

Copper River Watershed Habitat Enhancement Project
Cordova EVOS Site COP 43, 44, and 45
95% Plans and Specifications Review Comments
Steve McGroarty
November 15, 2019

Plans:

Sheet C-101:

- Typical Culvert Section –
 - The Subbase, Grading F culvert backfill layer that should surround the full perimeter of the culvert; and was shown in the 65% plans; has been eliminated. The culvert backfill should be Subbase, Grading F for a minimum of 18 inches around the perimeter of the culvert.
 - Note 1 – states “Excavated material may be used for Fill Material, Type A as approved by the Engineer, provided it conforms to 703-2.07-2 Selected Material, Type B.” Note 1 has been changed, but not as recommended in comments on the 65% Plan Set. The Typical Section was modified to eliminate Selected Material, Type B. If you deleted the Selected Material, Type B to simplify the typical section by eliminating a material type this is OK, but may be more restrictive than necessary. Note # 1 should be modified as follows: “Excavated material may be used for Selected Material, Type A located a minimum of 30 inches below the road surface, as approved by the Engineer, provided it conforms to 703-2.07-3 Selected Material, Type C.”
 - Note 4 requires coarse and fine materials (culvert filling) to follow the gradation noted in table 1 and 2 respectively. These gradations appear unnecessarily restrictive, difficult to adjudicate in the field and may be more expensive than is necessary.

Specifications:

General Requirements:

- Scope of Work-
 - Recommend that you discuss the question of road closure duration with Alaska DOT&PF Northern Region Maintenance Engineer (Dan Adamczak); I doubt that the road closures of 4 hours are adequate for culvert installation.
- Road Closures-
 - Language requires the contractor to provide alternative road routes if fully closing the road; I am not sure this is feasible on this project. Recommend that you discuss the question of road closure duration with Alaska DOT&PF Northern Region Maintenance Engineer (Dan Adamczak).

Section 203-3.01 GENERAL-

- The second paragraph requires the contractor to test and reuse existing material in construction if approved by the Engineer representative. I suggest that you may want to reconsider if this approach will be practical given the project location, logistics and timing limitations. It may be more expedient and practical to allow the excavation of the existing embankment to be used as Selected Material, Type A located a minimum of 30 inches below the road surface if it meets the requirements of Selected Material, Type C as this does not require laboratory testing. This approach may eliminate the need for the requirement to perform gradation tests on the existing embankment material as required by the third paragraph.
- Special Provision should specify how many gradation tests need to be conducted on the existing embankment material. One? One per culvert location? Also, a test of the road surface material may not be representative at all of the material excavated lower in the culvert excavation trench. The need for testing could be reduced or eliminated if the excavated material was used a minimum of 30 inches below the road surface and it meets the requirements of Selected Material, Type C.

Section 203-3.03 EMBANKMENT CONSTRUCTION-

- Special Provision needs to be revised as Subbase, Grading F should be used for backfill a minimum of 18 inches around the full perimeter of the culvert, not just for culvert bedding.
- The Selected Material, Type A and Subbase, Grading F needs to meet the requirements of Subsection 703-2.07 and 703-2.09 respectively, not simply come from a borrow source that can meet the requirements.
- Suggest the Special Provision be deleted, as it is unnecessary and could allow use of material that does not meet Selected Material or Subbase requirements. If it is not deleted, suggest it be revised as follows: Borrow materials for the new embankment shall be Selected Material, Type A. Culvert bedding and backfill (within 18-inches of culvert) shall be Subbase, Grading F.

Section 204-2.01 Materials-

- Culvert backfill within 18-inches of the culvert perimeter should be Subbase, Grading F.

Section 602-2.02 Geotechnical Data and Hydrology Information-

- Recommend that you modify this section to delete “the Department” and include whatever agency is going to be issuing the plans and entering into the contract for the work.

Section 602-5.01 BASIS OF PAYMENT-

- The first sentence indicates that “Structure excavation, bedding, and backfill for culvert is paid under this Section 602 (2).” Suggest that you consider simply stating that these items are subsidiary to 602 (2).

Section 611-5.01 BASIS OF PAYMENT-

- Suggest that you consider allowing use of excavated road embankment and material from culvert trench excavation for filling voids in riprap.