FIELD REPORT #008

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Date:	October 4, 2022	**Project #:**	2021-083	***Page 1 of 5***
To:	Town of Effingham 68 School Street Effingham, NH 03882	**Project:** **Location:**	Bailey Road Culvert Replacement Effingham, NH	
Email:	townofeffingham@effinghamnh.net	**Owner:**	Town of Effingham	
Prepared By:	Christopher Fournier, PE	**Contractor:**	Jake Dawson's Excavation & Utility Services, LLC	
Weather Conditions:	60° Partly Cloudy			

SITE VISIT

Arrived at site: 3:00 PM **Left site at:** 3:55 PM

Personnel & Equipment on site:
» HEB Engineers, Inc. (HEB): Chris Fournier
» Jake Dawson's Excavation & Utility Services, LLC (Dawson's): Foreman (Andy), Owner (Jake Dawson), Bill, Mike
» Dawson's Equipment:
  o 1 Case Loader, 621F (idle)
  o 1 Case Excavator, CX145DSR (idle)
  o 1 Case Excavator, CX245DSR (idle)

Visitors to site:
» Province Lake Association Dam Master: Mark Hempton

Purpose of Site Visit:
» To meet with the Contractor to discuss progress and review alternate water diversion.

Work Performed by Contractor since last site visit:
» None.

Work Performed by Contractor during HEB site visit:
» None.

Items discussed/observed:
» Traffic controls and signals appear to be functioning properly.
» The Engineer and Contractor reviewed the existing water bypass, which is submerged at the inlet and half full at the outlet. This condition is not utilizing the full capacity of the bypass culvert. The Contractor reported the inlet elevation to be approximately 476.5 feet, slightly lower than the submitted invert elevation of 477 feet.
» The fill over the bypass culvert at each end remains uncontained by the cofferdam or plastic nor is it stabilized by riprap (see Photo 1). The Engineer notified the Contractor to correct this so sediment is not transported within the waterbody. It appears any sediment that has mobilized was contained by the downstream sediment barrier.

» The Engineer and Contractor discussed the conflict between the existing bypass location and the wingwall installation. The configuration of the precast concrete represents an atypical condition where the wingwall footing extends beneath the box culvert, resulting in the need to install the wingwall footings prior to the box installation. More typically, wingwall footings butt against the box culvert cutoff wall and are able to be installed separately. The Engineer offered that modifications to the proposed precast concrete would likely be acceptable to create a more typical situation and allow the bypass to remain in its current location and allow the Contractor to proceed with water diversion as they originally intended. The Contractor had determined their original water diversion scheme was not feasible.

» The Contractor then reviewed their alternate approach to water diversion with the Engineer – locating three bypass culverts to the west side, outside the limits of the wingwall installation. The Contractor explained that this alternative would eliminate the need for their proposed second bypass and remain in place for the entirety of construction. The elevation of the bypass was discussed. The Contractor proposes an invert elevation of 479 feet, which is roughly equivalent to the water elevation at the inlet. The Contractor reported that Mark (Province Lake Association Dam Master) believes the water at the culvert inlet is about a foot higher than normal, which indicates the bypass is causing a backwatered condition. Mark believed the dam removal on Friday (10/07/22) will only result in a lowering of the lake elevation by about 3 – 4 inches. The Engineer asked the Contractor to verify this proposed inlet elevation with their Subconsultant. The Contractor indicated the Subconsultant would be on site tomorrow to verify (10/05/22). The Engineer also wanted to discuss the outlet of the alternate bypass location. As previously submitted, the outlet elevation was to be 478 feet and discharge at the limits of the permitted wetland impacts, whereas the existing ground elevation per plan was shown to be 480 feet. The Contractor identified the bypass will need to be shortened and the existing ground to be excavated to allow for the bypass to be discharged at this location, again to be confirmed with their Subconsultant. The Contractor will provide an updated submittal as soon as possible.

» For either bypass location, the Contractor intends to install additional sheet pile, perpendicular to traffic, to enclose the existing excavation and cutoff groundwater penetration. Additional sheeting is scheduled to be delivered and installation will begin tomorrow.

» The Engineer inquired about the stability of the roadway at the boundary of the excavation, which is currently supported by a couple of road plates (see Photo 2). The Contractor admitted this to be a “band-aid” while the site is restored following the water diversion failure. The Engineer noted there is an outstanding need for a formal submittal to ensure the stability of the roadway and the safety of the public. The Contractor stated, they will be installing a large trench box at that location to accommodate the installation of the box culvert and will use road plates against the end of the trench box to support the roadway. Once the precast culvert is installed, the trench box will be removed and the plates will then bear against the precast culvert. The Contractor expects some roadway material will be lost and will cause temporary instability of the roadway, which will likely result in a closure of approximately 20 minutes, while it is stabilized. The Engineer will review this as part of the submittal process.

» The Contractor explained further challenges regarding the electric utility. The Contractor states they had coordinated a one-day power shutdown and overhead wire relocation in order to accommodate the precast culvert installation. The Contractor states the utility is now only offering a one-hour shutdown, without overhead wire relocation, and is requiring a two-week notice. The Contractor expects this to delay the progress and is pursuing other avenues to accommodate earlier precast culvert installation. With this delay looming, the Contractor is looking forward to the effects on completion prior to winter conditions. The current substantial completion date is October 31, 2022, and paving plants are known to close around mid-November, when ambient temperatures are not suitable for proper pavement installation. The Contractor is expecting to request a time extension from the Town. The Contractor stated they will likely propose to complete the precast culvert installation this fall, but are unlikely to be able to complete the roadway reconstruction and pavement prior to mid-November. The Contractor would intend to install the bridge rail and utilize precast barriers as approach rails, with a temporary paved surface on the existing gravels for the winter. This would require the Contractor to remobilize in the spring to complete the roadway reconstruction, pavement, and guardrail installation.

» Upon site observation, the Engineer noted to the Contractor that silt fence along the southeast corner of the site has been destroyed and needs to be replaced to adhere with the erosion and sediment control requirements (see Photo 3). Additionally, the Engineer noted silt fence missing along the southwest corner of the site, where material had been relocated (see Photo 4).

» The Engineer also followed up with the Contractor, confirming the need for a sedimentation bag to be installed according to the detail in the permit drawings prior to reactivation of the sedimentation basin (Photo 7083).

Work Scheduled:

» Wednesday, October 6, 2022 – Delivery and installation of additional sheet pile to enclose existing excavation from ground water penetration.

Outstanding Construction Issues:

» Erection plan submittal is needed to demonstrate the capability of roadway shoring (FR #002, 09/15/22).
» Stabilize site in accordance with erosion control requirements (FR#005, 09/22/22).
» Provide revised alternate water diversion submittal.
» Install silt fence along the southern edge of the site.
» Install sedimentation basin according to permitted detail.

Next Observation:

» To be determined.

Photos:

» Taken by Chris Fournier on October 4, 2022.

Photo 1: The fill over the bypass culvert at each end remains uncontained by the cofferdam or plastic nor is it stabilized by riprap. The outlet is shown above.

Photo 2: Southern side of roadway being supported by two road plates.

Photo 3: The southeast corner silt fence
has been destroyed.

Photo 4: Southwest corner silt fence is missing.

Copy: Jake Dawson's Excavation & Utility Services, LLC
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