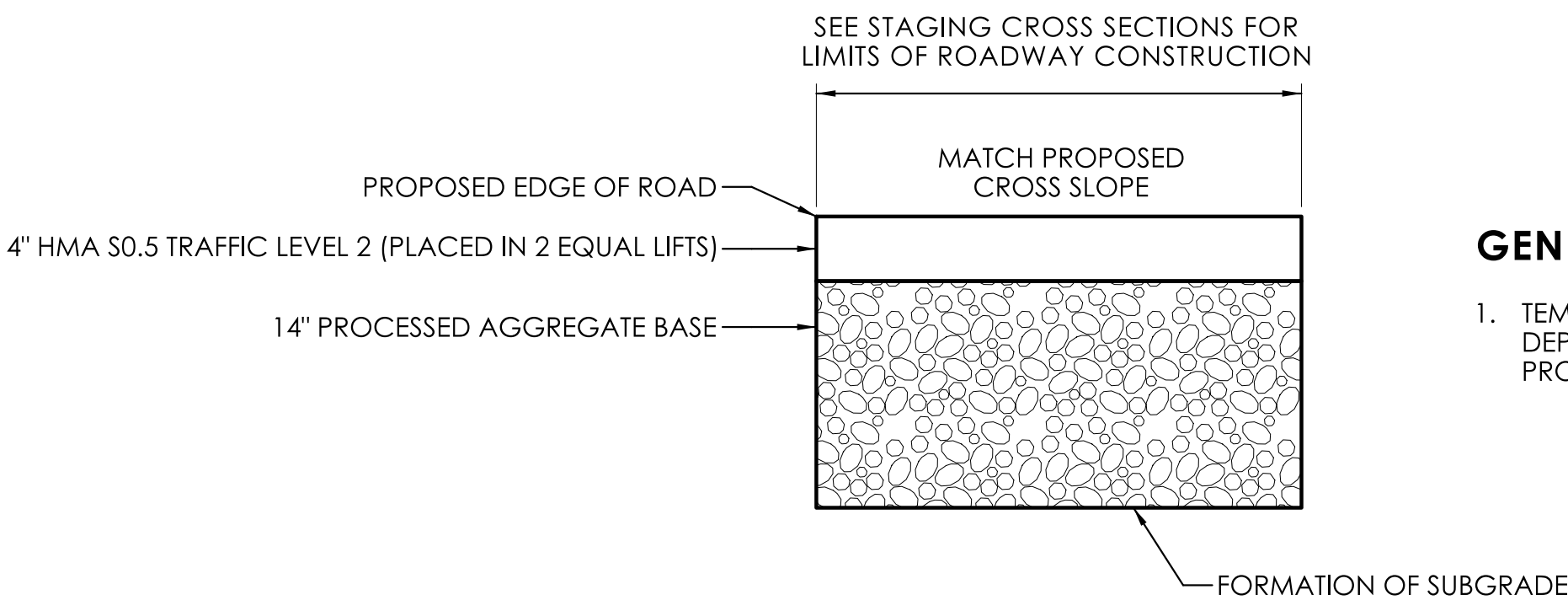
LOCATION: WASHOUT AREA(S) ARE TO BE LOCATED AT LEAST 50 FEET FROM ANY STREAM, WETLAND, STORM DRAINS, OR OTHER SENSITIVE RESOURCE. THE FLOOD CONTINGENCY PLAN MUST ADDRESS THE CONCRETE WASHOUT IF THE WASHOUT IS TO BE LOCATED WITHIN THE FLOODPLAIN.

SIZE: THE WASHOUT MUST HAVE SUFFICIENT VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS INCLUDING, BUT NOT LIMITED TO, OPERATIONS ASSOCIATED WITH GROUT AND MORTAR.
3. SURFACE DISCHARGE IS UNACCEPTABLE. THEREFORE, HAY BALES OR OTHER CONTROL MEASURES, AS APPROVED BY THE ENGINEER, SHOULD BE USED AROUND THE PERIMETER OF THE CONCRETE WASHOUT AREA FOR CONTAINMENT.
4. SIGNS SHOULD BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CONCRETE AREA(S) AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT TO OPERATORS OF CONCRETETRUCKS AND PUMP RIGS. WASHOUT AREA(S) SHOULD BE FLAGGED WITH SAFETY FENCING OR OTHER APPROVED METHOD.
5. WASHOUT AREA(S) ARE TO BE INSPECTED AT LEAST ONCE A WEEK FOR STRUCTURAL INTEGRITY, ADEQUATE HOLDING CAPACITY AND CHECKED FOR LEAKS, TEARS, OR OVERFLOWS. (AS REQUIRED BY THE CONSTRUCTION SITE ENVIRONMENTAL INSPECTION REPORT) WASHOUT AREA(S) SHOULD BE CHECKED AFTER HEAVY RAINS
6. HARDENED CONCRETE WASTE SHOULD BE REMOVED AND DISPOSED OF WHEN THE WASTE HAS ACCUMULATED TO HALF OF THE CONCRETE WASHOUT'S DEPTH. THE WASTE CAN BE STORED AT AN UPLAND LOCATION, AS APPROVED BY THE ENGINEER. ALL CONCRETE WASTE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH ALL APPLICABLE LAWS, REGULATIONS, AND GUIDELINES.
7. PAYMENT FOR THIS ITEM IS TO BE INCLUDED UNDER THE GENERAL COST OF THE WORK FOR THE PROJECT, INCLUDING SITE RESTORATION.



TEMPORARY PAVEMENT WIDENING

STAGE 2, 5A, 6A
(NOT TO SCALE)

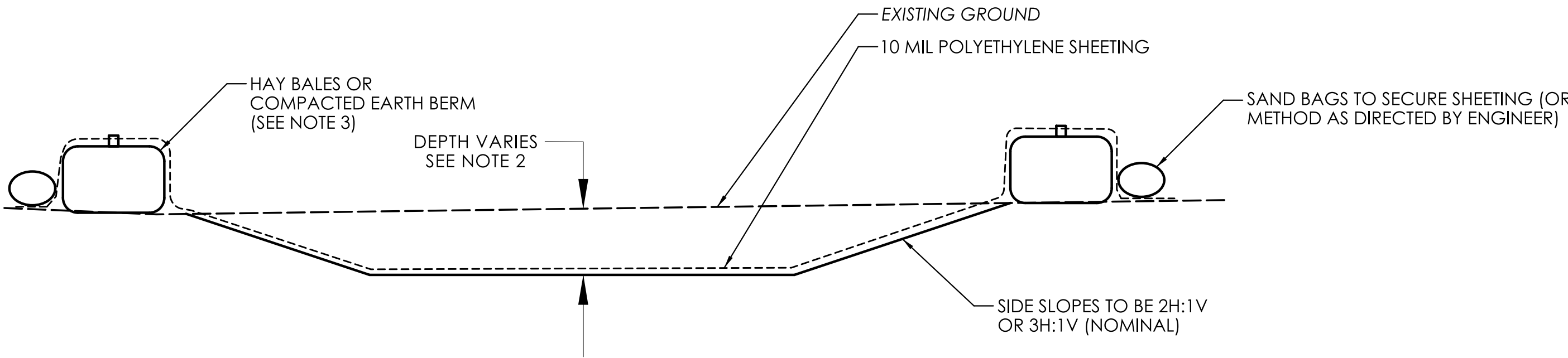


GENERAL NOTES

1. TEMPORARY FULL DEPTH STRUCTURE DEPTHS SHALL MATCH THE ADJACENT PROPOSED FULL DEPTH STRUCTURE DEPTHS.

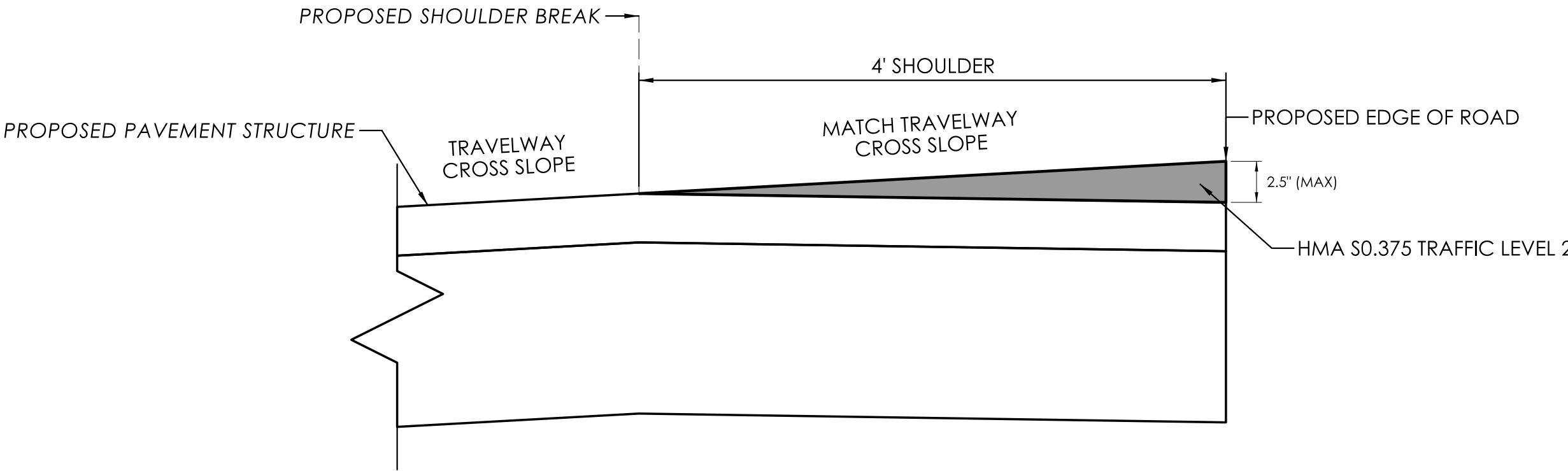
TEMPORARY FULL DEPTH WIDENING

STAGE 1A, 5B, 6A
(NOT TO SCALE)



CONCRETE WASHOUT AREA

(NOT TO SCALE)



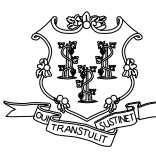
TEMPORARY PAVEMENT - SHOULDER CROSS SLOPE CORRECTION

STAGE 5A
(NOT TO SCALE)

REV.	DATE	REVISION DESCRIPTION

SCALE AS NOTED

SIGNATURE/
BLOCK:



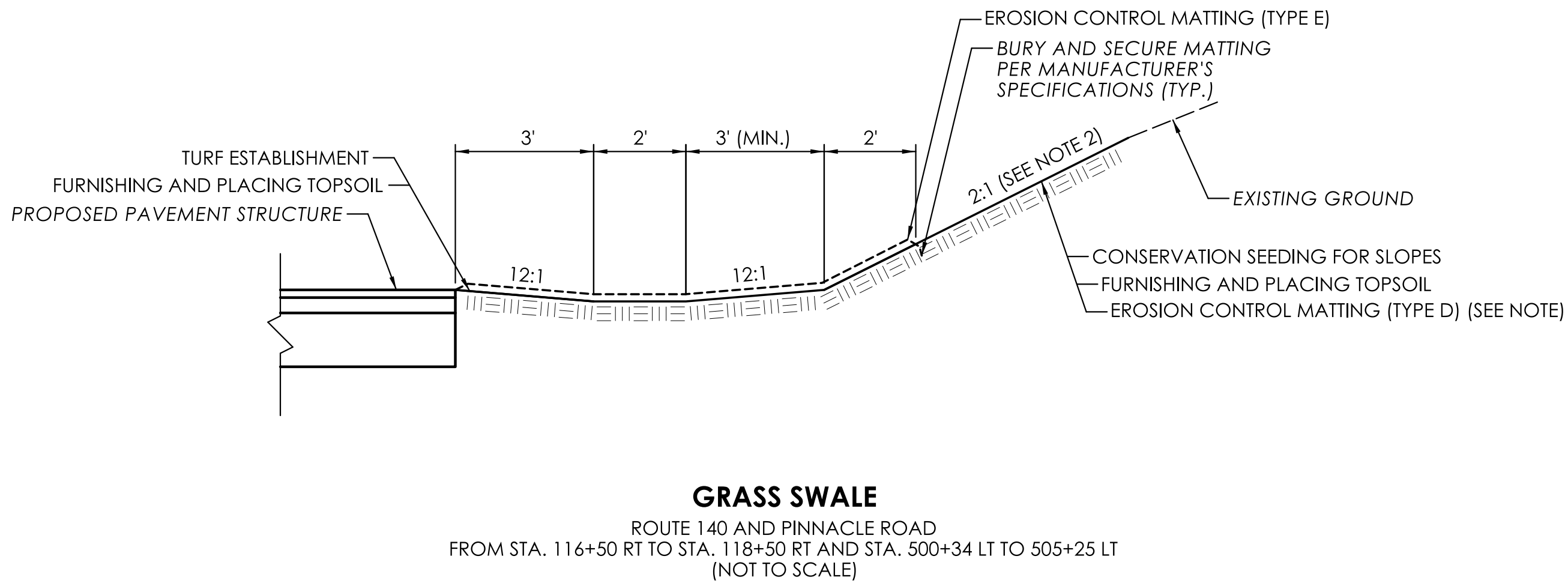
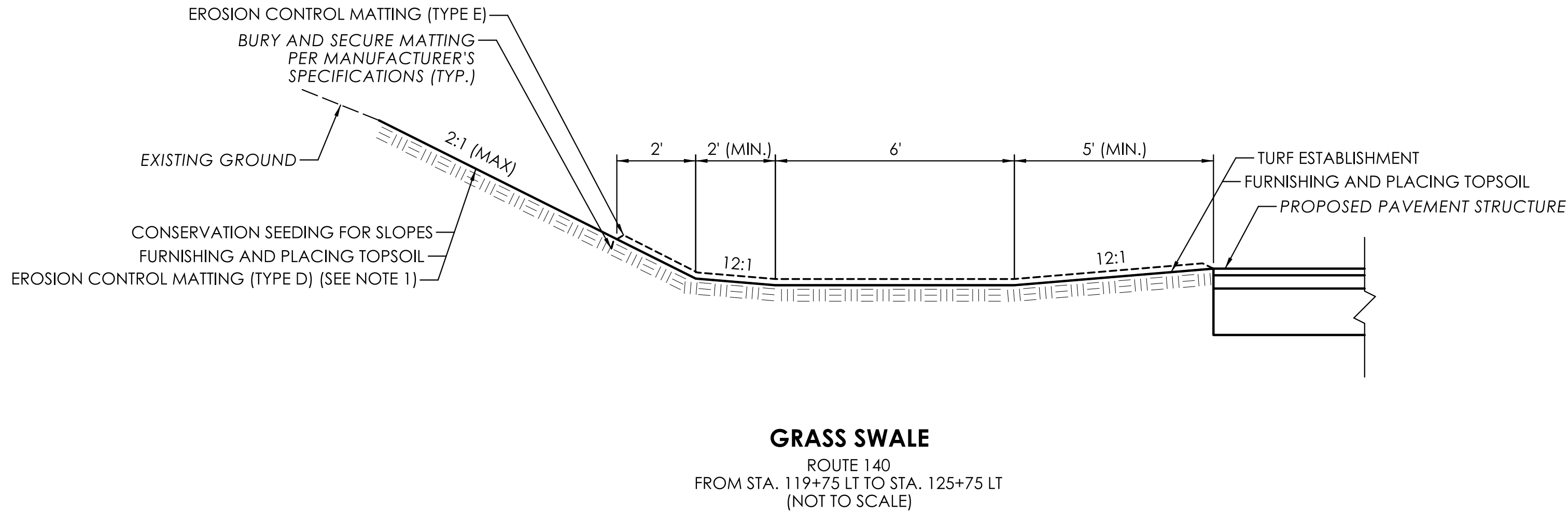
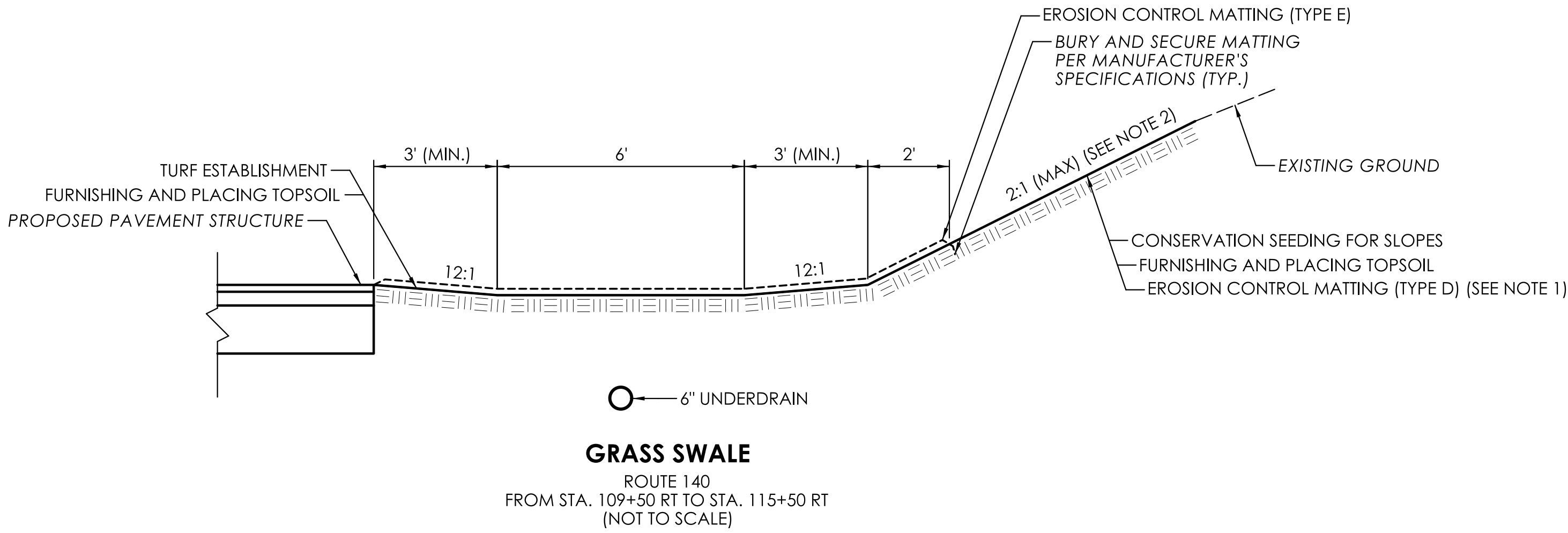
STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION



PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: MISCELLANEOUS DETAILS

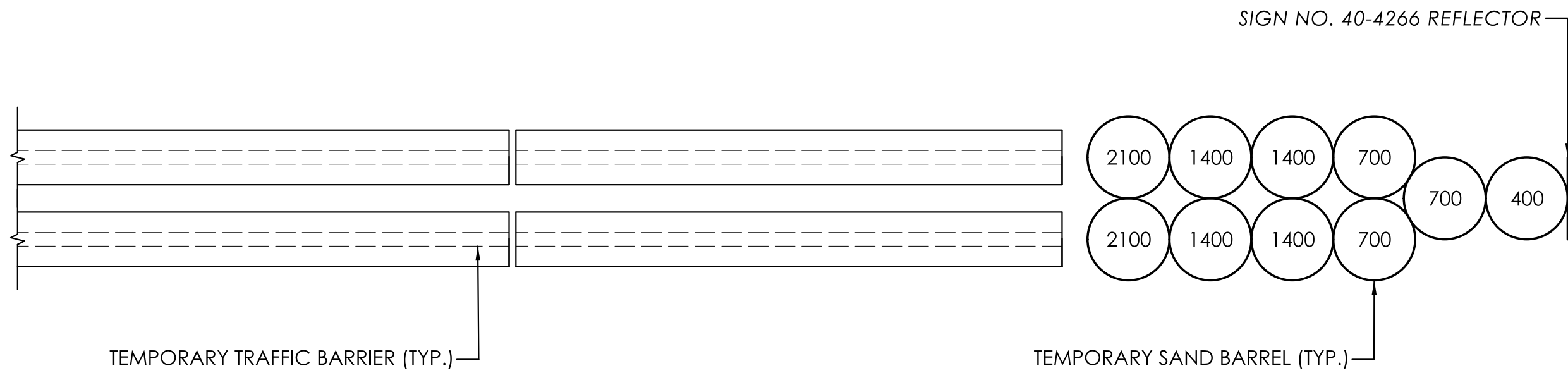
DRAWING NO.
MDS-03
SHEET NO.

FIGURE C-5



GENERAL NOTES

1. PLACE EROSION CONTROL MATTING (TYPE D) ON SLOPES STEEPER THAN 3(H):1 (V) BUT NO GREATER THAN 1.5(H):1 (V). PLACE EROSION CONTROL MATTING (TYPE E) IN GRASS SWALES.
2. REVERSE SLOPE BENCHES ARE REQUIRED WHENEVER THE VERTICAL HEIGHT OF ANY SLOPE, STEEPER THAN 3:1, EXCEEDS 15'. REFER TO THE CROSS SECTIONS FOR DETAILS.

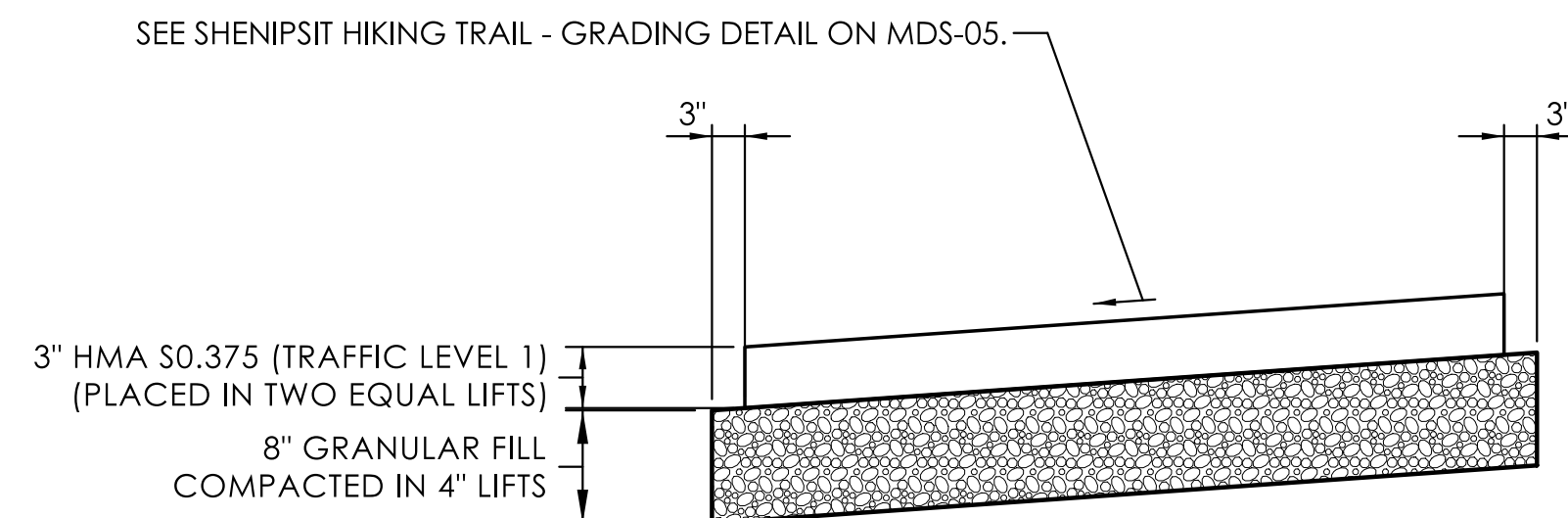
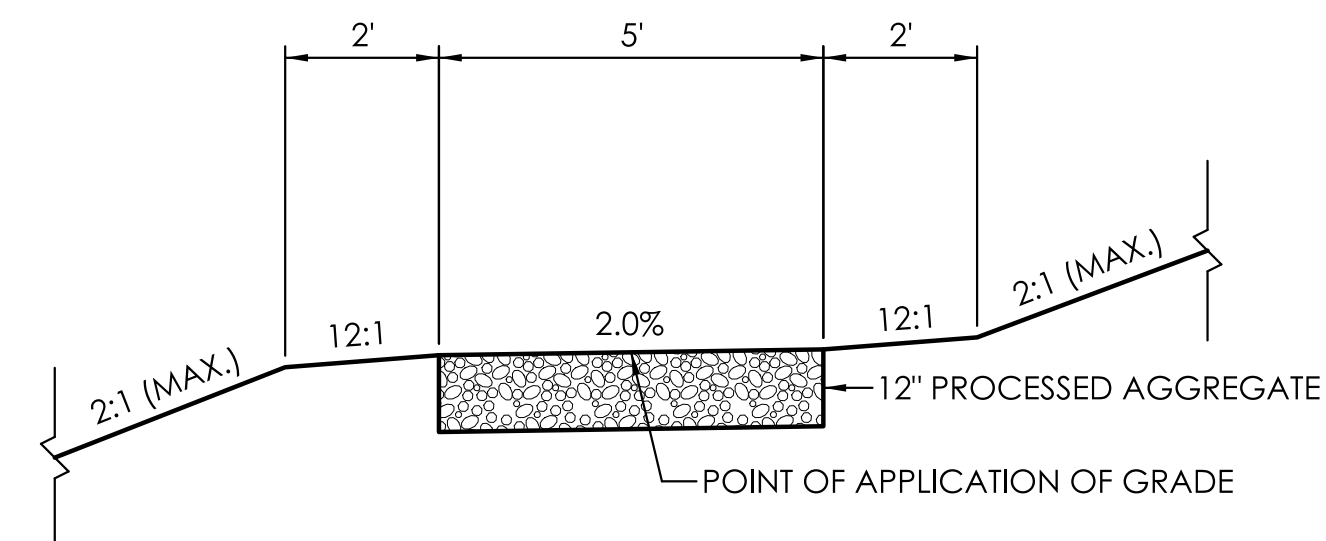


GENERAL NOTES

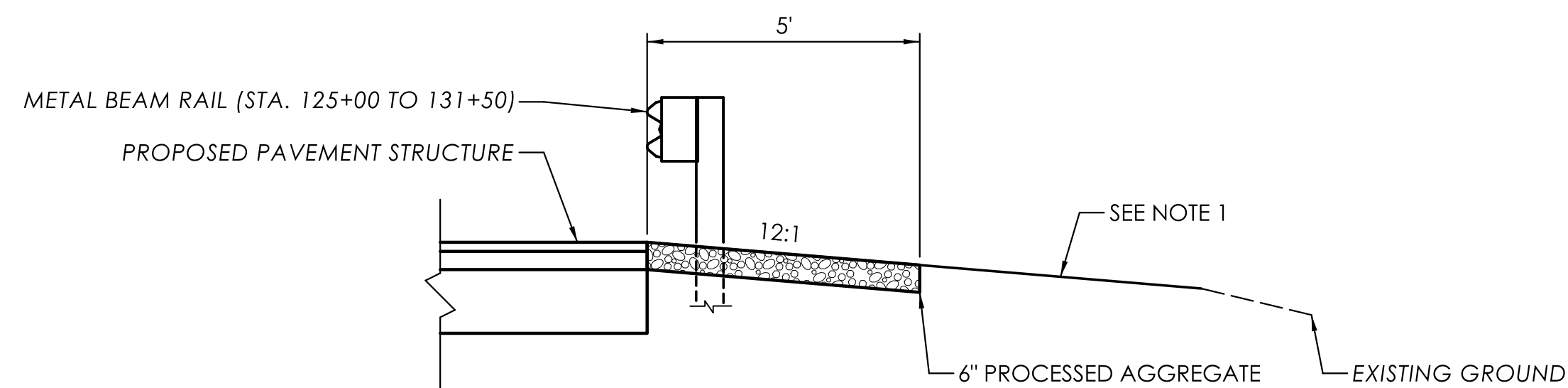
1. SEE SECTION 18.02 SAND BARRELS.
2. THE NUMBERS INDICATE THE MASS OF SAND IN POUNDS PER EACH BARREL.
3. TEMPORARY SAND BARRELS ARE PAID FOR AT THE CONTRACT UNIT PRICE FOR EACH SAND BARREL BASED ON THE MASS OF THE BARRELS.

REV.	DATE	REVISION DESCRIPTION

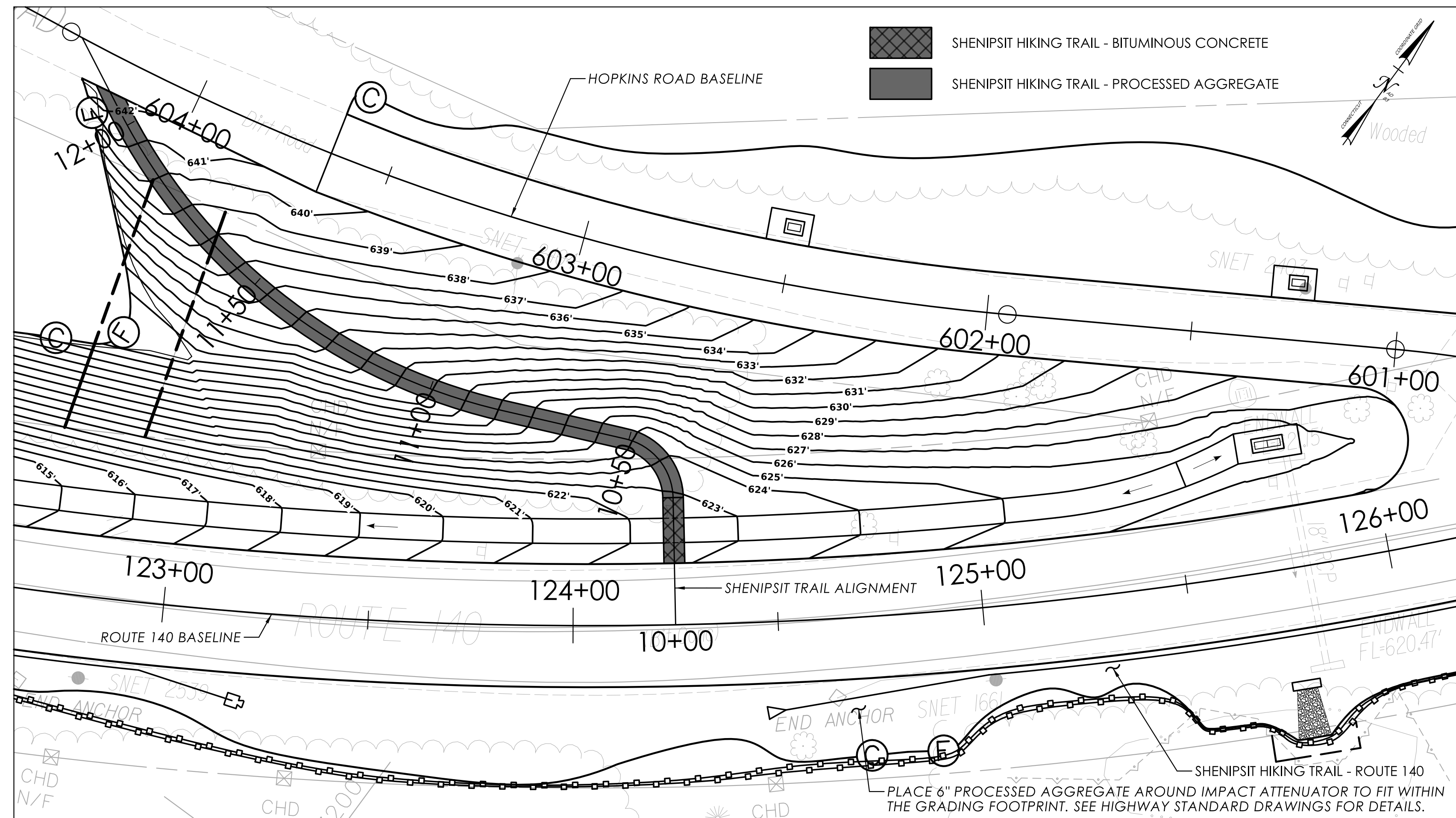
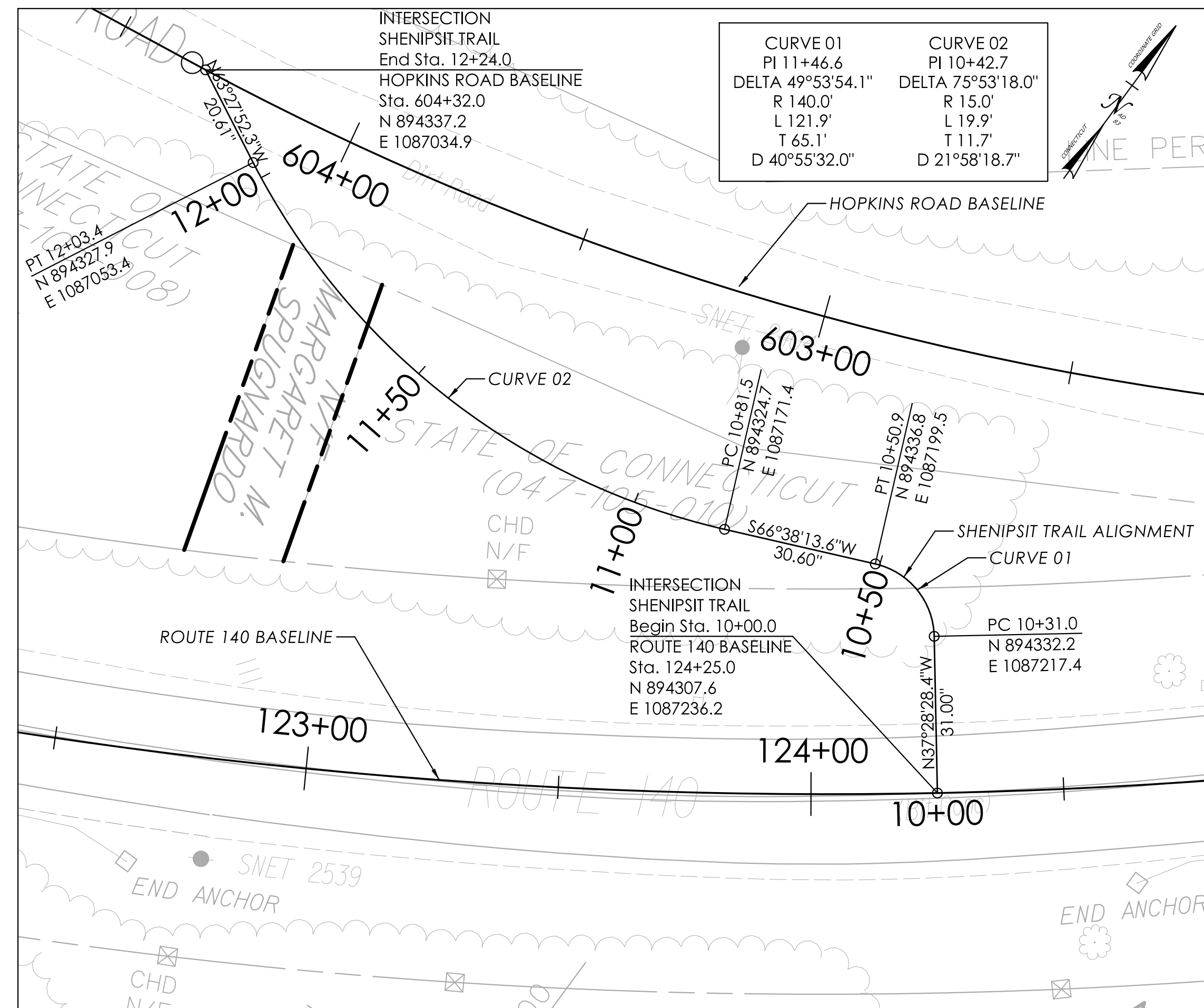
DESIGNER/DRAFTER: S. MCCOLLUM	CHECKED BY: M. CARVALHO	SCALE AS NOTED	SIGNATURE/ BLOCK:	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	PROJECT NUMBER: 0047-0122 PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS TOWN(S): ELLINGTON, TOLLAND DRAWING TITLE: MISCELLANEOUS DETAILS	DRAWING NO. MDS-04 SHEET NO.
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1. SHENIPSIT HIKING TRAIL - BITUMINOUS CONCRETE TO BE PAID FOR AS BITUMINOUS CONCRETE DRIVEWAY.

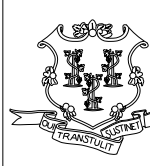


1. SEE CROSS SECTIONS FOR GRADING AND PLAN SHEETS FOR SURFACE TREATMENT.
2. SEE FOR INFORMATION ONLY SUBSET FOR LOCATIONS AND OFFSETS OF UTILITY POLES ALONG ROUTE 140 TRAIL SECTION.

[illegible]

SCALE AS NOTED

SIGNATURE/ BLOCK:



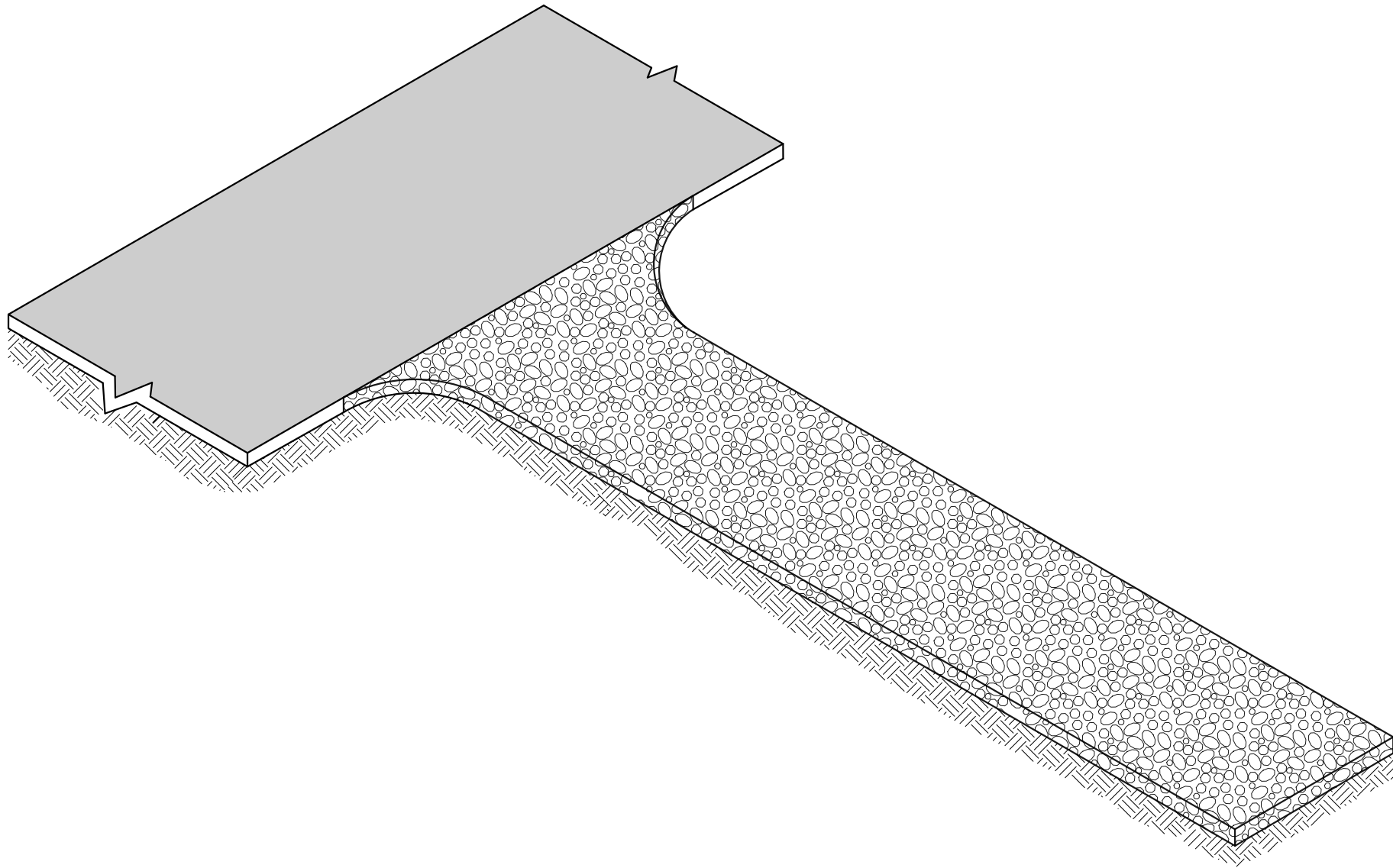
STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION



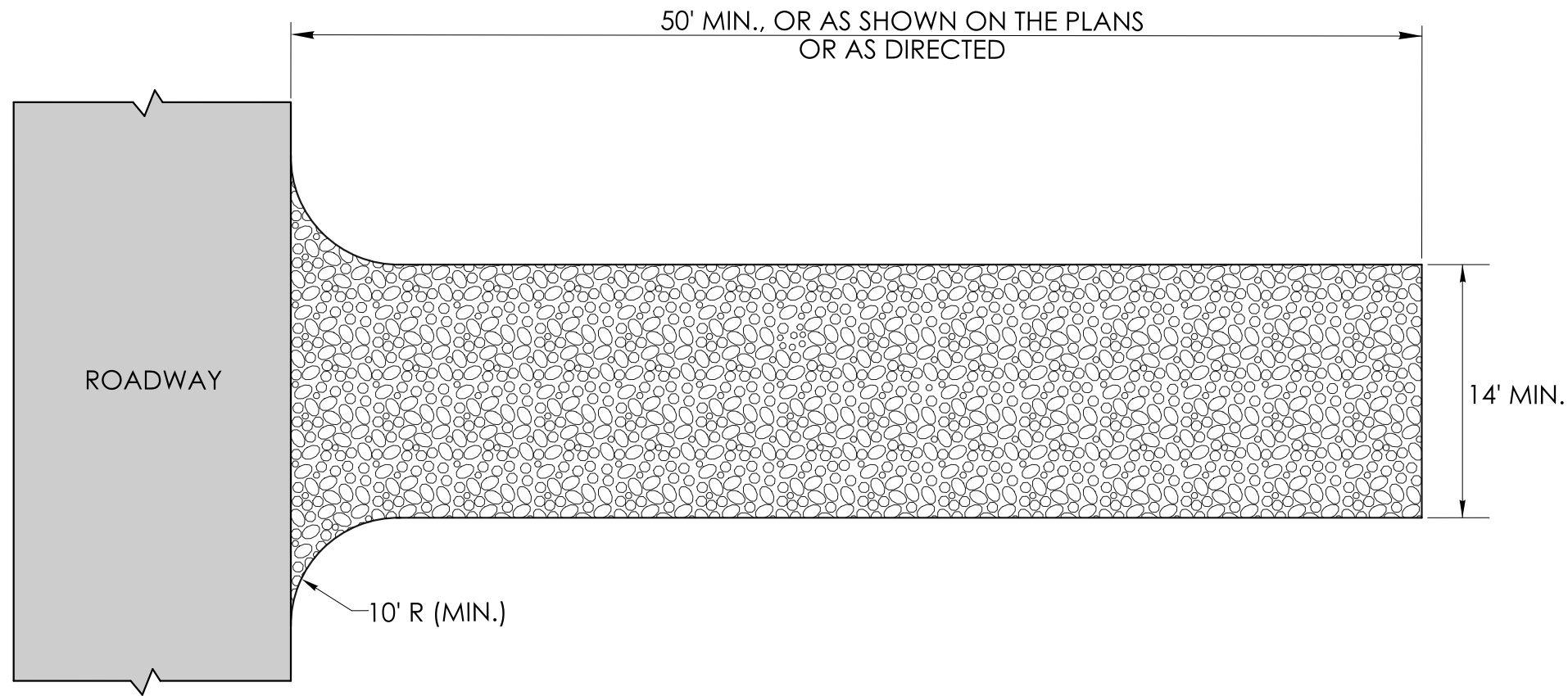
PROJECT NUMBER: 0047-0122
PROJECT DESCRIPTION: ROUTE 140 GEOMETRY IMPROVEMENTS
TOWN(S): ELLINGTON, TOLLAND
DRAWING TITLE: MISCELLANEOUS DETAILS

DRAWING NO.	MDS-05
SHEET NO.	

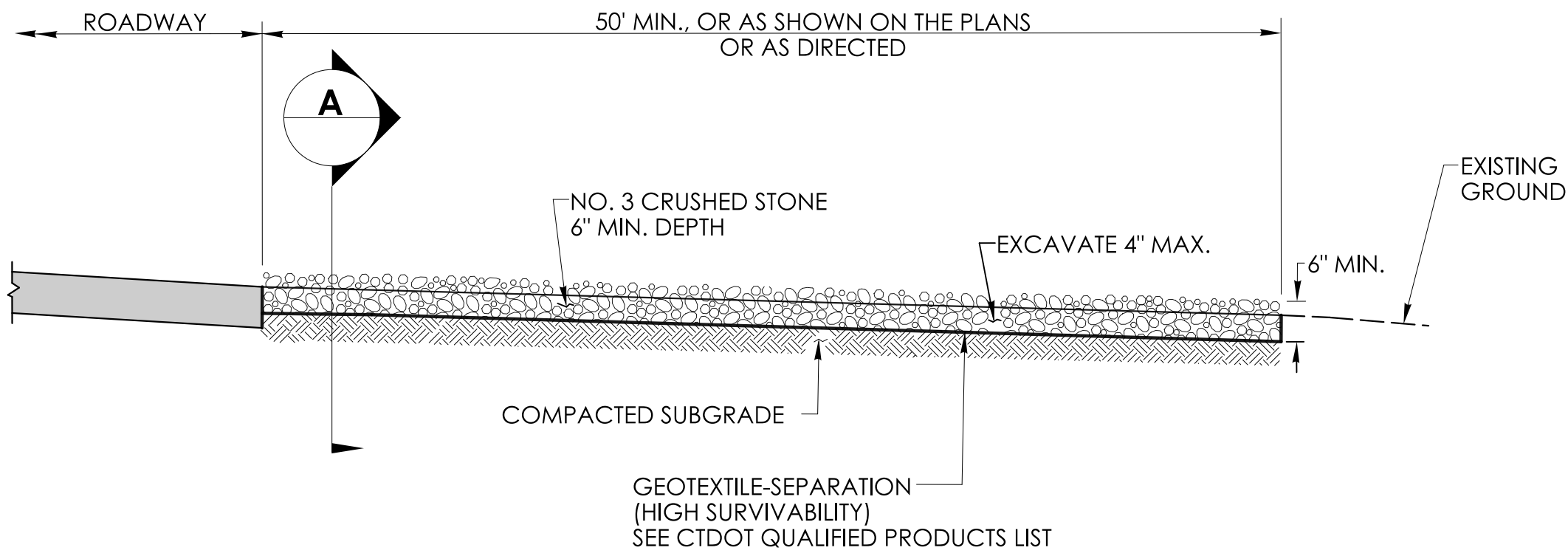
GENERAL NOTE:
1. THE LENGTH OF THE ANTI-TRACKING PAD SHALL BE INCREASED AS DIRECTED FOR SITES COMPOSED OF CLAY OR SILTS.



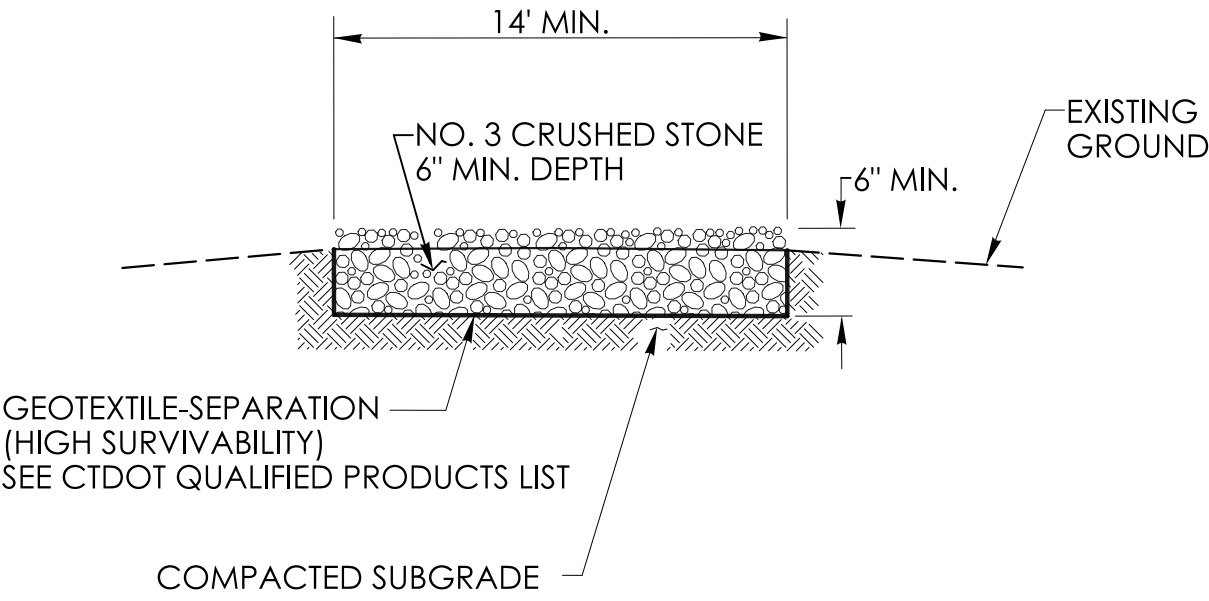
ANTI-TRACKING PAD



PLAN



ELEVATION



SECTION A

	NOT TO SCALE	SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111	SUBMITTED BY: _____	APPROVED BY: _____		CTDOT STANDARD SHEET	STANDARD SHEET TITLE: ANTI-TRACKING PAD	STANDARD SHEET NO.: HW-211_01
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**Appendix D – CTDOT MS4 Project Design
Maximum Extent Practicable Worksheet**
State Project No. 0047-0122

**CTDOT MS4 Project Design
Maximum Extent Practicable (MEP) Worksheet**

Section 1: Project Information

Project Number: 0047-0122

Title/Description: Route 140 Geometry Improvements

Location: Towns of Ellington and Tolland

Section 2: Existing Conditions

EC1	Total Project Area	12.70 acres		
EC2	Pre-construction Total Impervious Area	3.60 acres		
EC3	Pre-Construction Disconnected Impervious Area	0.70 acres		
EC4	Pre-construction DCIA for the Project (<i>EC2 minus EC3</i>)	2.90 acres	22.83 % (EC4/EC1)	
EC5	Soil Infiltration Potential Data Source: ☒ Existing Report / Soils Map ☐ Field Verified	☐ Good/Fair	☐ Poor	☒ Mixed
EC6	Depth to Maximum Groundwater	☐ TBD	1.2 to 13 ft below grade	
EC7	Depth to Bedrock	☐ TBD	5 to 23 ft below grade	
EC8	Aquifer Protection Area? (from PNDF)	☐ Yes		☒ No
EC9	MS4 Priority Area? (from PNDF)	☐ Yes (See Below)		☒ No
Check All That Apply ☐ Urbanized Area ☒ DCIA >11% ☐ Impaired Waterbody (See Below)				
Select All Impairments That Apply				
EC10	Contamination known or suspected to be present? (From Environmental Compliance)	☒ Yes		☐ No
EC11	Adjoining DOT ROW beyond project limits available for stormwater quality management	0 acres		

NOTES:

Worksheet users should refer to the current *CT DOT MS4 Project Design MEP Worksheet V4 Instructions*

Reference the CT DEEP Stormwater Quality Manual (SWQM) for design and the New England Stormwater Retrofit Manual for Crediting

CTDOT MS4 Design MEP Worksheet Version 4 Revised 2/15/2024

Page 1 of 3

**CTDOT MS4 Project Design
Maximum Extent Practicable (MEP) Worksheet**

Section 3: Designed Conditions

Section 3A: Document Water Quality Volume (WQV) Retained and/or Treated (ac-ft)

Water Quality Volume Documentation			30% Design		60% Design		90% Design		FDP		
DC1	WQV design goal	☒ Full ☐ ½-WQV (Full = EC4 % ≤ 40%)	0.27	ac-ft	☐ TBD	0.30	ac-ft	0.39	ac-ft	0.40	ac-ft
DC2	WQV goal retained (refer to page 3)		0	ac-ft		0	ac-ft	0	ac-ft	0	ac-ft
DC3	WQV goal treated (refer to page 3)		0	ac-ft		.06	ac-ft	0.41	ac-ft	0.49	ac-ft

Did the Project Retain and/or Treat the Entire WQV Goal? ☒ Yes ☐ No

Section 3B: Document Changes in Directly Connected Impervious Area (DCIA) Pre to Post Construction (acres)

DCIA Documentation		30% Design		60% Design	90% Design	FDP	
DC4	Post-construction Total Impervious Area	3.23 ac.	TBD	3.44 ac.	3.50 ac.	4.00	ac.
DC5	Post-construction DCIA before new BMPs	3.04 ac.	TBD	2.92 ac.	2.98 ac.	3.44	ac.
DC6	DCIA Disconnected by new BMPs (from Pg 3)	0 ac.	TBD	0.32 ac.	0.29 ac.	0.26	ac.
DC7	Final Post-construction DCIA <i>(DC5 minus DC6)</i>	3.04 ac.	TBD	2.60 ac.	2.69 ac.	3.18	ac.
DC8	Pre-construction DCIA (refer to EC4 from Pg 1)	2.54 ac.		2.46 ac.	2.46 ac.	2.90	ac.
DC9	Change in DCIA from pre- to post-construction <i>(DC7 minus DC8) Can be positive (DCIA gained) or negative (DCIA lost)</i>	0.5 ac.	TBD	0.14 ac.	0.23 ac.	0.28	ac.
Date completed		8/29/2022		02/01/2024	06/24/2024	07/30/2024	
Completed by (initials)		MVC		SAM	SAM	SAM	
Reviewed by (initials)		DMR		MVC	MVC	MVC	

NOTES:

The overall DCIA is increasing by 0.28 acres with 0.26 acres disconnected by four grass channels and one gravel channel. Limited ROW availability and proximity to watercourses and wetland boundaries restrict the use of certain BMPs in this area. Incorporating other qualifying BMPs would require ROW acquisitions, impacts to adjacent watercourses and wetlands, and potentially disturbing a State Forest.

Section 4: Stormwater BMP Selection Summary											
Design Phase ☐ 30% ☐ 60% ☒ 90% ☐ FDP	BMP Type	WQV Retained* (ac-ft)	WQV Treated* (ac-ft)	DCIA Captured by BMP (ac)	Runoff Depth from DCIA Captured by BMP (in)	HSG Soil Type	DCIA Disconnection Credit (%)**	DCIA Disconnection Credit (ac)	(TP) reduction %**	(TSS) reduction %**	(TN) reduction %*
BMP Category											
Open Conveyance (	Grass Swale	0	0.09	0.26	2.4	B	17	0.05	25	0	17
Open Conveyance (	Grass Swale	0	0.09	0.16	2.4	B	17	0.03	25	0	17
Open Conveyance (	Grass Swale	0	0.07	0.05	3.2	B	17	0.01	25	0	17
Open Conveyance (	Grass Swale	0	0.11	0.46	4.0	B	17	0.08	25	0	17
Open Conveyance (	Gravel Swale	0	0.13	0.57	1.3	A	15	0.09	N/A	0	N/A
TOTAL		0	0.49	1.75				0.26			
		To Row DC2	To Row DC3					To Row DC6			
Describe Site Constraints Limiting BMP Implementation if applicable: Site constraints include: limited ROW, steep roadside slopes, and proximity to wetlands and watercourses.											
Other Notes: The project provides grass and gravel swales along Route 140 and Pinnacle Road before sheet flow collects in roadside drainage. Other non-qualifying best practices being implemented include each catch basin being installed as part of the project will have 2' sumps to allow for sediment collection with 4' sumps prior to outlets.											

* List the amount of the WQV the BMP is designed to retain or treat.

** Refer to the CT DEEP Stormwater Quality Manual (SWQM) [Stormwater Manual \(ct.gov\)](#) and New England Stormwater Retrofit Manual [Stormwater Retrofit Manual \(snepnetwork.org\)](#) to determine disconnection and pollutant removal percentages. BMPs should be designed to meet specific TP, TN and TSS pollutant reductions to the maximum extent practicable when the entire WQV cannot be retained. Pollutant Reduction Targets are: New Development TP 60%, TN 40%, TSS 90%. Redevelopment TP 50%, TN, 30% TSS 80%. (Page 48 of the SWQM)

**Appendix E – Construction Site Environmental
Inspection Report (CSEIR)**
State Project No. 0047-0122

**State of Connecticut
Department of Transportation
Construction Site Environmental Inspection Report**

This Form Must Be Completed At Least Once a Week and within Twenty Four (24) Hours* Of the End of a Storm Event That Is 0.1 inches or Greater * Next Working Day as Directed by Engineer

General Information			
Project Number		Date	
Permit Number(s)		Location	
Contractor			
Project Engineer		Phone No	
Type of Inspection: Check all that apply ☐ Weekly ☐ Pre-storm event ☐ Post-storm event			
Weather at time of this inspection? ☐ Clear ☐ Cloudy ☐ Rain ☐ Sleet ☐ Fog ☐ Snowing ☐ High Winds Temperature: _____			
Start Date: _____ Time: _____ Duration (hrs): _____ Precipitation (in) ≈ _____			

Site-specific BMPs - Number the structural and non-structural BMPs on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map for reference with you during your inspections. Note- If have additional locations add rows. Site Map Attached ☐ Yes ☐ No

Location	BMPs Installed	BMP Maint. Required	Remedial Action Required	Remedial Action* If yes, provide description and date contractor notified	Date Fixed	Repeat Failure
	☐ Yes ☐ No	☐ Yes ☐ No				☐ Yes ☐ No
	☐ Yes ☐ No	☐ Yes ☐ No				☐ Yes ☐ No
	☐ Yes ☐ No	☐ Yes ☐ No				☐ Yes ☐ No
	☐ Yes ☐ No	☐ Yes ☐ No				☐ Yes ☐ No
	☐ Yes ☐ No	☐ Yes ☐ No				☐ Yes ☐ No
	☐ Yes ☐ No	☐ Yes ☐ No				☐ Yes ☐ No

Are there any sediment discharges to a regulated area or potential wetland occurring or have any occurred since the last inspection? ☐ Yes ☐ No

If yes, contact the District Environmental Coordinator immediately and submit project incident report (include description of the discharge including location, time identified, and the approximate amount of sediment)

Incident report attached to this CSEIR? ☐ Yes ☐ No

"I have personally examined and am familiar with the information submitted in this document and all attachments and 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."

Prepared By: _____
Title: Signature: Date:

Review By: _____
Title: Signature: Date:

I acknowledge receipt of a copy of the CSEIR and will perform the required maintenance or remedial action indicated in the report.

Contractor: _____
Title: Signature: Date:

Appendix F – Notice of Termination Form

State Project No. 0047-0122



**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**

Notice of Termination Form: Non-Solar Projects

This Notice serves as a request to terminate the below listed permit as well as any applicable Letter(s) of Credit.

Part I: Permittee Information

The below information is required in accordance with Section 6(b) of the General Permit.

1. Permit Number: GSN		
2. Registrant:		
3. Site Address:		
City/Town:	State:	Zip Code:
4. Date of completion of construction:		
Date all storm drainage structures were cleared of construction sediment and debris:		
Beginning and Ending Dates of post-construction inspections:		
Date of final stabilization inspection(s)*:		
Qualified Inspector who conducted the Final Stabilization Inspection: (This person must sign Part III)		
5. Check the post-construction activity(ies)** at the site (check all that apply):		
☐ Industrial	☐ Residential	☐ Capped Landfill
☐ Commercial	☐ Solar Array	☐ Other:

* The Final Stabilization Inspection must occur at least one full growing season after final stabilization has been achieved. A full growing season is defined as the timeframe encompassed by two consecutive full seeding seasons: April 1 through June 15, and August 15 through October 1. If final stabilization is achieved during a seeding season, the following seeding season will be considered the first full seeding season after final stabilization has been achieved.

** If the post-construction activity involves solar arrays, the Department may require that the "Solar Projects: Notice of Termination Form" be used. Any questions regarding the necessity of such a form for the project can be sent via email to DEEP.StormwaterStaff@ct.gov.

Part II: State Agency Post-Construction Inspection Certification

The below information is required in accordance with Section 5(b)(4)(C)(iii) of the General Permit.

Certification by a DOT District Engineer or his/her designee / a DOT District Environmental Coordinator / a designated employee of another state agency

"I hereby certify that I am a DOT District Engineer or his/her designee / a DOT District Environmental Coordinator / a designated employee of another state agency as defined in Section 2 of the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit). I am familiar with the site described in this Notice of Termination and the requirements of the general permit. I certify, based on my personal inspection of the site pursuant to Section 6(a) of the general permit that all post-construction measures have been installed as specified in the permittee's Stormwater Pollution Control Plan and in accordance with Section 5(b)(2)(C) of the general permit and that all such measures have been cleaned of construction sediment and debris. I understand that this certification is part of a registration submitted in accordance with section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature

Date

Printed Name

Title

Check off the qualifications of the signatory of the above part:

- ☐ Qualified Professional Engineer ☐ Qualified Soil Erosion and Sediment Control Professional ☐ Representative of the District

All Projects Must Complete the following Part III - (Attach additional sheets as needed)

Part III: Final Stabilization Inspection Certification

The below information is required in accordance with Section 5(b)(4)(D) of the General Permit.

Certification by a Qualified Inspector

"I hereby certify that I am a qualified inspector as defined in Section 2 of the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit). I am familiar with the site described in this Notice of Termination and the requirements of the general permit. I certify, based on my personal inspection of the site pursuant to Section 6(a) of the general permit that the site has been stabilized, as defined in Section 2 of the general permit, for a period of no less than one full growing season following the cessation of construction activities. I further certify that there is no active erosion or sedimentation present on site and no disturbed areas remain exposed. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Qualified Inspector

Date

Printed Name of Qualified Inspector

Title

All Projects Must Complete the following Part IV - (Attach additional sheets as needed)

Part IV: Permittee Certification

The below information is required in accordance with Section 5(b)(4)(D) of the General Permit.

Certification by the Permittee

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

Signature of Permittee

Date

Printed Name of Permittee

Title

All Projects Must Complete the following Part V - (Attach additional documentation as needed)

Part V: Additional Submittals

The following attachments are required to be submitted along with the Notice of Termination Form:

- ☐ Post-Construction Inspection Report (must contain photos with time stamps)
- ☐ Final Stabilization Inspection Report (must contain photos with time stamps)

Complete and submit this form in accordance with the general permit (DEEP-WPED-GP-015) to ensure the proper handling of the termination. Print or type unless otherwise noted.

Submit this Notice of Termination Form to the address below, as well as via email to DEEP.StormwaterStaff@ct.gov:

WATER PERMITTING AND ENFORCEMENT DIVISION/STORMWATER GROUP
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127