

**From:** [Daly, Keith](#)  
**To:** [document.control;](#)  
**cc:** [Peppers, Nicki;](#)  
**Subject:** FW: C8078 - Survey payment  
**Date:** Wednesday, February 23, 2011 1:15:47 PM  
**Attachments:** [SurveyLog.pdf](#)  
[TransmittalSheet.pdf](#)  
[TestPilingLocations.dwg](#)

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Document Control,

Please file the attached documents under Contract 8078, daily survey records, test pile as-built locations.

Thanks,

**Keith Daly**  
**Budget Manager**

Columbia River Crossing Project | <mailto:dalyk@columbiarivercrossing.org>  
700 Washington St. Suite 300, Vancouver, WA 98660  
office: 360.816.8870 | Office: 503.256.2726 Ext. 8870  
Fax: 360.737.0294

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**From:** Degenhart, Mark  
**Sent:** Wednesday, February 23, 2011 11:47 AM  
**To:** Daly, Keith  
**Subject:** FW: C8078 - Survey payment

FYI

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**From:** Vernon Uy [<mailto:vernonu@americanconstco.com>]  
**Sent:** Tuesday, February 22, 2011 9:05 PM  
**To:** Degenhart, Mark  
**Subject:** re: C8078 - Survey payment

Hi Mark.

Attached is my survey log for the test piles. Also attached is the AutoCAD file to complement the survey log.

Thanks.

Vernon Uy  
American Construction Company, Inc.  
(425) 870-3217

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**From:** "Degenhart, Mark" <DegenhartM@columbiarivercrossing.com>

**Sent:** Tuesday, February 22, 2011 2:09 PM

**To:** vernonu@americanconstco.com

**Subject:** C8078 - Survey payment

Vernon,

Payment for the "Contractor Survey – Structure" when WSDOT receives the survey records as described in the contract provisions.

\*\*\* eSafe scanned this email for malicious content \*\*\*

\*\*\* IMPORTANT: Do not open attachments from unrecognized senders \*\*\*

**Marine Construction Dredging Pile Driving**

1501 Taylor Way • Tacoma, Washington 98421

PHONES: Tacoma (253) 254-0118,

Seattle (206) 623-0114,

Fax (253) 254-0155



CONTRACTORS LIC NO. 223-01-AM-ER-IC\*372 NO.

**TO:**

Columbia River Crossing Project Office  
700 Washington Street, Suite 300  
Vancouver, WA 98660

Attn: Frank Green, P.E.

**DATE** February 22, 2011

**JOB #:** MC 02-11

**TITLE:** Columbia River Bridge Temporary  
Pile Test Program (#8078)

THE FOLLOWING ITEMS ARE BEING SENT:

Herewith

Under Separate Cover

Direct

<input checked="" type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

QUANTITY	DESCRIPTION
4 EA	PILE SURVEY LOGS submittal

These items are being sent:

- |                                     |  |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Per your request                       |
| <input checked="" type="checkbox"/> | Please keep us advised of action taken |
| <input checked="" type="checkbox"/> | For you to process                     |
| <input checked="" type="checkbox"/> | For your inspection and approval       |
| <input checked="" type="checkbox"/> | For your general information and file  |
| <input checked="" type="checkbox"/> | For your approval or corrections       |

**REMARKS:**

Please contact us promptly if there is a problem or question

**COPY TO:**

**AMERICAN CONSTRUCTION COMPANY, INC.**

**BY:**

Vernon Uy

## SURVEY NOTES

For every pile: the total station instrument is set on "Vernon's Point" located at N 112790.055 and E 1084155.049.

"Vernon's Point" was derived from CRC 3075 and CRC 3070 points.

Backsight is set on CRC 3075 point. "Vernon's Point" and CRC 3075 point comprise the survey baseline.

Used AutoCAD to compute horizontal angle and distances (to centerline of pile). Installed provided coordinates into AutoCAD.

Use tideboard on existing bridge pier for elevation. Added 5.30' to the tideboard for elevation (NAV88).

2/11/11 Installed 24" OD x 81ft pile at "A-3" location.

Crew made sure 24" OD pile is plumb in both directions after every move/resetting of pile.

Set total station to 142.7914 degrees to shoot centerline of pile. Moved pile to match angle (within 6").

Shot a distance of 1,970.50' for distance to face of 24" OD pile. Moved pile to match distance (within 6").

Recorded 36' sounding at pile location.

Tide recorded at EL +10.5'; therefore, mudline at EL -25.5'

Set pile into the ground with vibratory hammer; vibrate down about 29' (to EL -54.5'). Left 7' for impact driving.

Impact drove pile 8'; final tip (before re-strike) is at EL -62.5'.

Looked at piling centerline through total station; pile centerline looks really close to 142.7914 degrees angle.

**This 24" OD pile was 100% extracted on 2/14/11 (after re-strike).**

2/12/11 Installed 48" OD x 131ft pile at "A-4" location.

Crew made sure 48" OD pile is plumb in both directions after every move/resetting of pile.

Set total station to 143.0733 degrees to shoot centerline of pile. Moved pile to match angle (within 6").

Shot a distance of 2,013.73' for distance to face of 48" OD pile. Moved pile to match distance (within 6").

Recorded 34' sounding at pile location.

Tide recorded at EL +10.5'; therefore, mudline at EL -23.5'

Set pile into the ground with vibratory hammer; vibrate down about 61.5' (to EL -85'). Left 25' for impact driving.

Impact drove pile 25'; final tip (before re-strike) is at EL -110'.

Looked at piling centerline through total station; pile centerline looks really close to 143.0733 degrees angle.

**This 48" OD pile was 100% extracted on 2/18/11 (after re-strike).**

2/14/11 Installed 24" OD x 81ft pile at "A-2" location.

Crew made sure 24" OD pile is plumb in both directions after every move/resetting of pile.

Set total station to 141.1603 degrees to shoot centerline of pile. Moved pile to match angle (within 6").

Shot a distance of 1,981.16' for distance to face of 24" OD pile. Moved pile to match distance (within 6").

Recorded 33.5' sounding at pile location.

Tide recorded at EL +10.5'; therefore, mudline at EL -23'

Set pile into the ground with vibratory hammer; vibrate down about 20.5' (to EL -43.5'). Left 16.5' for impact driving.

Impact drove pile 16.5'; final tip (before re-strike) is at EL -60'.

Looked at piling centerline through total station; pile centerline looks really close to 141.1603 degrees angle.

**This 24" OD pile was 100% extracted on 2/17/11 (after re-strike).**

2/15/11 Installed 48" OD x 131ft pile at "A-1" location.

Crew made sure 48" OD pile is plumb in both directions after every move/resetting of pile.

Set total station to 141.4536 degrees to shoot centerline of pile. Moved pile to match angle (within 6").

Shot a distance of 2,024.69' for distance to face of 48" OD pile. Moved pile to match distance (within 6").

Recorded 33' sounding at pile location.

Tide recorded at EL +11'; therefore, mudline at EL -22'

Set pile into the ground with vibratory hammer; vibrate down about 63' (to EL -85'). Left 25' for impact driving.

Impact drove pile 25'; final tip (before re-strike) is at EL -110'.

Looked at piling centerline through total station; pile centerline looks really close to 141.4536 degrees angle.

**This 48" OD pile was 100% extracted on 2/18/11 (after re-strike).**

2/16/11 Installed 48" OD x 96ft pile at "B-2" location.

Crew made sure 48" OD pile is plumb in both directions after every move/resetting of pile.

Set total station to 121.6283 degrees to shoot centerline of pile. Moved pile to match angle (within 6").

Shot a distance of 591.34' for distance to face of 48" OD pile. Moved pile to match distance (within 6").

Noticed that pile is encroaching Primary Channel.

After discussing with Mark Degenhart (over the phone); moved pile away from Primary Channel.

Installed pile at 121.5417 degrees and 622.51' distance (to face of 48" OD pile), instead.

Recorded 35' sounding at pile location.

Tide recorded at EL +12.8'; therefore, mudline at EL -22'

Set pile into the ground with vibratory hammer; vibrate down about 33' (to EL -55'). Left 20' for impact driving.

Impact drove pile 20'; final tip (before re-strike) is at EL -75'.

Looked at piling centerline through total station; pile centerline looks really close to 121.5417 degrees angle.

**This 48" OD pile was 100% extracted on 2/21/11 (after re-strike).**

2/17/11 Installed 24" OD x 91ft pile at "B-1" location.

Crew made sure 24" OD pile is plumb in both directions after every move/resetting of pile.

Set total station to 117.4681 degrees to shoot centerline of pile. Moved pile to match angle (within 6").

Shot a distance of 621.36' for distance to face of 24" OD pile. Moved pile to match distance (within 6").

Noticed that pile is encroaching Primary Channel.

Moved pile away from Primary Channel.

Installed pile at 117.5836 degrees and 652.51' distance (to face of 24" OD pile), instead.

Recorded 36' sounding at pile location.

Tide recorded at EL +13.3'; therefore, mudline at EL -23'

Set pile into the ground with vibratory hammer; vibrate down about 29' (to EL -52'). Left 18' for impact driving.

Impact drove pile 18'; final tip (before re-strike) is at EL -70'.

Looked at piling centerline through total station; pile centerline looks really close to 117.5836 degrees angle.

**This 24" OD pile was 100% extracted on 2/21/11 (after re-strike).**