**STATE OF MAINE**
DEPARTMENT OF TRANSPORTATION

**SPECIFICATIONS**
Design: Load and Resistance Factor Design per AASHTO LRFD
Bridge Deck Specifications, 8th Edition

**DESIGN LOADING**
Live load: HL-93 Modified for Strength 1 (Track only increased 25%)  

**TRAFFIC DATA**
Current (2012) AADT: 18,660  
Peak (2033 AADT): 19,859  
Design Hour Volume: 2783  
Heavy Trucks (% of AADT): 3%  
Heavy Trucks (% of DHV): 3%  
Directional Distribution (% of DHV): 56%  
18 kip Equivalent F 2.5: 189  
18 kip Equivalent F 2.5: 181  
Design Speed (mph): 35 mph

**HYDROLOGIC DATA**
Drainage Area: 3435 sq mi  
Ordinary High Water Discharge (Q1): 57,500 cfs  
Check Discharge (Q100): 99,790 cfs  
Headwater Elevations & Discharge Velocities vary due to nearby dam and due to riverbed topography

**MATERIALS**
Concrete: Sidewalk and Concrete Barrier: Class "LP"  
Seals: Class "B" [Unclassified]  
All Others: Class "A"  
Reinforcing Steel:  
Deck, Sidewalk and Concrete Barrier: ASTM A 992/A 992M, Grade 75  
All Others: ASTM A 615/A 615M, Grade 60  
Structural:  
All Material (except as noted): ASTM A 709, Grade 50 Metalized  
High Strength Bolts: ASTM F 3125, Type 1, Galvanized

**I 90% PROGRESS PLANS**
7/22/2020

**PROJECT LOCATION**
Frank J. Wood Bridge # 2016 on the Brunswick-Topsham TL which carries Route 201/24 over the Androscoggin River  
Latitude 43°14.27'N Longitude 69°57.46'W

**PROGRAM AREA**
BRIDGE PROGRAM

**OUTLINE OF WORK**
BRIDGE REPLACEMENT

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Boring Logs (3 Sheets) 15  
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Geometric Layout Plan 17  
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Abutment No. 2 (6 Sheets) 19  
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**UTILITIES**
Central Maine Power  
Brunswick & Topsham Water District  
Consolidated Communications  
FlexLight Fiber  
Curtis Corporation  
Great Works Internet  
Topsham Sewer District  
Lincolnville Communications

**MAINTENANCE OF TRAFFIC**
Maintain two lanes of traffic (one each direction) over existing bridge and approaches during construction.
| Item No. | Description | Unit Cost-
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This is an AutoCAD drawing of the estimated quantities for various construction items, including concrete sidewalks, driveways, and other improvements. The drawing is used in the planning and budgeting process for a construction project.
GENERAL CONSTRUCTION NOTES

1. The utility locations in this contract are as follows: Central Maine Power Company, Brunswick & Topsham Water District, Topsham Sewer District, Consolidated Communications, Inc., Brunswick Communications, Inc., Fruitland Telephone, Great Woods Management, Inc., and Capital Coin.

2. All utility facilities shall be noted by the respective utilities unless otherwise noted.

3. Existing utility lines are not shown on the plans.

4. The location of existing underground utilities and drainage shown on plans and cross-sections is approximate and should be confirmed by the Contractor.

5. Placement Niches shown on the typical sections are intended to be noted.

6. Where underground pipe lines exist on existing power, the existing power line shall be new not to cross one line to the nearest vertical line as directed by the Resident. Broken or none existent pipe will not be permitted. Airwaves necessary for the protection of this joint will be considered incidental to the related contract hereon.

7. Clearing lanes shall be 20' beyond and parallel to the construction site lines or shown on the plans unless otherwise authorized by the Resident.

8. Shumps have been estimated to be removed under item 43.04, Renewing Shumps, however, where directed by the Resident, item 63.33, Shump/Filtering 

10. All utility facilities shall be noted by the respective utilities unless otherwise noted on the plans.

11. All work materials not used on the project shall be disposed of off the project in works environment. Unwanted materials, grading, clearing and routing of unused areas shall be considered incidental.

12. If foundation materials required under contracts, quantities shall need to be noted to the contractor for disposal or grading purposes.

13. Existing stumps shall be removed before the 15 pairs of stumps shown on the plans are to be developed as directed by the Resident.

14. Estimated quantities for required structural earth excavation, drainage and minor structures are informational only and represent the approximate minimum quantity required to be excavated or installed. The actual final quantities required will not be paid for directly, but will be considered incidental to the related contract hereon.

15. All utility facilities shall be noted by the respective utilities unless otherwise noted on the plans.

16. Any damages to the slopes caused by the contractor's equipment, personnel or operation shall be repaired to the satisfaction of the Resident. All work, equipment, and materials required to make repairs shall be the responsibility of the Contractor's agents.

17. All utility facilities shall be noted by the respective utilities unless otherwise noted on the plans.

18. The clearing and protective clearing lines shown on the plans are for estimating purposes only. Actual areas for clearing shall be established in the field by the contractor and approved by the Resident.

19. Cross slopes for normal and superelevated sections will be straight unless otherwise directed by the Resident. Cross slopes are to be noted and provided by the Department.

20. Where pavement under this contract joins an existing pavement, the existing pavement shall be repaired to the satisfaction of the Resident. All work, equipment, and materials required to make repairs shall be the responsibility of the Contractor.

21. The clearing and protective clearing lines shown on the plans are for estimating purposes only. Actual areas for clearing shall be established in the field by the contractor and approved by the Resident.

22. Any base pavement not surfaced before freeze will require temporary protective markings of paint, black, yellow, orange, green, white and line widths and will be considered part of Standard Specifications item 627.03, Temporary Protective Marking Signs, White or Yellow.

23. Any damage to the slopes caused by the contractor's equipment, personnel or operation shall be repaired to the satisfaction of the Resident. All work, equipment, and materials required to make repairs shall be the responsibility of the Contractor's agents.

24. The clearing and protective clearing lines shown on the plans are for estimating purposes only. Actual areas for clearing shall be established in the field by the contractor and approved by the Resident.

25. The contractor shall be responsible for costs associated with construction with the utility companies, if needed.
## Culvert Pipe

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<th>OPTION III</th>
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### Underdrain

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### Site Amenities

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### Bridge Dimensions

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**State of Maine**

**Department of Transportation**

**Brunswick-Cumberland**

**Drainage Summary**

**Frank J. Wood Bridge**

**90% Progress Plans**

**TAYLIN INTERNATIONAL**

**Sheet 5 of 128**
See Plan Sheet 3 for Bike Lane Pavement Marking Details.

1. See Plan Sheet 3 for Bike Lane Pavement Marking Details.

2. Topsoil & Riesel Location, St. 01-42.00, P.T., and St. 01-55.00, L.T., are detailed in the Topsoil & Riesel Location Plans.

3. See Lighting Plans and Details for Lighting Information.

4. Trench line signs shall be placed on their existing locations and real to the center of the bridge.

5. Removal of existing traffic signs shall be considered 100% complete to excavation.

6. Adjust to Grade (by others)

7. Remove and Crosswalk Markings.

8. Crosswalk Markings

Note: Arrows and Symbol Markings that Conform to the Delmar System or as Detailed in the Plan Sheet 3 for Bike Lane Pavement Marking Details. Traffic Control Devices (Current Estimates) Prepared by the Federal Highway Administration will be Acceptable.
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E = 12.88'
T = 144.10'
L = 285.15'
R = 800.00'

OFFSET

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**NOTES:**

1. See Plan Sheets and Cross Sections for Additional Information.
2. See Structural Plans for Retaining Wall and Hand Rail Information.
3. See Plan Sheets and Cross Sections for Additional Information.
SEE SHEETS LA-165, LA-201, LA-501 FOR BRUNSWICK SITE AMENITIES
1. The pavement, base, and subbase depths as shown on the plans are intended to be nominal.

2. When superelevation exceeds the slope of the low side shoulder, the low side shoulder shall have the same slope as the travelway.

3. The algebraic difference between the shoulder and travelway cross slopes 

4. The stationing shown under each typical is approximate.

5. The stationing shown under each typical is approximate.

6. Existing gravel will be regraded with applicable rental items. Type "C" gravel will be added to variable gravel areas as required.

---

**SUPERELEVATION TABLE**

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**Notes**

- The pavement, base, and subbase depths as shown on the plans are intended to be nominal.
- When superelevation exceeds the slope of the low side shoulder, the low side shoulder shall have the same slope as the travelway.
- The algebraic difference between the shoulder and travelway cross slopes shall not exceed 8%. The stationing shown under each typical is approximate.
- Existing gravel will be regraded with applicable rental items. Type "C" gravel will be added to variable gravel areas as required.
ITEM 608.15 BRICK WALK WITH BITUMINOUS BASE

Selection To Be Approved By The Resident.

The Existing Bricks As Closely As Possible. Final Brick应当匹配Standard Specifications Section 704.02 And Shall Match

Bricks Shall Meet Maine Department Of Transportation

2.0% 2.0%

11'-0" 11'-0"

1'-0" 1'-0"

5'-0" 5'-0"

6'-0" 6'-0"

1'-6" 1'-6"

Brick Walk with Bituminous Base

4" Brushed Reinforced Concrete Block (Typ.)

Grades To Drain

Curb Type I

French Drain

Existing Ground

Underdrain Type B

Sta 13+66.48 to Sta 13+95.00

TOPSHAM APPROACH DESIGN SECTION
Sta. 0+50.00 to Sta. 1+00.00

EXIST. 6" HARDWOOD, STA. 0+36.30

45.91 RT.

EXIST. STA. 0+52.85

24.23 RT.

EXIST. STA. 0+82.73

32.27 RT.

EXIST. STA. 0+89.86

56.50

2

0.00%

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Note: This generalized interpretive soil profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximations and have been developed by interpretations of widely spaced explorations and samples. Actual soil and bedrock transitions vary and are probably more erratic. For more specific information refer to the exploration logs.
Generalized Rock Descriptions:

PEGMATITE: hard, fresh, white and gray, and coarse to very coarse grained.

GNEISS: hard, fresh to slightly weathered, discolored, and tight to moderately wide. Joints are typically low to high angle, smooth, planar, close to moderately spaced, fresh to weathered, and coarse to very coarse grained.

Rhyolitic Tuff: hard, fresh, and gray and white, and fine to medium grained. Joints are typically low to high angle, smooth, planar, close to moderately spaced, fresh to weathered, and coarse to very coarse grained.

Notes: This generalized interpretive soil profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of wholly spaced explorations and samples. Actual soil and bedrock transitions may vary and are probably more erratic. For more specific information refer to the explorations log.
Actual soil and bedrock transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.

Note: This generalized interpretive soil profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of widely spaced explorations and cores. Actual soil and bedrock transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.
<table>
<thead>
<tr>
<th>Date Start/Finish</th>
<th>Boring No.</th>
<th>Datum</th>
<th>Sampler</th>
<th>Hammer Type</th>
<th>Casing ID/OD</th>
<th>Water Level</th>
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<tbody>
<tr>
<td>8/24/2016; 13:00-15:00</td>
<td>BB-BTAR-107</td>
<td>10/24/2016; 15:30-17:30</td>
<td>Automatic</td>
<td>WOR/C</td>
<td>22603.00</td>
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</table>

- **Definitions:**
  - **R** = Rock Core Sample
  - **RC** = Roller Cone
  - **LL** = Liquid Limit
  - **PL** = Plastic Limit
  - **T** = Terri. White
  - **W** = W.H. Bell

- **Remarks:**
  - Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those of record.

- **Lab Vane Undrained Shear Strength (psf):**
  - **q**

- **Pocket Torvane Shear Strength (psf):**
  - **p**

- **Unconfined Compressive Strength (ksf):**
  - **v**

- **Pocket Torvane Shear Strength (psf):**
  - **u**

- **Hydraulic:**
  - **w**

- **Rope & Cathead:**
  - **x**

- **Definitions:**
  - **D** = Depth (ft.)
  - **S** = Sample No.
  - **60/60**
  - **25**
  - **25+79.4, 17.0 ft Rt.**

- **Remarks:**
  - Driller:
    - Frank J. Wood Bridge #2016
  - Project:
    - Frank J. Wood Bridge #2016
  - BS = Bottom Stranger
  - HSA = Hollow Stem Auger
  - SSA = Solid Stem Auger
  - WOR/C = Weight of Rods or Casing
  - WOH = Weight of 140lb. Hammer
  - RC = Roller Cone
  - MU = Unsuccessful Thin Wall Tube Sample Attempt
  - MD = Unsuccessful Split Spoon Sample Attempt
  - MU = Unsuccessful Thin Wall Tube Sample Attempt
  - MD = Unsuccessful Split Spoon Sample Attempt

- **Soil/Rock Exploration Log:**
  - As-drilled boring locations and ground surface elevations were surveyed by MaineDOT.

- **Field Changes:**
  - 90% PLANS
  - BORING LOGS

- **Remarks:**
  - Frank J. Wood Bridge #2016
  - BS = Bottom Stranger
  - HSA = Hollow Stem Auger
  - SSA = Solid Stem Auger
  - WOR/C = Weight of Rods or Casing
  - WOH = Weight of 140lb. Hammer
  - RC = Roller Cone
  - MU = Unsuccessful Thin Wall Tube Sample Attempt
  - MD = Unsuccessful Split Spoon Sample Attempt
  - MU = Unsuccessful Thin Wall Tube Sample Attempt
  - MD = Unsuccessful Split Spoon Sample Attempt

- **Soil/Rock Exploration Log:**
  - As-drilled boring locations and ground surface elevations were surveyed by MaineDOT.
Notes:
1. Parking walls and sewer drains on approaches not shown for clarity. See existing wall key plan sheets for approach structure layouts not shown.
FOOTING NOTES:

1. The maximum factored applied footing pressure, per 502.219, "Structural Concrete, Abutments and Retaining Walls", shall be 26.4 ksf at Abutment No. 1 and 18.7 ksf at Abutment No. 2 at the strength limit state.

2. Reinforcing bars shall be placed at interfaces between existing and proposed concrete. Reinforcing bars in existing and proposed concrete shall be applied at an additional 1 foot as approved by the Resident. If the maximum factored applied pressure is increased, the top of the footing elevation shall be as shown on the plans.

3. Unreinforced leveling slab shall be placed on the base of the footing unless noted otherwise.

4. Unreinforced leveling slab and footing where applicable, shall be founded on sound, intact, unweathered or fractured rock or soil. Prior to placing the concrete, the bearing surface shall be washed with high pressure water and any depressions shall be filled using the appropriate backfill material as approved by the Resident. Where the bearing surface above water table, the bearing surface shall be denoted to level adjacent to the completed footings and footings shall have a level surface of 3 feet minimum, measured perpendicularly to the face.

5. Concrete in footings shall be placed under the influence of 30 ksf, "Concrete, Footings, and Retaining Walls of the footing.

6. Footing shall be placed on the base of the footing unless noted otherwise.

7. Reinforcing bars shall be placed at interfaces between existing and proposed concrete. Reinforcing bars shall be placed at interfaces between existing and proposed concrete.

8. Bedrock elevations are anticipated to vary and bedrock shall be roughened, as approved by the Resident. Additional 1 foot as approved by the Resident. If the maximum factored applied pressure is increased, the top of the footing shall be as shown on the plans and no additional reinforcing bars shall be placed on the base of the footing unless noted otherwise.

9. The maximum factored applied footing pressure, per 502.219, "Concrete, Abutments and Retaining Walls", shall be 26.4 ksf at Abutment No. 1 and 18.7 ksf at Abutment No. 2 at the strength limit state.

10. Bedrock elevations are anticipated to vary. Additional 1 foot as approved by the Resident. If the maximum factored applied pressure is increased, the top of the footing shall be as shown on the plans and no additional reinforcing bars shall be placed on the base of the footing unless noted otherwise.
ABUTMENTS NOTES:

1. Reinforcing steel shall have a minimum cover of 2 inches unless otherwise noted.

2. Cover joints, where waterstop is not required, shall be made in accordance with Standard Design Section 101.

3. Place 4 inch diameter drains in breastwall and wingwalls at 10 foot maximum spacing. The exact location will be determined by the Resident.

4. Construction Joint "K" shall be made in accordance with Standard Design Section 502, French Drains.

5. Expansion, contraction, and approach joints shall be made in accordance with Standard Design Section 502, Construction Details.

6. Details for Expansion & Construction Joints are Shown in Standard Details Section 502(01).

7. Coordinate vertical location of utility and bridge lighting conduit Penetration. See "Abutment No.1 Sections" or "Abutment No.2 Sections" for details.

8. See "Abutment No.1 Section" or "Abutment No.2 Section" for abutment sections.

9. Concrete in abutment stems, wingwalls, and footings will be paid under Item 502.219, "Structural Concrete Abutments and Retaining Walls". Concrete in unreinforced leveling slab shall be paid under Item 502.35, "Concrete Paving".

10. Concrete in abutment slabs, wingwalls, and footings will be paid under Item 502.35, "Concrete Paving".

11. See "Abutment No.1 Footing Plan" for additional footing and details.

12. Student:

13. Field Changes:

14. Concrete in abutment slabs, wingwalls, and footings will be paid under Item 502.35, "Concrete Paving".
ABUTMENT NO 1 ELEVATION

LEGEND:
C.J.R. = Construction Joint, Roughen
W.P. = Working Point
Surface " profile Min. (Typ.)
C.J.R. (See Notes) (Typ.)
Penetration Utility (Typ. at Pedestals)
Optional C.J.R. (Typ. at Pedestals)
Approach Rail TBD (Typ.)
Bridge Rail (Typ.)
Match Approach Curb
Warp Face of Curb to
Flow

Notes:
1. For additional notes and details, see sheet "Abutment No. 1 Plan".
2. For additional details on Proposed Brunswick Overlook Park Wall, see sheet "Abutment No. 1 Plan".
3. See Wingwall sheets for additional information and details of architectural features.
SECTION A-A
(Minimum cover reinforcement not shown for clarity)

LEGEND:
C.J.R. = Construction Joint, Roughened
S. = Surface 3/8" profile Min. (Typ.)
#P. = Marking Point

MIN. LAPS:
* 2'-0" (Horiz.)
* 3'-0" (Vert.)
* 3'-0" (Diag.)
* 3'-9" (Vert.)

Note:
1. For additional notes and details, see sheet "Abutment No. 1 Plan."
Notes:
1. For additional notes and details, see sheet "Abutment No. 1 Plan".
2. For additional notes on footing reinforcement, see "Abutment No. 1 - Footing Plan sheet."
Notes:

1. Existing abutment concrete removal will be paid under Item 202.10, "Removing Existing Concrete".

2. Payment for excavation required to remove concrete to limits shown on plans will not be made directly, but shall be considered incidental to Item 202.10, "Removing Existing Concrete".

3. For removal limits on the S.W. Wingwall, see "Abutment No. 1 Exist. SW Wing Removal" sheet.

4. Existing reinforcement encountered in support concrete portions shall be cut or burned off at or near the saw cut or shown on the plans to a manner approved by the Resident. Payment shall be considered incidental to Item 202.10, "Removing Existing Concrete".

5. Existing concrete to remain which is damaged as part of the removal operations shall be repaired by The Contractor in a manner approved by the Resident. No additional payment shall be made.

6. The Resident and Contractor shall determine concrete repair areas for areas of damaged/deficient concrete which will be visible in the final condition prior to the start of removal operations. Payment for concrete repair areas will be made under 518 items.

Payment for excavation required to remove concrete to limits shown on plans will not be made directly, but shall be considered incidental to Item 202.10, "Removing Existing Concrete."
Existing South Abutment
(See Notes)

Notes:
For additional notes and details, see
"Abutment No. 1 Existing Abut Removal" sheet.

Existing Bridge Seat
EL. 34.7

"F" Deep Sawcut

Approximate Existing Ground

SOUTHWEST WINGWALL REMOVAL PLAN

SOUTHWEST WINGWALL REMOVAL ELEVATION

Existing Concrete to be Removed

Existing Concrete to Remain

Existing S.W. Wingwall

Existing S.W. Wingwall

Existing S.W. Wingwall

Existing S.W. Wingwall
Approximate Bedrock and Finish Grade

Existing and Finish Grade

Proposed S.E. Wingwall

Existing Bridge Seat

Existing Concrete Abutment

Proposed Abutment No. 1

Existing Stone Masonry Abutment

Proposed Concrete Fill

Proposed S.E. Wingwall

Proposed S.E. Wingwall Footing

Existing Concrete Abutment

Proposed Abutment No. 2

SECTION A-A

Notes:

1. Concrete fill shall be placed as shown on the plans. All areas adjacent to existing concrete elements to remain, and proposed concrete equipment. The exposed face of the concrete fill shall match the batter and direction of the existing equipment to remain up to the elevation of the existing bridge seat, as shown on the plans. Existing concrete interfaces with proposed concrete fill shall be roughened to 1/4" minimum amplitude, in a manner approved by the Resident. Roughened surfaces shall be cleaned with high pressure water and air in a manner approved by the Resident prior to the application of any concrete fill. Payment for surface preparation and joint filler shall not be made directly, but shall be considered incidental to related 502 items. Payment for concrete fill will be made under Item 502.565, "Concrete Fill".

2. Existing concrete surfaces and proposed concrete fill surfaces which are within the bearing limits for the proposed retaining walls shall be roughened to 1/4" minimum amplitude, in a manner approved by the Resident. Roughened surfaces shall be cleaned with high pressure water and air in a manner approved by the Resident prior to the placement of any concrete fill. Payment for surface preparation and joint filler shall not be made directly, but shall be considered incidental to related 502 items. Payment for concrete fill will be made under Item 502.565, "Concrete Fill".

3. The dimensions provided on the plans are approximate. Final wall layout will match the batter and direction of the existing concrete and proposed concrete fill on which the retaining wall will be cast.

4. In the impacted portions of the retaining wall, the joint face of the wall will be heat treated with the top of wall thickness varying to match the batter of the existing abutment and proposed concrete fill below.

5. The top of wall over the existing S.E. bearing shall match the direction of the existing abutment, and the top of wall over the existing abutment shall be a constant width. The exposed surface of the wall in this location shall match the limits of the existing bridge seat. The wall surface other than the top of wall over the existing S.E. bearing shall match the direction of the adjacent bridge seat. Level surfaces other than the top of wall over the existing S.E. bearing shall match the direction of the adjacent bridge seat. Payment for joint filler shall not be made directly, but shall be considered incidental to related 502 items.

6. Prefinished joint filler will be provided at all interfaces between the proposed construction interfaces, and the existing concrete abutment or proposed concrete fill. Payment for joint filler will not be made directly, but shall be considered incidental to related 502 items.

7. All exposed concrete surfaces of existing and proposed concrete shall be coated with concrete protective coating to 1/2" below finish grade.
1. For wall notes, see sheet "Abutment No. 1 Overlook Wall Plan 1."
2. For railing details and grading, see landscaping sheets.
3. For wall notes, see sheet "Abutment No. 1 Overlook Wall Plan 1."
LEGEND:
- W.P. = Working Point
- C.J.R. = Construction Joint, Roughen

Notes:
1. For wall notes, see "Abutment No. 1 Overlook Wall 1" sheet.
2. For roof and grading details, see Landscaping Sheets.
3. For 90% progress plans, see "Abutment No. 1 Overlook Wall 1" sheet.
4. For field changes, see "Abutment No. 1 Overlook Wall 1" sheet.
Notes:

1. For Abutment Notes, see "Abutment No. 1 Plan" sheet.
2. For N.E. Retaining Wall notes and details, see sheet 27, "Abutment No. 2 Overlook Park Wall".
3. For N.E. Retaining Wall notes and details, see sheet 27, "Abutment No. 2 Overlook Park Wall".
4. Coordinate placement of leveling slab with required limits for existing Abutment No. 2, and with reconstruction limits for N.E. Retaining Wall. Unreinforced leveling slab will be cast against existing abutment after removal of the interfering wingwall. A bond breaker must be inserted between existing and fresh concrete.
1. See "Abutment No.1 Existing Abut Removal" sheet for concrete removal notes.
2. Removal limits for the N.W. Wingwall shall be coordinated to other construction of proposed
   Abutment No.2. The removal limits for this wingwall can be adjusted by the resident as
   required for maintenance of traffic.
Notes:
1. See "Abutment No. 1 Overlook Wall" sheet for wall construction notes.
2. See Landscaping Sheet for Grading and Handrail Details.
SEAL COFFERDAM NOTES:

1. The seal concrete placement dimensions shown represent the minimum seal size necessary to meet design requirements and are not based on the use of any particular sheet pile section.
2. The horizontal pay limit for seal concrete shall be to the dimensions shown on the plans. No additional payment will be made for concrete placed outside of these limits.
3. When sheet piling is used for seal cofferdams, appropriate rolled corners shall be used, and the inside face of the sheet piling shall be at or outside of the seal concrete dimensions shown.
4. The depth of the seal at Pier 1 is set for a water elevation of 16.5' and the cofferdam shall be vented at this elevation. The depth of the seal at Pier 2 is set for a water elevation of 23' and the cofferdam shall be vented at this elevation. The depth of the seal at Pier 3 is set for a water elevation of 28'-10" at an elevation of 3'-0". The depth of the seal at the time of construction is higher, the depth of the seals shall be adjusted.
5. Concrete seal at Piers 1, 2 and 3 shall be paid under Item 502.24, Structural Concrete Seal. A minimum of 20 evenly disturbed locations shall be taken after repairs are made. One additional core shall be taken in approximately the same location as the original core. The other core will be located by the Contractor and this location shall be approved by the Resident. All core holes shall be refilled using a non-shrink grout. The cost of all core holes shall be approved by the Resident.
6. Concrete seal shall be placed on bedrock cleared of all waterlogged rock, loose material, breakdown, and soil. Where the bedrock surface slope exceeds 1:4, the horizontal pay limit for seal concrete shall be to the dimensions shown on the plans. No additional payment will be made for concrete placed outside of these limits.
7. Seal concrete shall be placed on bedrock cleared of all waterlogged rock, loose material, breakdown, and soil where the bedrock surface slope exceeds 1:4, the horizontal pay limit for seal concrete shall be to the dimensions shown on the plans. No additional payment will be made for concrete placed outside of these limits.
8. The horizontal pay limit for seal concrete shall be to the dimensions shown on the plans. No additional payment will be made for concrete placed outside of these limits.
9. Reinforcing Steel Set "B" bars shall be placed as shown on the plans. No additional payment will be made for reinforcing steel outside of these limits.
**PIER NO. 2 FOOTING PLAN**

**Flow**

- **NOTE:**
  - See Pier No. 2 for reinforcing steel set "B" bars and embedment bar locations.
  - Adjust bar size at pier nose.
  - See "Pier No. 2 Reinforcement" for reinforcing steel set "B" bars.

**LEGEND:**
- C.J.R. = Construction Joint, Roughen
- Surface to gravel with (Typ.)
- W.P. = Working Plane

**SECTION A-A**

Concrete Seal

- **Reinforcing Steel Set "B"**
  - (See Note 1)
  - El. 14.0
  - El. 11.0
  - El. Varies

**NOTE:**
- See Pier No. 2 for reinforcing steel set "B" bars and embedment bar locations.
- Adjust bar size at pier nose.
PIER NO. 3 FOOTING PLAN

Flow

NOTE:
1. See "Pier No. 3 Reinforcement" for reinforcing steel set "B" bars and shaft dowel bar locations.
2. Adjust bar sizes at pier nose.

SHEET NUMBER

LEGEND:

C.J.R. = Construction Joint, Roughen
Surface (profile w/TYP.)
#A = Warking Feet

SECTION A-A

90% PROGRESS PLANS
Notes:
1. See individual retaining wall sheets for retaining wall geometry layout and details.
PLAN RETAINING WALL 1

1. See "PLAN drawings for E Construction and horizontal curve data.
2. See "PROFILE drawings for E Construction profile and vertical curve data.
3. See "RETAINING WALL FOOTING DETAILS" drawing for retaining wall footing details.
4. The maximum factored applied footing pressures in 5,820 ksf.
5. Structural Earth Excavation for Retaining Walls require more than 32 inches below the bottom of the structure will be paid for in accordance with Standard Specifications Section 206, Structural Excavation
6. Retaining steel shall have a minimum concrete cover of 2 inches on the walls and 3 inches in the footings unless otherwise noted.
7. Place 4½-inch drain tile in stem wall at HFT minimum spacing. The exact location will be determined by the Resident.
8. Dewatering areas are not required in accordance with Standard Details Section 503.
9. Construct French Drain behind the stem walls in accordance with Standard Specifications Section 505
10. Retaining walls and their footings shall be backfilled with Broomer Base.

RT = STA. 12+67.72

Elevation at Top

Grade (Typ.)

Pay Limits for

Alignment

Offset = 40.91' Lt.

Offset = 40.96' Lt.

Offset = 36.97' Lt.

Offset = 30.85' Lt.

Offset = 23.59' Lt.

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1. For Curb details and reinforcement, see sheet XXX.
2. For Pedestrian Rail details, see sheet XXX.
3. Sidewalk slab and brick work details, see sheet XXX.
4. Provide adequate lap length.
5. #5 Dowel shall be 3 feet long with a minimum embedment into footing of 1ft. The excess shall be imbedded into the stem to account for variation in height of the stem wall and to provide a minimum lap of 1ft with vertical bar of same size and spacing in the front face of the stem wall.
6. Critical area for bar spacing is located at the back face of the stem wall.
RETAINING WALL ELEVATION

Scale: 1" = 1'

RETAINING WALL STEM REINFORCEMENT

Scale: 1" = 1'

Temperature & shrinkage bars equally spaced at the end of Bump-out. Top bars for E.F. will taper to short end maintaining adequate clear to account for change in elevation.

90% PROGRESS PLANS
1. See "PLAN" drawings for E Construction horizontal curve data.
2. See "PROFILE" drawings for E Construction profile and vertical curve data.
3. See "REINFORCEMENT WALL FOOTING DETAILS" drawing for retaining wall footing details.
4. The minimum factored applied footing pressure for pier 1 is 140 ksf.
5. The maximum factored applied footing pressure for pier 1 is 140 ksf.
NOTES:

1. See "PLAN drawings for E Construction horizontal curve data.
2. See "PROFILE" drawings for E construction profile and vertical curve data.
3. See "RETAINING WALL FOOTING DETAILS" drawing for retaining wall footing details.
4. Pedestal Elevations are approximate. The actual elevations shall be adjusted to accommodate the bearings supplied by the contractor. The maximum factored applied footing pressure for pier 1 is 190 kPa.
5. The maximum factored applied footing pressure for pier 2 is 107 kPa.
NOTES:
1. See "PLAN" drawings for 6 Construction horizontal curve data.
2. See "PROFILE" drawings for 6 Construction profile and vertical curve data.
3. See "RETAINING WALL FOOTING DETAILS" drawing for retaining wall footing details.
4. See "SECTION A-A retaining wall reinforcement" drawing for retaining wall footing details.
5. The maximum factored applied footing pressure for pier 1 is 140 ksf.

SCALE: 1" = 1'
MOMENT SLAB REINFORCEMENT
(Topsham approach shown. Brunswick approach similar)

MOMENT SLAB TYPICAL SECTION REINFORCEMENT
Bearing Notes:

1. The initial dimension of the bridge shall be the responsibility of the Contractor. Dimensions and sizes of plates not shown are dependent on design loads, bearing type, capacity, and the manufacturer of the bearings. The shop drawings prepared by the manufacturer shall provide all pertinent bearing information. The finished bridge shall be constructed as shown by the Contractor and submitted with the shop drawings for approval prior to construction of the substructure units.

2. Bearing plates shall be placed on 6" thick preformed pads in accordance with the specifications.

3. Anchor rod spacing shall be coordinated with the bearing manufacturer.

4. Bearing installation shall be in strict conformance with the Standard Specifications Section 523 and the manufacturer’s recommendations.

5. The design temperature range shall be 125°F (-20°F to 105°F).

6. In the plane bearing setting corrections table, a negative dimension (-D) indicates an elevation direction. A positive dimension (+D) indicates an elevation direction.

7. All steels, unless otherwise specified, shall meet the requirements of ASTM A709/A709M, Grade 50W.

8. All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge, and a direction arrow that points upstream. All marks shall be permanent and shall be visible after the bearing is installed.

9. All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge, and a direction arrow that points upstream. All marks shall be permanent and shall be visible after the bearing is installed.

10. Unless otherwise specified, shall meet the requirements of ASTM A709/A709M, Grade 50W.

11. Bearing installation shall be in strict conformance with the Standard Specifications Section 523 and the manufacturer’s recommendations.

12. Masonry plates shall be placed on 6" thick preformed pads in accordance with the specifications.

13. Anchor rod spacing shall be coordinated with the bearing manufacturer.

14. Bearing installation shall be in strict conformance with the Standard Specifications Section 523 and the manufacturer’s recommendations.

15. The design temperature range shall be 125°F (-20°F to 105°F).

16. In the plane bearing setting corrections table, a negative dimension (-D) indicates an elevation direction. A positive dimension (+D) indicates an elevation direction.

17. All steels, unless otherwise specified, shall meet the requirements of ASTM A709/A709M, Grade 50W.
The connection plates shall be 9" minimum width. Intermediate stiffeners shall be 5/8"x6 3/4" minimum.

Connection plates shall be †" minimum thickness and 8" minimum width except where either flange exceeds 32 in.

Bolted cross frame connections shall be made using ‡" diameter, ASTM A325 Type 1 H.S. bolts. Hole size shall be allowed in areas of stress reversal. Bolt threads shall be excluded from the shear plane of field splice connections.

All web, flange, field splice plates, and cross frame members (including connection plates) in tension or stress reversal areas shall conform to Zone 2 Charpy V-notch impact test requirements of AASHTO M270. Girder webs shall be vertical under steel dead load.

No transverse butt-weld splices will be allowed in the flange plates or web plates within 10 ft. or 10 percent of the finished grade profile.

Girders may be either heat curved or cut curved in accordance with AASHTO specifications at the option of the Contractor.

Intermediate web stiffeners shall be plumb after erection and dead loading of the structure. Intermediate web stiffeners may be either plumb or normal to the top flange.

Bearing stiffeners shall be plumb after erection and dead loading of the structure. Intermediate web stiffeners may be either plumb or normal to the top flange.

Field splice connections shall be made using ‡" diameter, ASTM A325 Type 1 H.S. bolts. Hole size shall be allowed in areas of stress reversal.

Sections of flange plates or web plates between transverse stop splices or between a transverse stop splice and a field splice shall be no less than 20 ft. in length unless otherwise shown on the plans.

Filler plates may be steel conforming to the requirements of A709, Grade 36.
Diaphragm/Crossframe Type (Typ.)

Diaphragm Connector Plate (Typ.)

Stiffeners (Typ.)

Bearing Stiffeners (Typ.)

Intermediate Stiffeners (Typ.)

Field Splice (Typ.)

É Construction

É Construction

É Construction

É Construction

É Construction

É Construction

É Construction

90% PROGRESS PLANS
TABLE OF DIMENSIONS

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INTERMEDIATE CROSSFRAMES

TYPE N CROSSFRAME

TYPE W CROSS FRAME
**NOTES:**

1. Butt-welds at web and flange splices shall be ground flush in longitudinal direction of girder.

2. Transverse rows of shear connectors shall be placed radially along curved girders.

**BEARING STIFFENER LAYOUT - PIER LOCATIONS:**

- Abutment No. 2

**WEB BUTT WELD**

- See Web Butt Weld Details

**SHEAR CONNECTOR DETAIL**

- Girder

**DETAIL A**

- Studs

**TOP FLANGE CLIP**

- Abutment No. 2

**BEARING STIFFENER LAYOUT**

- Abutment No. 2

**WELDED SPlice TRANSITION**

- See Flange Butt Weld Details

- Complete Penetration Weld

- Brg. Stiffener

**TOP FLANGE CLIP**

- Abutment No. 2

**SHEAR CONNECTOR DETAIL**

- Girder

**DETAIL A**

- Studs

**FLANGE BURT WELD**

- Complete Penetration Weld

**FLANGE OR WEB BURT WELD**

- Complete Penetration Weld

**WELDED SPlice TRANSITION**

- Complete Penetration Weld

- Brg. Stiffener
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**Note:**
- Fluid Dead Load Deflection is due to fluid pressure and fluid volume.
- Superimposed Dead Load is due to dead weight, basic materials, and foundations.
Concrete Post

90% PROGRESS PLANS

SLAB PLACEMENT SEQUENCE

FRP Bridge Decking Type B (Typ.)
Concrete Post
Concrete Post with Light Pole
Proposed Construction Joint

Sequential Placement Number (Typ.)

Light Pole (Typ.)
Concrete Post with Light Pole
Proposed Construction Joint

Direction of Placement

Sequential Placement Number (Typ.)

Gutterline (Typ.)
Gutterline (Typ.)

Span No. 1: 160'-0" - Span No. 2: 205'-0"

Span No. 2: 205'-0" - Span No. 3: 245'-0"

See "Superstructure Slab Span No. 2" sheet for details

* Construction
* Construction

B R I D G E D E P A R T M E N T

ST A T E O F M A I N E

E. B. M. - Sheet No. 1

PLAN - SHEET NO. 1

SUPERSTRUCTURE SLAB

90% PROGRESS PLANS

DOMINO INTERNATIONAL
SUPERSTRUCTURE SLAB - SPAN NO. 3

5 Spaces @ 40'-0" - 800'-0"

Concrete Post with Light Pole

Concrete Post

Gutterline (Typ.)

Type B (Typ.)

FRP Bridge Drains

Proposed Construction Joint

Spaces @ 40'-0" = 20'-0"

Floor

17'-4"

5'-0"

34'-6"

6'-3"

69'-1"

35'-6"

17'-4"

5'-0"

5 Spaces @ 40'-0" - 800'-0"

Gutterline (Typ.)

Type B (Typ.)

FRP Bridge Drains

Proposed Construction Joint

Spaces @ 40'-0" = 20'-0"

Concrete Post with Light Pole

Concrete Post

Gutterline (Typ.)

Type B (Typ.)

FRP Bridge Drains

Proposed Construction Joint

Spaces @ 40'-0" = 20'-0"

Concrete Post with Light Pole

Concrete Post

Gutterline (Typ.)

Type B (Typ.)

FRP Bridge Drains

Proposed Construction Joint

Spaces @ 40'-0" = 20'-0"
**SLAB REINFORCING PLAN 2**

**NOTE:**
The slabs of both Superstructures Slack, Span No. 2.

**PLAN**
Plan No. 2 shown, Plan No. 1 (Side).
TRANSVERSE REINFORCING SECTION

- #5 @ 12" (Top)
- #5 @ 12" (Over Piers, Top)
- #6 @ 12"

É Construction

É Girder 1
É Girder 2
É Girder 3
É Girder 4
É Girder 5

- #5 @ 12" (Top)
- #5 @ 6" (Top)
- #5 @ 8" (Bot.)
- #5 @ 12"
- #5 @ 12"
- #5 @ 12"
- #5 @ 12"
- #5 @ 12"
Concrete Panels

5 Concrete Panels

Metal Panels

5 Metal Panels

Top of Sidewalk

Top of Deck

TYPICAL ELEVATION

Light Pole (Typ.)

Bridge Type Pattern

3" (Typ.)

B RIDGE RAIL SECTION

Concrete Post

Concrete Railing

Haunch

Sleel Flange

B RIDGE RAIL ELEVATION

Concrete Post

Concrete Railing

Concrete Post

Concrete Railing

SECTION A-A

SECTION B-B

SECTION C-C

2" Clr. (Typ.)

12 " Max. (Typ.)
Notes:

1. Each Expansion Device - Finger Joint consists of one backwall element and one superstructure element (or two superstructure elements over piers) with an expansion dams as required.

2. The Expansion Device shall be fabricated to be installed normal to grade.

3. Anchor studs shall be installed using automatically timed stud welding equipment.

4. The Expansion Device shall be fabricated with a joint opening of 'J' at 45°F. The joint opening shall be adjusted for temperature by the following formula:

\[ 0.00008 \times D \times \left( T - 45 \right) = \text{Adjustment (in inches)} \]

- 'D' is the distance in feet between the backwall and the nearest fixed bearing (the joints of abutments or between the fixed bearings or other slabs of the expansion joint). 'J' is the joint opening at the time of installation. 'J' is the difference between the temperature of the structure and 45°F.

5. A structure temperature above 45°F will result in a smaller joint opening.

6. After the Expansion Device Is In final position,wed the bar and Ring of the adjustment device with a Synch,Fit weld.

7. The backwall and backwall joint shall be in place before the Expansion Device is fixed in position. No allowance for movement due to dead load deflection is necessary.

8. The expansion in the joint - out may be passed with the cut / sidewalk concrete. An approved epoxy bonding agent shall be applied to different surfaces of the block / out before making the final concrete placement.

9. For details not shown see Standard Details 521(01) to 521(12).

Welding:

- Anchor studs shall be installed using automatically timed stud welding equipment.

- Welding to reinforcing steel will be allowed in the top of the abutment backwall above the block - out joint.
1. Fabrication and materials for the curtain trough, including galvanization of steel components, shall be in accordance with the provisions of Standard Specifications Section 521, Finger Joint and Fabric Trough.

2. The neoprene sheets shall be fabricated in one piece with no seams.

3. Curtain troughs shall be installed no less than two days after the placement of concrete.

4. Payment for curtain plates will be considered incidental to Item No. 521.23, Expansion Device – Finger Joint.

5. Payment for curtain troughs (per each), including anchor bars and associated hardware, will be made under Item No. 521.32, Fabric Trough for Finger Joint.

6. Curtain plate and anchor bar shall be hot dipped galvanized to the requirements of AASHTO M111 (ASTM 123).
DOWNSPOUT ATTACHMENT BRACKET DETAIL

DOWNSPOUT ELEVATION AT ABUTMENT 2

ELEVATION VIEW OF BRACKET

DOWNSPOUT NOTES:

1. FRP Downspouts shall be designed and detailed based on the dimensions for the downspouts shown and in accordance with Special Provisions Section 502, Fiber Reinforced Polymer Bridge Drains and Downspouts.

2. The exact position of the downspouts shall be determined in the field and shall be coordinated with Curtain Trough Details.

3. All plates and bars shall conform to AASHTO M670 Grade 36.

4. Brackets shall be galvanized in accordance with AASHTO M111 (ASTM A123) after fabrication.

5. All rods and related hardware shall be ASTM A307 and shall be galvanized in accordance with ASTM A153 (AASHTO M232).

6. Downspout and all related rods and related hardware shall be paid for under Item No. 502.703 FRP Downspouts.

7. At the contractor's option, alternate downspout details and locations may be submitted to the Resident for approval.
GENERAL NOTES - LIGHTING

1. Prior to the start of construction the contractor shall contact Dig Safe to locate all existing underground utilities within the work area and take all necessary precautions for protection of these utilities. Damage to underground utilities shall be reported to the satisfaction of the utility owner, with no cost to the department.

2. All materials and workmanship shall conform to the current edition of the national electrical code (NFPA70) and the terms of this project. Use of non-standard materials shall be subject to the approval of the department and shall be at the expense of the contractor.

3. All pedestrian path light pole foundations shall be inch diameter, 4-ft. deep and constructed in accordance with MEDOT standard detail 626.

4. All light pole foundations shall have a ground rod located 3 ft. immediately adjacent to the foundation that is bonded to the pole grounding conductor. All ground rods shall be 3/4-in. diameter, 10-ft. long with top of rod set 1 ft. below finish grade where rod is placed. In general, unless otherwise noted, the top surface of all pole foundations shall be set 4 inches above finish grade where pole is placed.

5. The contractor shall field verify final pole locations to avoid subsurface utilities, natural and built site features such as but not limited to sidewalks, drainage structures, guard rails and such features that would interfere with the installation of proper pole foundations. The contractor shall visit the site prior to regrading to ensure that he is fully aware of the site conditions which may affect his means and methods of construction.

6. Where conduit is run under existing pavement the contractor shall utilize the directional boring or jack method for conduit installation to avoid disturbing existing pavement.

7. Where lighting conduit is required to pass under existing utilities and the specified burial depth of conduit cannot be maintained, the contractor shall provide concrete protection of conduit in accordance with NEC Table 300.22.6.

8. In general, the scope of work will include the installation of a complete system of buried conduit, conduit encased in poured in place concrete, conduit encased in pre-cast or cast-in-place reinforced concrete pole foundations with anchor bolts, electric service, poles and luminaires.

9. Wherever manufacturers' names and catalog numbers are noted, they are noted to establish the quality, performance, and features required. It is not the intent to restrict materials to that manufacturer. Alternate manufacturers of equal quality and performance, and features will be acceptable if in the judgment of the department the proposed product is equal to those specified.

10. The installation of all underground conduit shall comply with Maine DOT standard detail 626.

11. Anchor bolt pattern for poles shall be coordinated with approved pole shop drawings. Shall be 3/4-in. galvanized diameter and length as recommended and supplied by pole manufacturers.

12. Wherever manufacturers' names and catalog numbers are noted, they are noted to establish the quality, performance, and features required. It is not the intent to restrict materials to that manufacturer. Alternate manufacturers of equal quality, performance, and features will be acceptable if in the judgment of the department the proposed product is equal to those specified.

13. Existing utility pole and luminaire to remain.

14. Turn conduit out of base, 2 ft. and cap for future use.

15. Provide expansion and deflection fittings in conduits crossing expansion joints, fittings shall be 0.5-in. galvanized catalog number 069550000. See detail sheet.

16. Waterfall cast iron F70026100000000000 fit anchor bolts, catalog number 021000000000000000. Catalog number 021000000000000000. Provide grouting according to anchor bolt manufacturer's instructions and extra flexible, impervious closed coupling encasing string attached to cover provide sealed and taped conduit openings for future conduit.

17. Use conduit system for blinker lighting and topsham lighting. Provide one spare conduit under roadway between sidewalk junction box, between sidewalk junction box and hand hole, and hand hole to service.

18. Quartz polycarbonate hand hole, 24 x 5 x 18 cat no. 24561b1073. See detail sheet for service upgrade.

19. Existing town of Topsham street lighting electric service, see detail sheet for service upgrade.

20. All materials and workmanship shall conform to the current edition of the national electrical code (NFPA70) and the terms of this project. Use of non-standard materials shall be subject to the approval of the department and shall be at the expense of the contractor.