SNOHOMISH COUNTY DEPARTMENT OF PUBLIC WORKS	CHANGE ORDER JUSTIFICATION	CHANGE ORDER NUMBER
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PROJECT:	Index-Galena Road Flood Repair	PROJECT #:	RC1532, RC1774, RR6322
PROJECT ENGINEER:	Sam Chi	FED AID #:	ER-0701(063)

WRITTEN JUSTIFICATION

1. DESCRIPTION OF CHANGE.

This change order will increase and correct the quantity for Bid Item 11 "Sand Drainage Blanket, above what was included in the original Contract, as needed to construct the project.

- The original plan quantity for Bid Item 11, "Sand Drainage Blanket" was 4,227 CY. Increase estimated plan quantity of this bid item by 3,973 CY, for a revised total plan quantity of 8,200 CY.

2. WHAT IS REQUIRED BY CONTRACT? WHY THE CHANGE? (REFERENCE PLAN SHEETS & SPEC SECTIONS.)

The Contract requires the contractor to place sand drainage blanket under all roadway fill embankments per plan sheet TS04, for both earth embankments and rock embankments. This was confirmed by the Geotech Engineer of Record (Mike Harney/S&W) and Design Engineer of Record (Stuart Bennion/WSP) on May 21, 2022. The original estimated plan quantity of 4,227 CY and Engineer's Backup Estimate only accounted for sand drainage blanket under earth fill embankments and did not allocate quantity under rock fill embankments.

3. HOW IS CHANGE ORDER THE SOLUTION?

It allows the contractor to be compensated for the increase in bid item quantity required to complete the work as specified in the original contract.

4. ALTERNATIVE(S) CONSIDERED.

We considered minimizing/deleting sand drainage blanket at one rock embankment location where minimal groundwater seepage was witnessed between stations I 36+00 to I 44+00. However, the Geotechnical Engineer of Record recommended that we construct the sand drainage blanket per plan. No other alternatives were considered, a correction is needed to provide sufficient quantity of sand drainage blanket to complete the work as shown in the contract plans.

5. REASON FOR ENTITLEMENT AND WHY IT CANNOT BE PAID UNDER EXISTING CONTRACT.

The existing contract allows for variation in quantities from that which was estimated at the time of bid. However, Snohomish County does not have a mechanism to make payments to the contractor beyond the contract total established at the time of Award. The variation in quantities is large enough in this case to require an increase to the Snohomish County Purchase Order (PO) through execution of this change order.

6. APPROVALS: PROJECT MANAGER, TECHNICAL ADVISOR (TRAFFIC, STRUCTURAL), JURISDICTION, OTHER AGENCY.

Standard change order approval (Construction Manager, Engineering Services Director, County Engineer).

7. TIME: INCREASE OR DECREASE WORKING DAYS.

Zero (0) working days will added to the Contract. The quantities were increased in this change order to align with the work already described in the contract plans and do not create a need for additional working days.

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8. COST: ESTABLISH OR VERIFY INCREASE OR DECREASE.
(CONTRACTOR PROPOSAL, ENGINEER'S ESTIMATE, NEGOTIATED, SUPPLIER, BID ITEM, ETC.)

Per 1-04.6, the variation in estimated quantities alone does not require a formal change order nor necessitate a renegotiation of the unit price. Both parties have agreed to use the existing unit Contract price of $50/CY for this work. Pricing from the supplier has remained unchanged from time of bid. An evaluation of WSDOT's Unit Bid Analysis shows that the statewide average unit price is lower than that bid for this project; however, the higher bid price is supported by the difficult nature of accessing/placing this material at the locations shown in the Plans and the inherent loss/waste associated with it.

- Bid Item 11, "Sand Drainage Blanket" – Original plan quantity was 4,227. An increase of 3,973 CY is needed for this bid item which will bring the overall plan quantity to 8,200 CY. The unit bid price for this item is $50 per CY. The increase of 3,973 CY will result in a cost increase to Bid Item 11 of $198,650.

Grand Total Change Order 09: $198,650

ATTACH BACKUP DOCUMENTATION:
Engineer of Record Email 5/21/2021, 2 pages

VonAschen-Cook, Melissa

From: Bennion, Stuart <stuart.bennion@wsp.com>
Sent: Friday, May 21, 2021 5:25 PM
To: Mike Harney; Chi, Sam
Cc: Rooney, Joseph; Minyard, Nathan; Dave Lindberg; Dane Setzer; Niehl, Michael
Subject: RE: RC1532 Index Galena Rd - Sand Drainage Blanket applicability

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Mike & Sam,
That is consistent with my recollection of the discussion. If they had a wall backfill material that was passing to eliminate the sand drainage blanket at other locations and they used in in the rock fill as well, then there would have been justification for not requiring the sand blanket. Since that is not the case now, I think the sand drainage blanket is required under the rock fill as well.

Regards,
Stuart

From: Mike Harney <MDH@shanwil.com>
Sent: Friday, May 21, 2021 5:10 PM
To: Chi, Sam <Sam.Chi@co.snohomish.wa.us>; Bennion, Stuart <stuart.bennion@wsp.com>
Cc: Rooney, Joseph <Joseph.Rooney@co.snohomish.wa.us>; Minyard, Nathan <Nathan.Minyard@co.snohomish.wa.us>; Dave Lindberg <dlindberg@kbacm.com>; Dane Setzer <dsetzer@kbacm.com>; Niehl, Michael <michael.niehl@wsp.com>
Subject: RE: RC1532 Index Galena Rd - Sand Drainage Blanket applicability

Hi, Sam.

Thanks for asking. I had to refresh my memory on this, and looked at the recommendations in the GDIR. The specification for the rock fill is pretty loose as I understand it, and does not do much to limit the fine material. Even though it specifies 25% of the material is greater than 4 inches (and by default the smaller particles are a lesser percentage than most Common Borrow) some of the rock fill could still have substantial fine material, inhibiting free drainage. Therefore, the GDIR does recommend the sand drainage blanket under “fill embankments” and does not distinguish between rock and earthen embankments. That is reflected on the plans in TS04. If I am misinterpreting or misremembering, let me know.

-Mike

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**Licensed in AB, BC

From: Chi, Sam <Sam.Chi@co.snohomish.wa.us>
Sent: Friday, May 21, 2021 4:01 PM

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To: Bennion, Stuart <stuart.bennion@wsp.com>; Mike Harney <MDH@shanwil.com>
Cc: Rooney, Joseph <Joseph.Rooney@co.snohomish.wa.us>; Minyard, Nathan <Nathan.Minyard@co.snohomish.wa.us>; Dave Lindberg <dlindberg@kbacm.com>; Dane Setzer <dsetzer@kbacm.com>; Niehl, Michael <michael.niehl@wsp.com>
Subject: RC1532 Index Galena Rd - Sand Drainage Blanket applicability

Stuart, Mike H,

Regarding sand drainage blanket applicability shown on sheet TS04, the detail shows a sand layer at the base of all fill embankments. During the design phase, I recall asking whether a sand drainage blanket layer is necessary in sections of roadway constructed of "rock embankments" and I thought the answer was no because of the general permeability of the material. Please confirm.

Thanks,

Sam Chi | *Construction Project Engineer*
Snohomish County Public Works | Engineering Services
3000 Rockefeller Ave., M/S 607 | Everett, WA 98201
Mobile: 425-309-8464 | sam.chi@snoco.org

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