February 21, 2020

Ms. Janet Anderson
Town Manager
Town of Islesboro
PO Box 76
Islesboro, ME 04848
Manager@townofislesboro.com

Re: The Narrows, Main Road Reconstruction Project Summary

Dear Ms. Andersen,

CES, Inc. (CES) is pleased to provide this report summarizing the project solution, draft construction plans and material quantity list for The Narrows, Main Road Reconstruction Project in the Town of Islesboro, Maine. Please find below, a quick explanation of the project goals and our design methodology including explanations of the resulting, expected:

- Construction Methods;
- Permitting requirements;
- Schedule; and
- Materials Quantity List.

Project Background

The Site is limited to a 1,500-foot-long portion of Main Road, which runs through "The Narrows", a narrow strip of land that is bordered by tidal waters on both sides. "The Narrows" represents the only land-based access between the southern and northern portions of the island and will be vulnerable to increased periods of impeded vehicular and pedestrian access caused by a rise in sea-levels.

Islesboro's airport, MDOT Ferry Terminal and emergency response stations are all located on the southern portion of the Island, so maintaining access over Main Road is crucial to maintaining public safety for the inhabitants of the northern portion of the island. A report was completed in 2017 entitled "Present and Future Vulnerability to Coastal Flooding at Grindle Point and The Narrows" (The Report) prepared by Ransom Consulting Engineers and Scientists. The Report includes discussions about probable increases in minor, moderate and severe consequences due to the anticipated rise in sea-level over the next century. It also discusses possible actions that may counteract the impact of sea-level rise, including raising the minimum elevation of the roadway.

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Brewer, Maine 04412
T 207.989.4824
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Project Goal

The goal of the project is to raise the minimum elevation of Main Road, through "The Narrows" in an effort to maintain the current low risk level associated with minor, moderate and severe consequences (i.e., losing access over Main Road due to coastal flooding and/or road damage) resulting from rising sea-levels over time. Based information in The Report, it can be concluded that raising Main Road's minimum elevation by 2-feet will likely maintain the current risk levels.

Project Methodology

CES, Inc. conducted an in-the-field survey of the project area collecting existing horizontal and vertical features associated with Main Road and adjacent areas. Additionally, a field investigation to identify and delineate protected natural features, such as wetlands was conducted. The resulting information was processed and compiled into an Existing Conditions Base Plan. When reviewing the Base Plan, it was evident that the lowest elevation of the Main Road was approximately 10 feet and this elevation was present in more than one area. Given the conclusions taken from The Report we created a proposed vertical alignment over the existing vertical alignment down the apparent center of the roadway. The resulting profile limited the project area to approximately 1,500 linear feet.

The proposed vertical alignment establishes an overall minimum elevation of 12 feet and an average maximum elevation of 13 feet along the project length. There are transition slopes at either end of the project to tie into the existing roadway. The design utilizes minimum 1 percent slopes along the centerline and a roadway crown of approximately 2 percent to minimize flat areas and promote drainage away from the travel surface.

The roadway design does not propose to change the horizontal layout of the road, or its width. We do expect some impact on existing wetland areas, as the overall footprint of the disturbed area will increase due to the rise in elevation. The rise in elevation will also require a proportional rise in elevation for the existing large stone revetments along the east side of the project area. The impacts to wetland and the revetments will require certain State and Federal permitting.

Construction Methods

Major construction tasks for the project will include:

- Grinding/pulverizing of the existing pavement into the road's sub-base gravel layer to produce a reclaimed sub-base gravel for use in the new roadway construction;
- Placement and compaction of new sub-base gravel to establish new roadway base for paving;
- Add large stone to existing revetment walls;
- Replace existing culvert;
- install and stabilize drainage outlets and sideslopes;
- Install and compact new pavement; and

- Finalize transitions between pavement and new and existing gravel/stone features.

Expected Permitting Requirements

Due to the proposed impact of coastal wetlands adjacent to Main Road, the Town will be required to obtain a Natural Resources Protect Act (NRPA) Individual permit from the Maine Department of Environmental Protection (MDEP). The current application fee for this permit is $529.00. The MDEP has also informed us that there may be a compensation fee of approximately $2,900.00 associated with the permit, because a portion of the wetlands that will be impacted may be defined as marshlands.

The proposed rise in elevation to the large, stone revetment wall on the southern end of the project will require permission from the United States Army Corps of Engineers, as they installed the wall in the mid-1980's. Since they no longer maintain or inspect the wall, this process is not expected to include an extensive review process.

CES is currently preparing preliminary application narratives and exhibits in preparation for submittal of the project to the MDEP and USACE. Submittal of permit applications will not occur until the Town is comfortable with funding for this project. Application processing may take up to 120 days. The processing fee for this activity will be. The wetland impact fee will be approximately $2,900.00

Draft Project Schedule

The proposed start date for this project is dependent upon successful funding efforts, preferred time of year and permitting. Below, we have included a discussion of the expected lead times for permitting and bidding and a typical construction schedule to better prepare the Town for finalizing a project schedule.

Lead Time:

It is expected that application materials could be submitted to the MDEP and USACE within two (2) weeks of notification to proceed. The review and processing of the permit application may take 120 days and is dependent upon the review agencies. Additionally, a public bid process to choose a contractor and finalize a contract for work is expected to take up to two months. Any construction work can not start until all permits are in-hand.

Given this information, we suggest that the Town consider the time of year they would prefer the construction to occur and work backward from there. We suggest that the permit applications be submitted at least 4 months prior to the desired start date and that public bidding process start at least 2 months prior.

Typical Construction Schedule:
Assuming a start date of the second week in May (of any given year) and a construction duration of approximately 2 months, we have prepared the following chart:

DESCRIPTION	DATE (TIME FRAME)	DURATION
Mobilization	Mid-May	Week 1
Establishing Erosion Control	Mid-May	Weeks 1-2
Establishing Traffic Control	Late-May	Weeks 2-8
Pavement Grinding	June	Week 3
Culvert/Drainage Work	June	Week 4
Gravel installation/compaction	June	Weeks 4-6
Sea Wall work	June	Week 6
Paving	July	Week 7
Final Grading/Stabilization	July	Week 8
De-Mobilization	July	Week 8-9

Material Quantity Table
Please find attached, a Material Quantity Table that can be used for pricing by a contractor. We have also included a table that has common pricing per unit included. These costs do not include any multipliers that would be necessary to account for the island location of the project.

Preliminary permitting application materials are currently being finalized for this project and will be in our files to efficiently assist the Town with the permitting process, once it is decided to move ahead with that work. It is our pleasure to work with the Town to create this important design to better protect access throughout the island for the next 50 to 100 years. Please let us know if you have any questions or requests regarding the information provided.

Sincerely,
CES, Inc.

Jon H. Whitten, Jr., P.E.
Project Manager

CES INC

12769.001 - Town of Islesboro
The Narrows, Main Road - Material Quantity Table
02.21.2020

Item No.	Description	Unit Cost	Unit	QTY	Amount
1	Mobilization	$ -	LS	1	$ -
2	Temporary Erosion Control	$ -	LS	1	$ -
3	Quality Control/Quality Assurance	$ -	ALLOW	1	$ -
4	Site Preparation	$ -	LS	1	$ -
5	Traffic Control	$ -	LS	1	$ -
6	MDOT Type A Base Gravel , 6"	$ -	CY	660	$ -
7	MDOT Type D Sub-Base Gravel , 24"	$ -	CY	3100	$ -
8	19 mm Binder Pavement, 2.5"	$ -	SY	3675	$ -
9	9.5mm Surface Pavement, 1.5"	$ -	SY	3700	$ -
10	Pavement Grinding/Pulverizing	$ -	SY	3700	$ -
11	Roadway Geotextile	$ -	SY	3675	$ -
12	Pavement Striping	$ -	LF	6080	$ -
13	12-Inch HDPE Culvert	$ -	LF	43	$ -
14	Rip Rap	$ -	CY	850	$ -
15	4-Inch Loam	$ -	CY	240	$ -
16	Seed and Mulch	$ -	UNIT	20	$ -

Construction Subtotals	**$ -**
20% Contingency	**$ -**
Construction Administration & Inspection	**$ -**
10% Engineering Fees	**$ -**
Total Improvements	**$ -**

12769.001 - Town of Islesboro
The Narrows, Main Road Reconstruction DRAFT Cost Estimate -
02.21.2020

Item No.	Description	Unit Cost	Unit	QTY	Amount
1	Mobilization	$ 18,000.00	LS	1	$ 19,500.00
2	Temporary Erosion Control	$ 10,000.00	LS	1	$ 10,000.00
3	Quality Control/Quality Assurance	$ 5,000.00	ALLOW	1	$ 5,000.00
4	Site Preparation	$ 5,000.00	LS	1	$ 5,000.00
5	Traffic Control	$ 10,000.00	LS	1	$ 10,000.00
6	MDOT Type A Base Gravel , 6"	$ 35.00	CY	660	$ 23,100.00
7	MDOT Type D Sub-Base Gravel , 24"	$ 30.00	CY	3100	$ 93,000.00
8	19 mm Binder Pavement, 2.5"	$ 20.00	SY	3675	$ 73,500.00
9	9.5mm Surface Pavement, 1.5"	$ 15.00	SY	3700	$ 55,500.00
10	Pavement Grinding/Pulverizing	$ 12.00	SY	3700	$ 44,400.00
11	Roadway Geotextile	$ 2.50	SY	3675	$ 9,187.50
12	Pavement Striping	$ 0.20	LF	6080	$ 1,216.00
13	12-Inch HDPE Culvert	$ 100.00	LF	43	$ 4,300.00
14	Rip Rap	$ 50.00	CY	850	$ 42,500.00
15	4-Inch Loam	$ 60.00	CY	240	$ 14,400.00
16	Seed and Mulch	$ 100.00	UNIT	20	$ 2,000.00

Construction Subtotals	**$**	**412,604**
20% Contingency	**$**	**82,521**
Construction Administration & Inspection	**$**	**5,000**
10% Engineering Fees	**$**	**26,250**
Total Improvements	**$**	**526,374**

THE NARROWS, MAIN ROAD RECONSTRUCTION PROJECT

ISLESBORO, MAINE

STATE OF MAINE

INDEX OF DRAWINGS

LOCATION MAP: USGS QUADRANGLE: ISLESBORO
SCALE: 1"=2000'
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ISSUED FOR CLIENT REVIEW

FEBRUARY 14, 2020

CES INC

ENGINEERS • ENVIRONMENTAL SCIENTISTS • SURVEYORS

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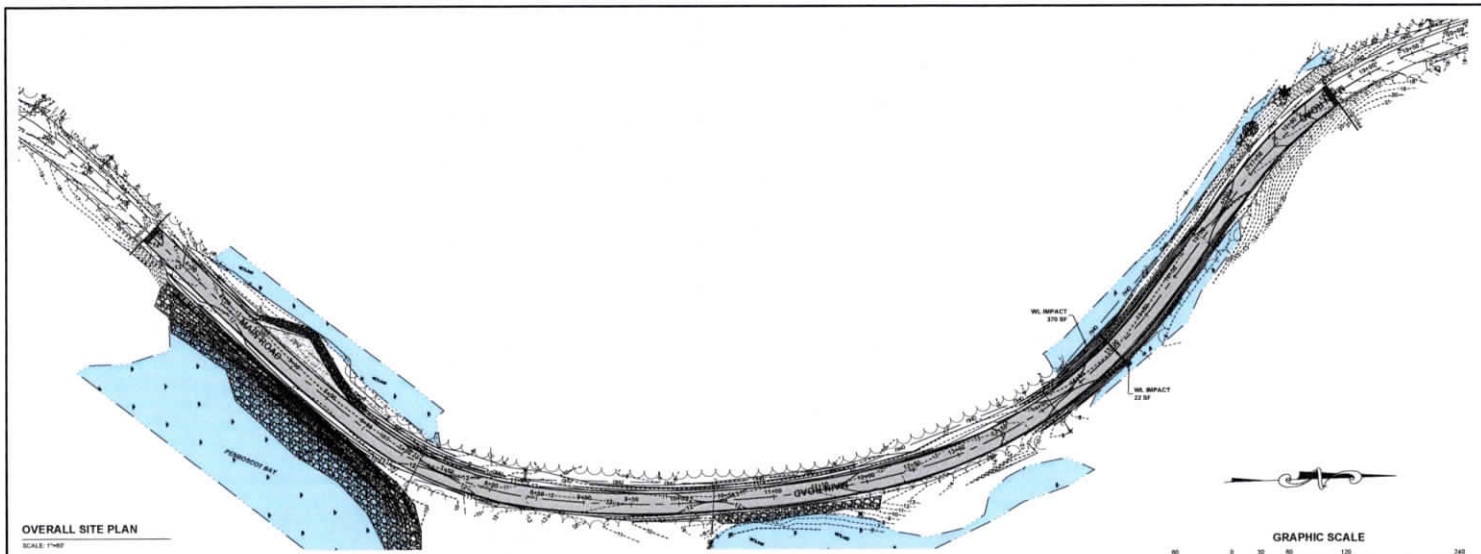
1356 State Highway 102, Bar Harbor, ME 04609, T: 207-288-0587, F: 207-288-0588
640 Main Street, Lewiston, ME 04240, T: 207-795-6099, F: 207-795-6128
61 Dublin Street, P.O. Box 587, Machias, ME 04654, T: 207-255-3270, F: 207-255-8367
549 Main Street, P.O. Box 827, Presque Isle, ME 04769, T: 207-764-8412, F: 207-764-8414
146 Main Street, Suite 300, Saco, ME 04072, T: 207-283-9151, F: 207-283-9136
44 Main Street, Suite 204, Waterville, ME 04903, Tel: 207-680-2202, Fax: 207-680-2204
BMK, a division of CES, Inc, 13041 McGregor Boulevard, Fort Myers, FL 33919, T: 239-481-1331, F: 239-481-1073

APPROVED:

STATE OF MAINE
WHITTEN, JR.
No. 10414
REGISTERED
PROFESSIONAL ENGINEER

JON WHITTEN, JR., P.E.

CES PROJECT NO. 12784.001



OVERALL SITE PLAN

SCALE: 1"=60'

LOCATION MAP: USGS QUADRANGLE: ISLESBORO
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SCALE: 1"=2000'

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft

LEGEND:

DESCRIPTION	EXISTING SYMBOL	PROPOSED SYMBOL
IRON ROD	●	NA
UTILITY POLE		
10' CONTOUR	120	120
2' CONTOUR	118	118
EDGE OF GRAVEL		
EDGE OF PAVEMENT		
PROPERTY LINE		NA
EXTERIOR PROPERTY LINE		NA
OVERHEAD UTILITY	OHU	
SILT FENCE	NA	
TREELINE		
ROADWAY / SIDEWALK		
GRAVEL SURFACE		
GRAVEL SURFACE		

GENERAL CONSTRUCTION NOTES

1. THIS PROJECT GENERALLY CONSISTS OF THE RECONSTRUCTION OF APPROXIMATELY 1,500 LF OF ROADWAY AND RIP-RAP SEA-BARRIER FOR MAIN ROAD THROUGH "THE NARROWS" IN THE TOWN OF ISLESBORO, MAINE. PROVIDE ALL SURFACE RESTORATION, EROSION CONTROL, TRAFFIC CONTROL AND OTHER WORK AS SPECIFIED OR APPURTENANT.
2. CONTRACTOR TO PROVIDE OWNER AND ENGINEER WITH A WORK PLAN OUTLINING THE WORK SCHEDULE, TRAFFIC CONTROL PLAN, AND WORK AREA BARRICADING PLAN TO BE APPROVED BY THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING A PRE-CONSTRUCTION VIDEO OF THE PROJECT AREA. COST SHALL BE INCIDENTAL TO THE PROJECT. CONTRACTOR TO PROVIDE A COPY OF THE VIDEO TO THE OWNER AND ENGINEER.
4. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE TOWN OF ISLESBORO, UTILITY COMPANIES, DIG SAFE, EMERGENCY SERVICES, AND MAINE DEPARTMENT OF TRANSPORTATION (MDOT) WHERE APPLICABLE. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK TO ALLOW SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF ALL BURIED UTILITIES. CONTRACTOR SHALL ALSO CONTACT "DIG SAFE", TELEPHONE NO 811 OR 888-DIG-SAFE. REPAIR OF ANY DAMAGED UTILITY WILL BE INCIDENTAL TO THIS PROJECT.
5. THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER IN WRITING OF ANY CONDITION OR OCCURRENCE THAT REPRESENTS A CHANGE IN PROJECT SCOPE. VERBAL NOTIFICATION IS REQUIRED PRIOR TO PROCEEDING WITH THE WORK OF THE PROJECT AND WRITTEN NOTIFICATION MUST BE PROVIDED. REQUESTS FOR FEE ADJUSTMENTS WILL NOT BE CONSIDERED UNLESS PROPER NOTICE IS GIVEN.
6. THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS AS REQUIRED TO PERFORM THE WORK AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE AND LOCAL CODES.
7. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS. PERMIT APPLICATIONS SHALL BE SUBMITTED WITH ADEQUATE TIME SO AS NOT TO DELAY CONSTRUCTION.
8. THE CONTRACTOR SHALL SUPERVISE AND INSPECT THE WORK OF THIS PROJECT IN AN EFFICIENT AND COMPETENT MANNER. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO COMPLETE THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE WORK IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. A REPRESENTATIVE OF THE GENERAL CONTRACTOR SHALL BE PRESENT DURING ALL PHASES OF THE WORK.
9. SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. PERFORM ALL WORK IN ACCORDANCE WITH SAFETY STANDARDS OF APPLICABLE LAWS, BUILDING AND CONSTRUCTION CODES, THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" PUBLISHED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AND THE REQUIREMENTS OF TITLE 9 OF THE CODE OF FEDERAL REGULATIONS, PART 1926, "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION".
10. THE LOCATIONS OF ALL PROPERTY LINES AND RIGHT OF WAYS ARE APPROXIMATE (SHOWN FOR REFERENCE ONLY), UNLESS NOTED OTHERWISE. PROPERTY LINES AND RIGHT OF WAYS SHOWN ARE NOT INTENDED TO REPRESENT LEGAL BOUNDARIES.
11. THE LOCATION, TYPE AND SIZE OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES SHOWN ON THE DRAWINGS ARE NOT WARRANTED TO BE EXACT NOR IS IT WARRANTED THAT ALL UNDERGROUND STRUCTURES ARE SHOWN. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. DEPTH OF SERVICES ARE UNKNOWN AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR. EXCAVATING TEST PITS AS NECESSARY TO VERIFY UTILITY LOCATIONS AND DEPTHS SHALL BE INCIDENTAL TO THIS PROJECT.
12. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING TOPOGRAPHY AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING PIPE SIZES, INVERTS, AND LOCATIONS, AND SHALL INCLUDE IN SUBMITTAL PRIOR TO ORDERING.
14. LAYOUT OF THE PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE APPROVED BY THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL GRADE AND LAYOUT CONTROL. LAYOUT SHOULD BE PERFORMED WITH SURVEY EQUIPMENT AND OVERSEEN BY A LICENSED SURVEYOR. A CAD FILE WILL BE AVAILABLE TO THE CONTRACTOR.
15. THE WORK SHALL INCORPORATE EROSION CONTROL MEASURES WHICH ARE COMPLIANT WITH THE LATEST VERSION OF "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES".
16. CONTRACTOR SHALL BE REQUIRED TO PROVIDE DUST CONTROL FOR PROJECT WHICH CAN INCLUDE, BUT IS NOT LIMITED TO, WATER AND CALCIUM CHLORIDE. COST IS INCIDENTAL TO THE PROJECT.
17. RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, GATES, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
18. HOURS FOR THE PROJECT WILL BE MONDAY THROUGH FRIDAY, FROM 7:00 AM TO 7:00 PM, UNLESS OTHERWISE AUTHORIZED BY THE OWNER.
19. CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROJECT WITHIN THE CONFINES OF THE RIGHT OF WAY OF THE STREETS AND UTILITY EASEMENTS. ANY ACTIVITY, MATERIAL STORAGE ETC., TAKING PLACE ON PRIVATE PROPERTY SHALL BE WITH THE EXPRESS WRITTEN PERMISSION OF THE OWNER AND PROPERTY OWNER AND COORDINATED WITH THIS OWNER. WORK OUTSIDE OF THESE LIMITS MAY BE REQUIRED. THE OWNER WILL COORDINATE SECURING EASEMENTS FOR THIS WORK.
20. DO NOT PARK, IMPEDE ACCESS TO, OR STORE EQUIPMENT ON ADJACENT TOWN OR PRIVATELY OWNED LOTS, UNLESS PERMISSION HAS BEEN GRANTED IN WRITING BY TOWN AND/OR LAND OWNER.
21. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT EQUIPMENT FLUIDS FROM REACHING ANY WATER COURSE. ANY INADVERTENT FLUID DISCHARGES SHALL BE IMMEDIATELY CLEANED FROM THE WATERS USING WHATEVER MEANS NECESSARY, AS DETERMINED BY THE ENGINEER.
22. CONTRACTOR SHALL BACKFILL TRENCH FOLLOWING EACH DAYS CONSTRUCTION. NO OPEN TRENCHES WILL BE ALLOWED OVERNIGHT UNLESS APPROVED BY ENGINEER AND PROPERLY BARRICADED (IE. SNOW FENCING, CHAIN LINK FENCING, JERSEY BARRIER OR APPROVED EQUAL. CAUTION RIBBON AND EQUIPMENT PLACEMENT WILL NOT BE APPROVED AS BARRICADING. CONTRACTOR IS RESPONSIBLE TO MAINTAIN TRENCH AS DIRECTED BY THE ENGINEER.
23. ALL FINISH SURFACES SHALL BE INSTALLED TO PROMOTE POSITIVE DRAINAGE. IN NO WAY SHALL THE NEW FINISH SURFACES CREATE DRAINAGE PROBLEMS THAT DID NOT EXIST PRIOR TO CONSTRUCTION.
24. IF REQUIRED, CONTRACTOR SHALL CONTACT UTILITY POLE OWNERS ADJACENT TO AREAS OF EXCAVATION TO ARRANGE POLE SUPPORT DURING EXCAVATION. BRACING OF UTILITY POLES WHERE REQUIRED SHALL BE INCIDENTAL TO THE PROJECT AND NO SEPARATE PAYMENT SHALL BE MADE UNLESS OTHERWISE NOTED.
25. ALL SIGNING, SIGNAL, AND STRIPING MATERIALS AND PLACEMENT SHALL CONFORM TO THE MDOT STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND STANDARD DETAILS AND WITH FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
26. RESTORE ALL AREAS DISTURBED BY CONTRACTORS OPERATION TO ORIGINAL CONDITIONS (GRAVEL, PAVEMENT, GRASS, CURB, ETC.) UNLESS NOTED OTHERWISE ON THE PLANS. RESTORATION OF ROADS, CURBS, PARKING SURFACES AND LAWNS DAMAGED BY THE CONTRACTOR SHALL BE INCIDENTAL TO THE PROJECT.
27. EXISTING FACILITIES, PLANTINGS AND IMPROVEMENTS (I.E. TREES, LIGHT POLES, SIGNS, CONCRETE SIDEWALK, ETC.) SHALL BE REMOVED AND REPLACED OR PROTECTED AS REQUIRED DURING CONSTRUCTION. THE ASSOCIATED COSTS ARE INCIDENTAL TO THE PROJECT.
28. ALL MATERIALS SCHEDULED FOR REMOVAL SHALL BE DISPOSED OF IN A LEGAL MANNER BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE OWNER HAS THE FIRST RIGHT AND REFUSAL FOR ANY DEMOLITION MATERIALS.
29. DISPOSAL OF SURPLUS SOIL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SURPLUS MATERIAL SHALL NOT BE DISPOSED OF ON THE PROJECT SITE. DISPOSAL SHALL BE MADE ONLY AT WASTE AREAS WHICH ARE LICENSED TO ACCEPT SUCH MATERIALS UNLESS THE MATERIAL IS ACCEPTABLE FOR USE AS FILL IN OTHER AREAS OF THE PROJECT. THE OWNER HAS THE FIRST RIGHT AND REFUSAL FOR ANY SURPLUS SOIL MATERIALS.
30. CONTRACTOR SHALL MAINTAIN TRAFFIC IN A SAFE MANNER AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MAINTAIN CONTINUOUS TRAFFIC FLOW DURING CONSTRUCTION. THE ROADS SHALL NOT BE CLOSED TO TRAFFIC WITHOUT PERMISSION FROM THE TOWN OF ISLESBORO.
31. DRIVEWAY APRONS SHALL BE PAVED TO MATCH PROPOSED ROADWAY. APRON DIMENSIONS SHALL BE APPROVED BEFORE PAVING. APRON AREAS SHOWN ON THE PLANS ARE APPROXIMATE.
32. PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT WILL BE RESET AT THE CONTRACTOR'S EXPENSE, BY A REGISTERED LAND SURVEYOR APPROVED BY THE ENGINEER.
34. THE OWNER REQUIRES THAT UPON COMPLETION OF CONSTRUCTION, A COMPLETE SET OF "AS-BUILT" DRAWINGS THAT REFLECT ANY AND ALL MODIFICATIONS WITHIN THE PUBLIC RIGHT OF WAY BE SUBMITTED TO THE TOWN OF ISLESBORO. THESE DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL (CAD) DRAWING AND HARD COPY FORMAT. A CAD FILE WILL BE AVAILABLE TO THE CONTRACTOR.

EROSION CONTROL NOTES

1. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL BMPS, PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION AND THE MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS, 2014 EDITION.
2. SILT FENCE WILL BE INSPECTED, REPLACED AND/OR REPAIRED IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOWMELT OR LOSS OF SERVICEABILITY DUE TO SEDIMENT ACCUMULATION AT A MINIMUM, ALL EROSION CONTROL DEVICES WILL BE OBSERVED WEEKLY.
3. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO CONSTRUCTION SITE.
4. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY A SUITABLE GROWTH OF GRASS. ONCE A SUITABLE GROWTH OF GRASS HAS BEEN OBTAINED, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED BY THE CONTRACTOR. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THESE ARE REMOVED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, SEEDED, AND MULCHED IMMEDIATELY.
5. ALL DISTURBED AREAS WILL BE SEEDED WITH 2.5 LBS. RED FESCUE AND 0.5 LBS. RYE GRASS PER 1,000 SQUARE FEET AND MULCHED AT A RATE OF 90 LBS. PER 1,000 SQUARE FEET OR EQUIVALENT APPLICATION OF SEED AND MULCH.
6. A SUITABLE BINDER (SUCH AS CURASOL, OR TERRTACK HM), BE USED ON THE HAY MULCH FOR WIND CONTROL.
7. IF FINAL SEEDING OF DISTURBED AREAS IS NOT COMPLETED BY SEPTEMBER 15th OF THE YEAR OF CONSTRUCTION, THEN ON THAT DATE THESE AREAS WILL BE GRADED AND SEEDED WITH WINTER RYE AT THE RATE OF 112 POUNDS PER ACRE OR 3 POUNDS PER 1000 SQUARE FEET. THE RYE SEEDING WILL BE PRECEDED BY AN APPLICATION OF 1 TONS OF LIME AND 800 LBS. OF 10-20-20 FERTILIZER OR IT'S EQUIVALENT. MULCH WILL BE APPLIED AT A RATE OF 90 POUNDS PER 1000 SQUARE FEET.
8. IF THE RYE SEEDING CANNOT BE COMPLETED BY OCTOBER 1st OR IF THE RYE DOES NOT MAKE ADEQUATE GROWTH BY DECEMBER 1st, THEN ON THOSE DATES, HAY MULCH WILL BE APPLIED AT 150 POUNDS PER 1000 SQUARE FEET.
9. INTERIOR SILT FENCES ALONG CONTOUR DIVIDING FLAT AND STEEP SLOPES, AREAS WITH DIFFERENT DISTURBANCE SCHEDULES, AROUND TEMPORARY STOCKPILES OR IN OTHER UNSPECIFIED POSSIBLE CIRCUMSTANCES SHOULD BE CONSIDERED BY THE CONTRACTOR. THE INTENT OF SUCH INTERIOR SILT FENCES IS TO LIMIT SEDIMENT TRANSPORT WITHIN THE SITE TOWARD THE PROTECTED CATCH BASIN INLETS TO MINIMIZE SEDIMENT REMOVAL REQUIRED BY THE EROSION CONTROL NOTE 8 PROTECTIONS AND EXTEND LIFE OF SUCH DEVICES.
10. THE CONTRACTOR SHALL PROVIDE A SEDIMENT BASIN FOR ALL WATER PUMPED FROM EXCAVATIONS. BASIN SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES". THE CONTRACTOR SHALL SUBMIT FOR REVIEW/APPROVAL PRIOR TO BEGINNING ANY PROJECT WORK.
11. BASIC STANDARDS - EROSION CONTROL MEASURES:
MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE.

SURVEY NOTES

1. FIELD SURVEY PERFORMED BY CES, INC ON MAY 5, 2019 AND MAY 7, 2019.
2. HORIZONTAL DATUM BASED ON MAINE STATE PLANE EAST ZONE, NORTH AMERICAN VERTICAL DATUM OF 1983 (NAD83).
5. VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

CES INC
Engineers • Environmental Scientists • Surveyors

THE NARROWS, MAIN ROAD RECONSTRUCTION
ISLESBORO, MAINE

OVERALL PLAN AND GENERAL NOTES

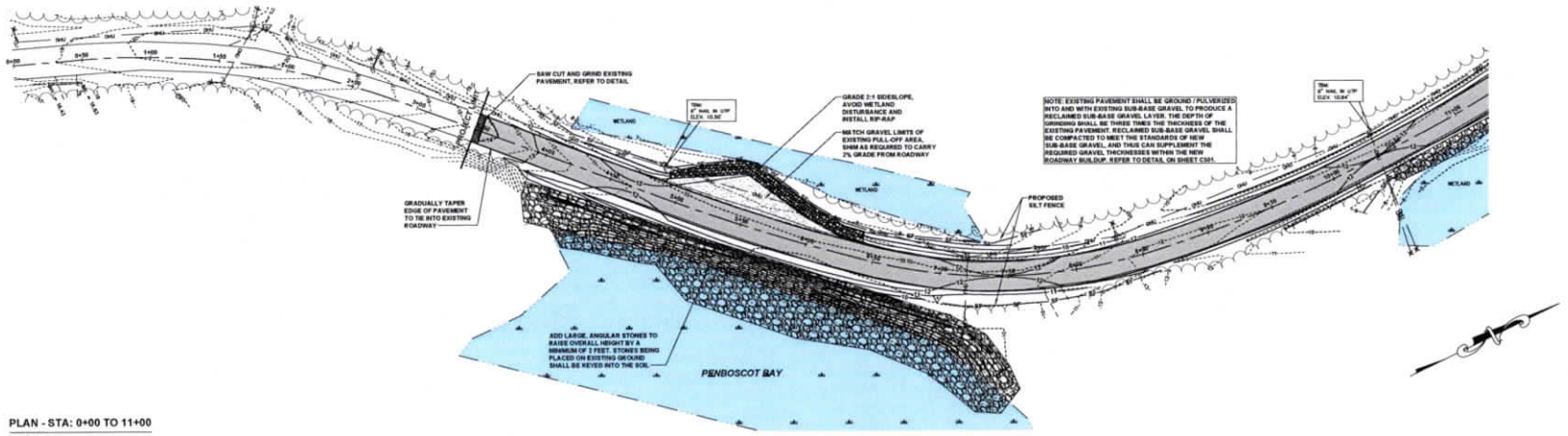
NO	DATE	BY	DESCRIPTION
1	2020-03-14	JHW	ISSUED FOR CLIENT REVIEW

NOT FOR CONSTRUCTION

STATE OF MAINE
JOHN H. WHITTEN
No. 10414
LICENSED PROFESSIONAL ENGINEER

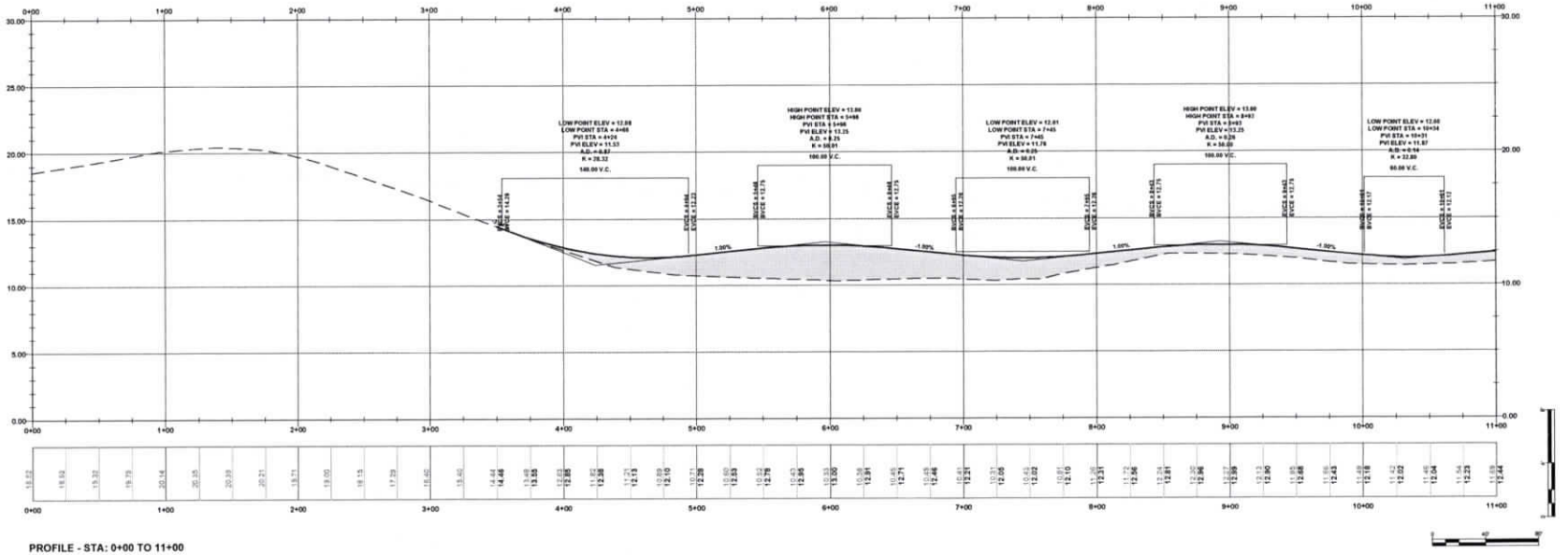
SCALE: AS NOTED
DATE: 2020-03-14
DESIGNED BY: BLG | CHECKED BY: JHW
DRAWN BY: BLG/JHW | APPROVED BY: JHW
CES PROJECT NO.: 12769.001

SHEET NUMBER: G101



PLAN - STA: 0+00 TO 11+00

SCALE: 1"=40'



PROFILE - STA: 0+00 TO 11+00

SCALE: H: 1"=40'
V: 1"=4'

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THE NARROWS, MAIN ROAD RECONSTRUCTION
ISLESBORO, MAINE

NARROWS ROAD
PLAN AND PROFILE
STA: 0+00 TO 11+00

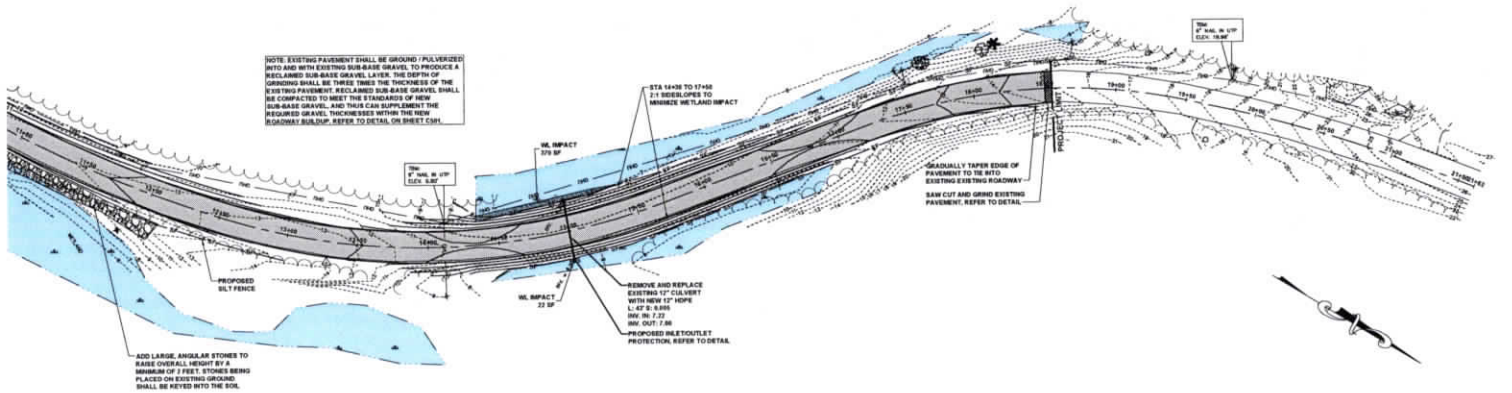
NO.	BY	DESCRIPTION	DATE
1	JHS	ISSUED FOR CLIENT REVIEW	2020-02-14

NOT FOR CONSTRUCTION

STATE OF MAINE
JOHN H. WHITTEN, JR.
No. 10974
LICENSED PROFESSIONAL ENGINEER

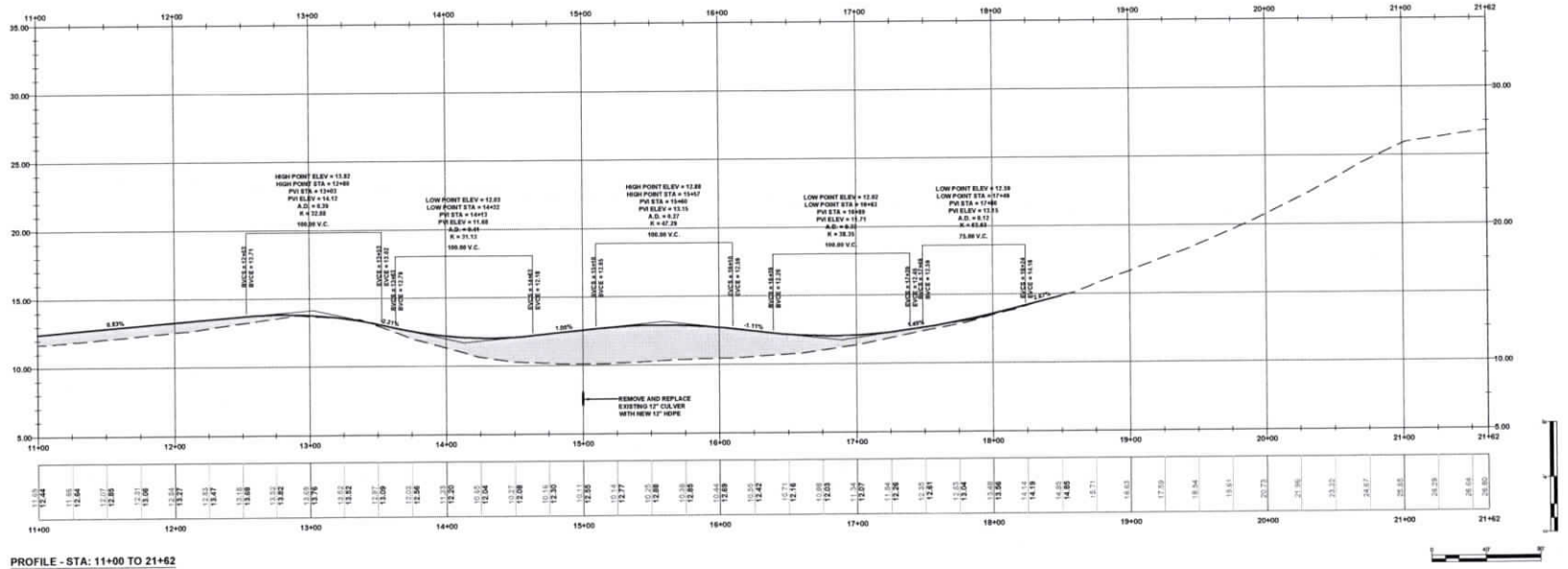
SCALE:	AS NOTED
DATE:	2020-02-14
DRAWN BY:	WAB/RLC
DESIGNED BY:	JHS
CHECKED BY:	JHS
APPROVED BY:	JHS
CES NUMBER:	12769.001

C201



PLAN - STA: 11+00 TO 21+62

SCALE: 1"=40'



PROFILE - STA: 11+00 TO 21+62

SCALE: H. 1"=40'
V. 1"=4'

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THE NARROWS, MAIN ROAD RECONSTRUCTION
ISLESBORO, MAINE

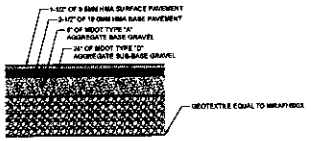
NARROWS ROAD
PLAN AND PROFILE
STA: 11+00 TO 21+62

NO.	DATE	DESCRIPTION	BY
1	2020-02-14	ISSUED FOR CLIENT REVIEW	JHW

NOT FOR CONSTRUCTION

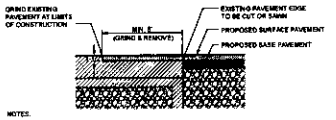
STATE OF MAINE
JOHN H. WHITTEN JR.
No. 10414
REGISTERED PROFESSIONAL ENGINEER

AS NOTED
DATE: 2020-02-14
DRAWN BY: WAB/BLC
CHECKED BY: JHW
APPROVED BY: JHW
CES PROJECT NO.: 12788-001
DRAWING NUMBER: C202



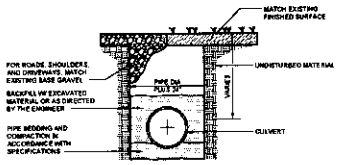
TYPICAL ROADWAY BUILDUP DETAIL

N.T.S.



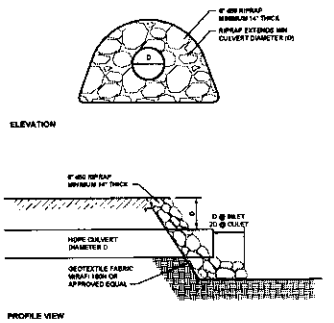
TYPICAL ASPHALT PAVEMENT GRINDING DETAIL

N.T.S.



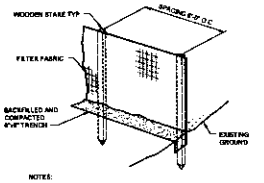
TYPICAL CULVERT TRENCH DETAIL

N.T.S.



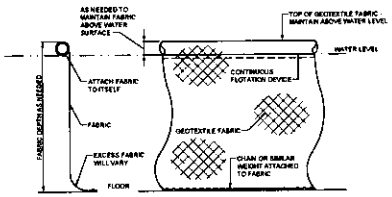
TYPICAL CULVERT INLET/OUTLET PROTECTION DETAIL

N.T.S.



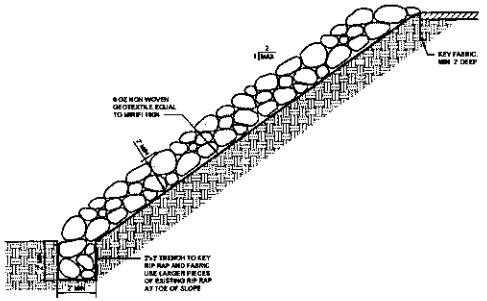
SILT FENCE DETAIL

N.T.S.



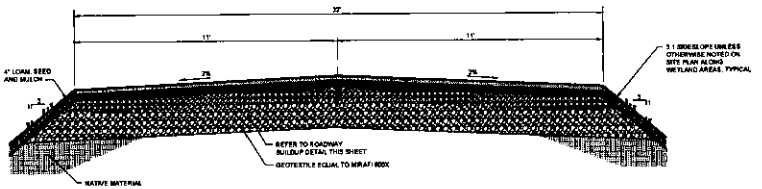
TURBIDITY CURTAIN DETAIL

SCALE: NTS



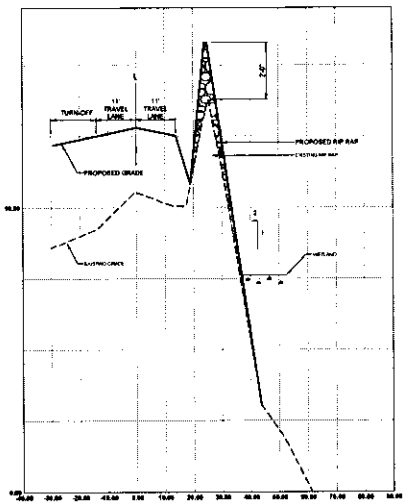
RIP RAPPED SLOPE STABILIZATION DETAIL

N.T.S.



TYPICAL ROADWAY CROSS SECTION

N.T.S.



SECTION @ STA 5+50

N.T.S.

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THE NARROWS, MAIN ROAD RECONSTRUCTION
ISLESBORO, MAINE

DETAILS

NOT FOR CONSTRUCTION

AS NOTED
2005-02-14
BLQ
JHN
12169.001

C501