BRIDGE IMPROVEMENT PROJECT
CULVERT NUMBER 70
SCHEDULE NARRATIVE

OVERVIEW

This Schedule and narrative is being submitted in accordance with the Proposal Documents for the Vt. Route 100 Improvements in the Towns of Wardsboro and Jamaica, ER STP 013-1(17), and more specifically for this particular narrative, Wardsboro BF 013-1(21), (hereinafter referred to as "project"). This Schedule for the Bridge Closure Period (BCP), upon approval from the VAOT, shall be utilized in planning and implementing the BCP.

The goal of this project schedule is to provide a comprehensive representation for the sequence of work that is to be performed, and thus, identifying potential areas of concern, all the while, ensuring that the BCP will be of the shortest duration possible.

PROJECT DESCRIPTION

The project involves the removal, and subsequent replacement, of an existing culvert, Culvert 70. The new culvert will be a precast reinforced concrete box culvert. The new precast box culvert will approximately 60 feet in length, and will also include the installation of precast concrete wingwalls and cut-off walls. Along with the culvert replacement, the project also involves making improvements to the stream channel once the culvert has been set.

PROJECT LOCATION

The project is within the Right of Way of Vermont Route 100, in Wardsboro, Vermont, approximately 7.7 miles south of the Junction of VT RTE 100 and VT RTE 30, and more specifically, located between mile markers 3.305 and 3.328.

CLOSURE REQUIREMENTS AND LIMITATIONS

In accordance with the project specifications, it is anticipated that this BCP will take place during the approved closure period of August 22nd to August 25th, 2014. Vermont Route 100 will be completely closed to traffic, no earlier than 6:00 PM on August 22nd, and will be reopened to traffic no later than 6:00 AM on August 25th.

Prior to the project being opened to traffic, the following requirements must be met:

A. Box culvert installed and backfilled
B. Subbase placed to grade
C. Temporary barrier installed

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Reviewed by: A. Gammell
Date: 8-14-14
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Schedule Narrative
Wardsboro BF 013-1(21)
Kubricky Construction Corp.

FLOW OF WORK

As can be seen from the attached schedule, the work required within this BCP will progress in a relatively linear fashion. Once the road has been properly closed, a crew will then begin the process of removing the existing culvert and excavating for the new structure, along with placing and grading the select granular fill bedding. It shall be noted that the stream diversion will be installed using alternating traffic patterns, and will be fully operational and functioning prior to the start of the BCP. Once the excavation and bedding crew has advanced far enough, another crew will then begin installing the structure on the downstream end. Once the first section has been placed, that crew will also install downstream wingwalls. Once these pieces have been installed, the crew will then continue installing the remaining box culvert sections and upstream wingwalls. Once the all of the box culvert pieces have been installed, the lifting and bolt pockets will be grouted, the waterproof membrane will also be installed at this time. Upon completion of these items, a crew will then begin backfilling the culvert with select granular fil, as well as placing the subbase above the culvert. Once the culvert has been backfilled, temporary barrier will be installed in preparation for traffic. A crew will also then restore the downstream and upstream channel sections, along with placing streambed mater within the culvert itself.

Once all of this work has been completed and deemed satisfactory, the temporary stream diversion will be removed and the stream will be allowed to enter the newly installed box culvert. The road closure materials will then be removed from the right of way, and traffic will then be restored.

WORK SCHEDULE

Since the allotted BCP is quite short, in is anticipated that crews will be working around the clock until traffic has been restored. Crews will work alternating 12 hour shifts. It is understood that working such demanding hours can lead to worker fatigue can become an issue, and as such, crews will be monitored to ensure safety remains the top priority.

RESOURCES

The work during this BCP will utilize two different types of crews.

A miscellaneous crew will be responsible for excavation, backfilling and place various granular materials, and shall have the following approximate configuration:

- Superintendent
- Operator and Excavator
- Operator and Loader
- Two Laborer(s)
- Dump Trucks

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The installation crew will be responsible for setting the precast units, and making sure all of the structural components are taken care of, and shall have the following approximate configuration:

- Foreman
- Operator and Crane
- Three Laborers
- Tractor Trailers

Some of this equipment may not be utilized during the entire duration of the BCP, and appropriate arrangements will be in place to ensure there are no delays due to equipment down time.

Flaggers and Uniformed Traffic Officers shall be used as required or needed. It is anticipated that the only subcontractors, other than flaggers and UTO, shall be A. D. Rossi, who will be installing the Sheet Membrane Waterproofing.

NON-TRADITIONAL LOGIC

As stated above, this BCP Schedule is relatively linear in nature, where, one tasks must be completed prior to the next one commencing. The only time this logic was not employed is in the installation of the downstream cut-off wall. This can, and will, take place prior to the crew completing the excavation and grading for the entire culvert. In this instance, after four hours of work, the excavation and grading will have advanced far enough ahead, the installation crew can install the cut-off wall, and then proceed to install the reaming precast sections.

CHALLENGES

Foreseeably, the biggest challenge to completing on time will be getting materials to the site in a timely manner.

The anticipated quantities of aggregate and stone products that will be needed will be stockpiled at an on-site location that will be readily accessible to the crews when needed. Arrangements will be made so that these materials will be able to be loaded and delivered to the work as it is needed.

The precast box culvert pieces, particularly the permitted loads, will be delivered to the project, and staged at a safe location that is out of the way. These pieces will then be trucked to a location where the crane will be able to pick them up and set them into their final location.

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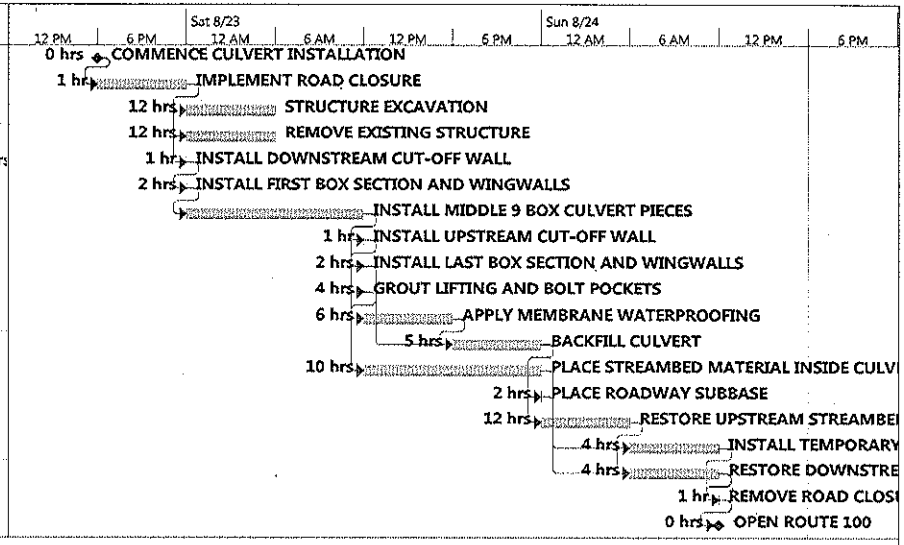
ID	Task Name	Duration	Start	Finish	Predecessors
1	COMMENCE CULVERT INSTALLATION	0 hrs	Fri 6:00 PM	Fri 6:00 PM	
2	IMPLEMENT ROAD CLOSURE	1 hr	Fri 6:00 PM	Fri 7:00 PM	1
3	STRUCTURE EXCAVATION	12 hrs	Fri 7:00 PM	Sat 7:00 AM	2
4	REMOVE EXISTING STRUCTURE	12 hrs	Fri 7:00 PM	Sat 7:00 AM	2
5	INSTALL DOWNSTREAM CUT-OFF WALL	1 hr	Fri 11:00 PM	Sat 12:00 AM	3SS+4 hrs,4SS+4 hrs
6	INSTALL FIRST BOX SECTION AND WINGWALLS	2 hrs	Sat 12:00 AM	Sat 2:00 AM	5
7	INSTALL MIDDLE 9 BOX CULVERT PIECES	10 hrs	Sat 2:00 AM	Sat 12:00 PM	6
8	INSTALL UPSTREAM CUT-OFF WALL	1 hr	Sat 12:00 PM	Sat 1:00 PM	7
9	INSTALL LAST BOX SECTION AND WINGWALLS	2 hrs	Sat 1:00 PM	Sat 3:00 PM	8
10	GROUT LIFTING AND BOLT POCKETS	4 hrs	Sat 12:00 PM	Sat 4:00 PM	7
11	APPLY MEMBRANE WATERPROOFING	6 hrs	Sat 12:00 PM	Sat 6:00 PM	7
12	BACKFILL CULVERT	5 hrs	Sat 6:00 PM	Sat 11:00 PM	9,10,11
13	PLACE STREAMBED MATERIAL INSIDE CULVERT	10 hrs	Sat 4:00 PM	Sun 2:00 AM	10
14	PLACE ROADWAY SUBBASE	2 hrs	Sat 11:00 PM	Sun 1:00 AM	12
15	RESTORE UPSTREAM STREAMBED	12 hrs	Sat 11:00 PM	Sun 11:00 AM	12
16	INSTALL TEMPORARY BARRIER	4 hrs	Sun 11:00 AM	Sun 3:00 PM	15,14
17	RESTORE DOWNSTREAM STREAMBED	4 hrs	Sun 11:00 AM	Sun 3:00 PM	13,15
18	REMOVE ROAD CLOSURE MATERIAL	1 hr	Sun 3:00 PM	Sun 4:00 PM	16,17
19	OPEN ROUTE 100	0 hrs	Sun 4:00 PM	Sun 4:00 PM	18



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Project: Wardsboro BF 013-1 (21)
Date: Wed 12:03 PM

Task		Project Summary		Manual Task		Start-only		Deadline	
Split		Inactive Task		Duration-only		Finish-only		Progress	
Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
Summary		Inactive Summary		Manual Summary		External Milestone			