

Field Modification Tracking Table

FM/Revision No.	Date Initiated	Description	Distributing Author	Design Lead	EOR	Subcontractor	Notes/Comments	Date Complete
FM-001_rev0	8/30/2011	Wedge anchors, steel shims, elevation adjustment of proposed tiebacks	A. Chwalibog	J. Beaver	A. Hunt	Weeks		8/30/2011
FM-001_rev1	8/30/2011							8/30/2011
FM-002_rev0	9/8/2011	Change from sand to DGA for 6" protective layer within the stockpile	A. Evans	A. Evans	R. Romagnoli	Abscope		9/8/2011
FM-002_rev1	9/8/2011							9/8/2011
FM-003_rev0	9/8/2011	Placement of excavated material on 16-ounce geotextile material (omitting 6" protective layer)	A. Evans	A. Evans	R. Romagnoli	Abscope		9/8/2011
FM-003_rev1	9/8/2011							9/8/2011
FM-004_rev0	9/8/2011	Modification to 1/2" solid plate w/anti-skid tape on the lid	A. Evans	A. Evans	A. Hunt	Abscope		9/8/2011
FM-004_rev1	9/9/2011							9/9/2011
FM-005_rev0	9/8/2011	Relocation of catch basin	A. Evans	A. Evans	R. Romagnoli	Abscope		9/8/2011
FM-005_rev1	9/9/2011							9/9/2011
FM-006_rev0	8/31/2011	Weir Gate changes	A. Chwalibog	J. Beaver	A. Hunt	Weeks	Weeks confirmed receipt on 8/31/2011 and provided pricing on 9/13/2011. A. Chwalibog sent final FM-006_rev2 to Weeks on 9/21/2011.	8/31/2011
FM-006_rev1	8/31/2011							8/31/2011
FM-006_rev2	9/21/2011							9/21/2011
FM-007_rev0	NA	Gravity thickener	A. Evans	A. Evans			FM-007 was changed to CB-002	NA
FM-008_rev0	9/26/2011	GWTS tie-in changes	J. Beaver	J. Beaver	R. Romagnoli	Brown & Caldwell		9/26/2011
FM-009_rev0	11/11/2011	Omit flexible joint from design	B. Bonkoski/B. Orchard	B. Bonkoski	R. Romagnoli	Weeks		11/11/2011
FM-010_rev0	10/26/2011	S-W Wall Modifications (Alignment)	A. Chwalibog	J. Beaver	A. Hunt	Weeks	A. Chwalibog sent final FM-010_rev0 to Weeks on 10/28/2011. Weeks confirmed receipt on 10/29/2011, Cluade had no further comments on the change.	10/26/2011
FM-010_rev1	10/28/2011							10/28/2011
FM-011_rev0	11/14/2011	Coring and Tieback Changes	A. Chwalibog	J. Beaver	A. Hunt	Nicholson		11/14/2011
FM-012_rev0	10/22/2012	S-W Wall Modification (Replacement of C Wale with Timber Blocking and Shims)	A. Chwalibog	J. Beaver	L.	Weeks		11/2/2011
FM-013_rev0	1/25/2012	Closing sheet pile at SE corner	A. Chwalibog	J. Beaver	A. Hunt	Weeks		1/25/2012

Notes

NA = not applicable
 FM = Field Modification
 EOR = Engineer of Record

Construction Bulletin Tracking Table

CB No.	Date Initiated	Description	Distributing Author	Subcontractor	Notes/Comments	Date Complete
CB-001_rev0	7/31/2012	Temporary wale modification and lift-off/re-stress for tieback T37	A. Chwalibog	Nicholson		7/31/2012
CB-002_rev0	9/15/2012	Gravity Thickener	A. Evans	Abscope	Previously identified as FM-007	10/1/2011

Notes

NA = not applicable

CB = Construction Bulletin

Field Modification / Construction Bulletin Form	Date (dd/mm/yyyy):	07/31/12
Lower Passaic River Project, Phase I Removal	FM # or CB # (FM - ### or CB - ###):	CB-001
ARCADIS	Revision (##):	0

Field Modification (design change requiring PE approval)
 Construction Bulletin (provides clarification of existing design)

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$ <input style="width: 80px;" type="text"/>	<input style="width: 80px;" type="text"/>
Approval by Design Lead: _____	(Signature)	(Date)
Approval by Engineer of Record: _____	(Signature)	(Date)

Notes/Exceptions:

Design Coordination and Documentation

Are sketches detailing design modifications attached to FM?	Yes / No	Date
Are existing drawings required to be updated, sealed and re-issued? <small>(note - as-built drawings will be issued after construction and will incorporate FM)</small>	Yes / No	<input style="width: 80px;" type="text"/>
Do the specifications need to be modified?	Yes / No	<input style="width: 80px;" type="text"/>
Specific drawings and/or specification sections and paragraphs affected:		

FM distributed by: _____ Date

FM distributed to:

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

Performing temporary wale modification and lift-off/re-stress for tieback T37. See attachments 1 and 2 for description and Nicholson proof testing log for additional detail.

CB distributed by: Adam Chwalibog Date

CB distributed to: Bob Romagnoli (ARCADIS), Jamie Beaver (ARCADIS), Rob Reed (ARCADIS), Matt Bowman (ARCADIS), Coleman King (ARCADIS), Ron Kolodzaike (ARCADIS), Erika Denkenberger (ARCADIS), Paul Bluestein (Tierra)

7/31/12
CB-001
Revision 0
Attachment 1

In response to the T37 load cell readings, which indicated a sudden decrease in the tieback load from the original locked off load of 90 kips (in conjunction with sheet pile driving activities at the S-W site by others), the tieback was re-stressed to verify its current (true) tension load. The tieback re-stressing on Tieback #37 was performed Monday (6/11/12) by Nicholson Construction Company. Adam Chwalibog (ARCADIS) was on-site to observe the tieback re-stressing.

In support of the re-stressing, Weeks Marine performed some additional structural connections to the wale system that were designed by ARCADIS to provide necessary redundancy to maintain structural integrity as a contingency should the tieback be found to be damaged and unable to be locked off at the design load of 90 kips. Regarding the contingency, T37 is the only tieback on wale 2W1 and to help distribute some load to the adjacent tiebacks, primarily T36, to gain additional capacity, Weeks spliced wales 2W1 and 2W2. The splice consists of double W12x50 as a six foot long splice. The bolts were A325 at $\frac{3}{4}$ " diameter and there were 20 bolts installed in each of the two beam sections. The wale splice was completed Thursday, 6/7/12.

Nicholson re-stressed T37 by performing a lift-off test, which involved re-attaching a hydraulic jack to the existing anchor head assembly and tensioning the tieback. The lift-off test verifies the current load in the tieback at lift-off from the anchorhead, which identifies when the locked off load in the tieback becomes exceeded and the tieback strands elongate under the greater tension load (this load can then be compare to the load cell reading). The lift-off test procedure was performed using PTI guidelines. The results of the lift-off test confirmed T37 had experienced a reduction in tension load (as indicated by the prior load cell readings that led to the restressing event). As such, Nicholson re-stressed the tieback and locked off the anchor at the design lock-off load of 90 kips. The tieback successfully passed a lift-off test at the design load of 150 kips, re-confirming the tieback capacity continued to meet design requirements for load capacity, prior to locking off at 90 kips. The lift-off testing, and lock off procedures followed the original design methodology and current Post-Tensioning Institute (PTI) recommendations.



Lower Passaic River Project

T-37 Lift-Off Test Report

Prepared for:
Weeks Marine, Inc.
4 Commerce Drive
Cranford, NJ 07016

Prepared by:
Nicholson Construction Company
15 Wilson Drive, Suite A
Sparta, NJ 07871

June 27, 2012 – Revision Number: 00

**Project: Lower Passaic River
Anchor: T-37
Lift-Off Test Report**

In accordance with the PTI *Recommendations for Prestressed Rock and Soil Anchors, Section 8.9 – Monitoring Service Behavior*, a lift-off test was performed after a change in load was recorded on the load cell of anchor T-37 at the Lower Passaic River Project. Below is a summary of the anchor data, original stressing data, cause of load change, and data from the most recent lift off test.

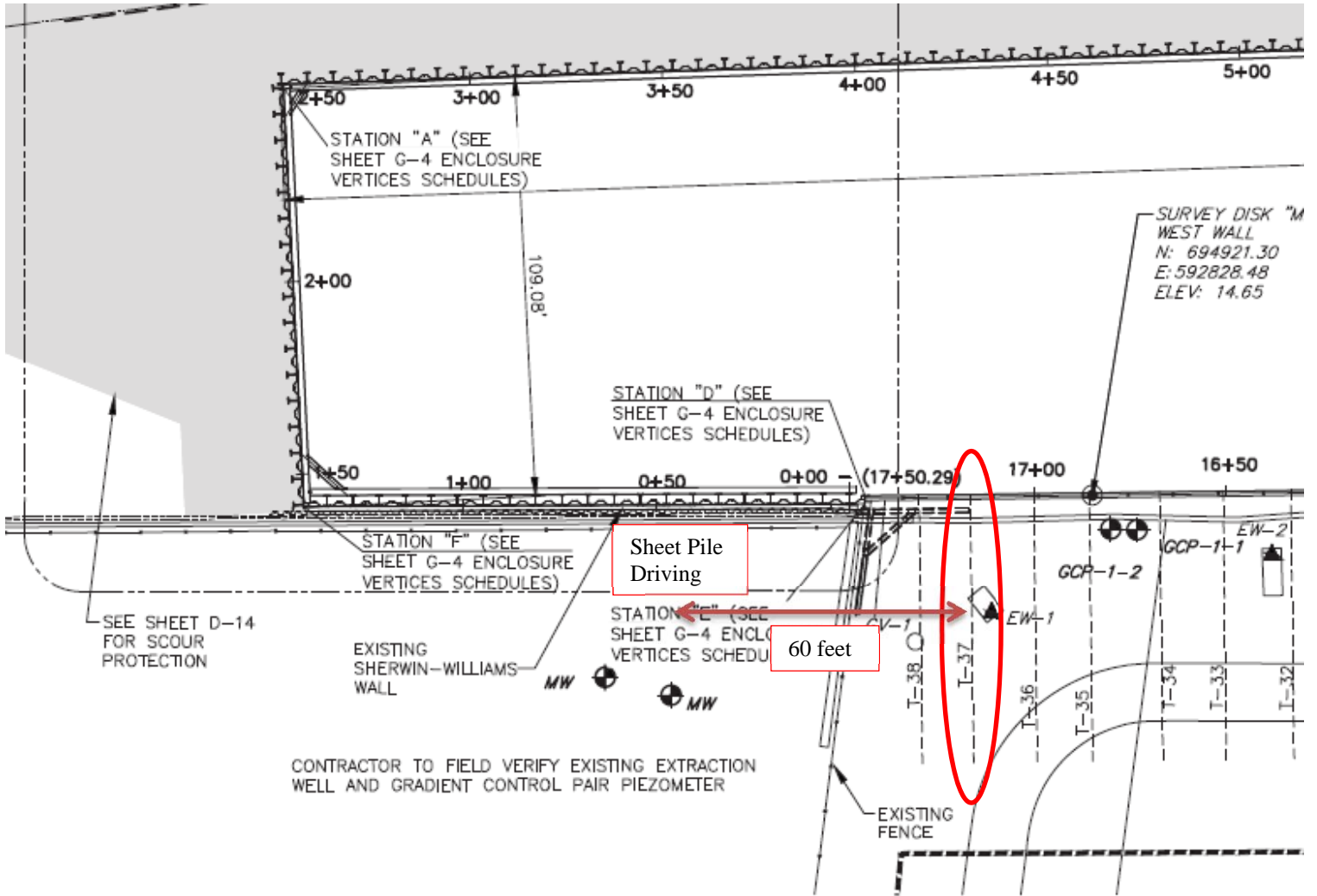
Narrative:

Anchor T-37 was installed on 11/08/2011. The anchor passed a proof test and was locked off at 90 kips on 11/17/2011.

A change in load was noticed on 4/16/2012. The anchor relaxation was potentially caused by a sheet-pile driving operation that began on 4/16/2012 in the adjacent Sherwin-Williams property. The sheet-pile activity was being conducted approximately 60 feet away from anchor T-37. The loss in load from the 90 kip lock off load to 70 kips occurred on 4/16/2012, exactly when they began driving sheet piles. Observations were made at the anchor head, and no defects were noted, which ruled out the possibility that the barge caused the anchor damage.

On 6/12/2012 Nicholson mobilized to the site to perform a lift-off test on anchor T-37. This was 50 days after the initial loss in load was noted. During the initial lift-off test, a load of 60 kips was noted. The anchor load was brought up to the design load of 150 kips, and then locked off at 92 kips, which required the placement of a ¼" shim being the anchor head. A final lift-off test was performed on the anchor, which confirmed that the anchor was brought back to the 92 kip load with the use of an additional shim. The total shim count under the anchor head is currently 3-¼".

Location of Anchor and Sheet Driving Activity:



Detailed Anchor Information:

Anchor Data

No. of Strands	5	Free length	40 feet
Design Load	150 kips	Bond Length	52 feet
		Jacking Length	5.2 feet

Strand Information

Heat Number	Typical	G.U.T.S.	58.6 kips
Diameter	0.6 inches	Modulus of Elasticity	28600 ksi
Area	0.216 square inches		

Anchor Dates and Test Data

Drilling	11/08/2011	Primary Grouting	11/08/2011
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Type of Test Performed	Proof Test
Date of Stressing and Lock-off	11/17/2011
Lock-off Load	90 kips
Elongation	3.722 inches

Lift-Off Test Date	6/12/2012
Load on anchor during initial lift-off test	1220 psi, 60 kips
Max load during lift-off test	3400 psi, 150 kips
Final lift off load and new lock off load	2050 psi, 92 kips

Added a ¼" shim under the head to achieve the above results.

Total shims under anchor are currently 3.25" (one 3 inch and one ¼ inch)

Field Modification / Construction Bulletin Form	Date (dd/mm/yyyy):	9/15/2011
Lower Passaic River Project, Phase I Removal	FM # or CB # (FM - ### or CB - ###):	CB-002
ARCADIS	Revision (##):	0

Field Modification (design change requiring PE approval)
 Construction Bulletin (provides clarification of existing design)

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:

Concrete subcontractor requested option to pour gravity thickener in single pour. This option is under the following conditions:

- Air temperature at time of pour cannot be above 80 degrees, it is suggested concrete temp should be maintained at low temperature
- The contractor should consider more curing than in a smaller pour such as plastic coverings, wet cure, or fibers in the concrete.
- The concrete supplier should have their quality control technician(s) on site to verify their product and watch that the casting process. The quality control technician should be the sole individual in charge of addition of any materials on site (i.e., re-dosing mix)
- Any cracking will eventually need to be filled to make sure the slab is watertight and tank is leak tested in November/December

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$ <input type="text" value="TBD"/>	<input type="text"/>
Approval by Design Lead:	_____	_____
	<i>(Signature)</i>	<i>(Date)</i>
Approval by Engineer of Record:	_____	_____
	<i>(Signature)</i>	<i>(Date)</i>

Notes/Exceptions:

Design Coordination and Documentation

Are sketches detailing design modifications attached to FM?	Yes / No	Date
Are existing drawings required to be updated, sealed and re-issued? <small>(note - as-built drawings will be issued after construction and will incorporate FM)</small>	Yes / No	<input type="text"/>
Do the specifications need to be modified?	Yes / No	<input type="text"/>
Specific drawings and/or specification sections and paragraphs affected: Drawing S-24 notes on joints will not apply		

FM distributed by: Allen Evans Date

FM distributed to: Matthew Bowman (ARCADIS), Coleman King (ARCADIS), Rob Reed (ARCADIS), Mike Pelenski (ARCADIS), Dustin Winn (ABSCOPE)

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____ Date

CB distributed to:

Field Modification / Construction Bulletin Form	Date (dd/mm/yyyy):	08/30/11
Lower Passaic River Project, Phase I Removal	FM # or CB # (FM - ### or CB - ###):	FM-001
ARCADIS	Revision (##):	01
<input checked="" type="checkbox"/> Field Modification (design change requiring PE approval) <input type="checkbox"/> Construction Bulletin (provides clarification of existing design)		DRAFT - 08/30/11

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification: FM-001 includes the following modifications:
 1) Placing wedge anchors to existing AS 500-12 flat sheeting where cutting of bolts and sheeting (at existing Master Piles) caused existing sheets to pull away from OU-1 Floodwall;
 2) Placing steel shims at master pile locations (as needed) to account for deformation in existing AS 500-12 flat sheeting which occurs between master piles which impeded tieback wale installation; and
 3) Adjusting the elevation of the proposed tiebacks due to field surveyed locations of existing tierods/master piles which impeded tieback wale installation and to minimize the need for steel shims indicated in 2) above.
 Details for the above modifications are provided in the attached Drawings 1 and 2.

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$ <input type="text" value="TBD"/>	<input type="text"/>
Approval by Design Lead:	08/29/11	<input type="text"/>
(Signature)	(Date)	
Approval by Engineer of Record:	08/30/11	<input type="text"/>
(Signature)	(Date)	

Notes/Exceptions:

<u>Design Coordination and Documentation</u>		Date
Are sketches detailing design modifications attached to FM?	Yes / No	<input type="text" value="08/30/11"/>
Are existing drawings required to be updated, sealed and re-issued? (note - as-built drawings will be issued after construction and will incorporate FM)	Yes / No	<input type="text"/>
Do the specifications need to be modified?	Yes / No	<input type="text"/>
Specific drawings and/or specification sections and paragraphs affected: N/A		

FM distributed by: Adam Chwalibog Date

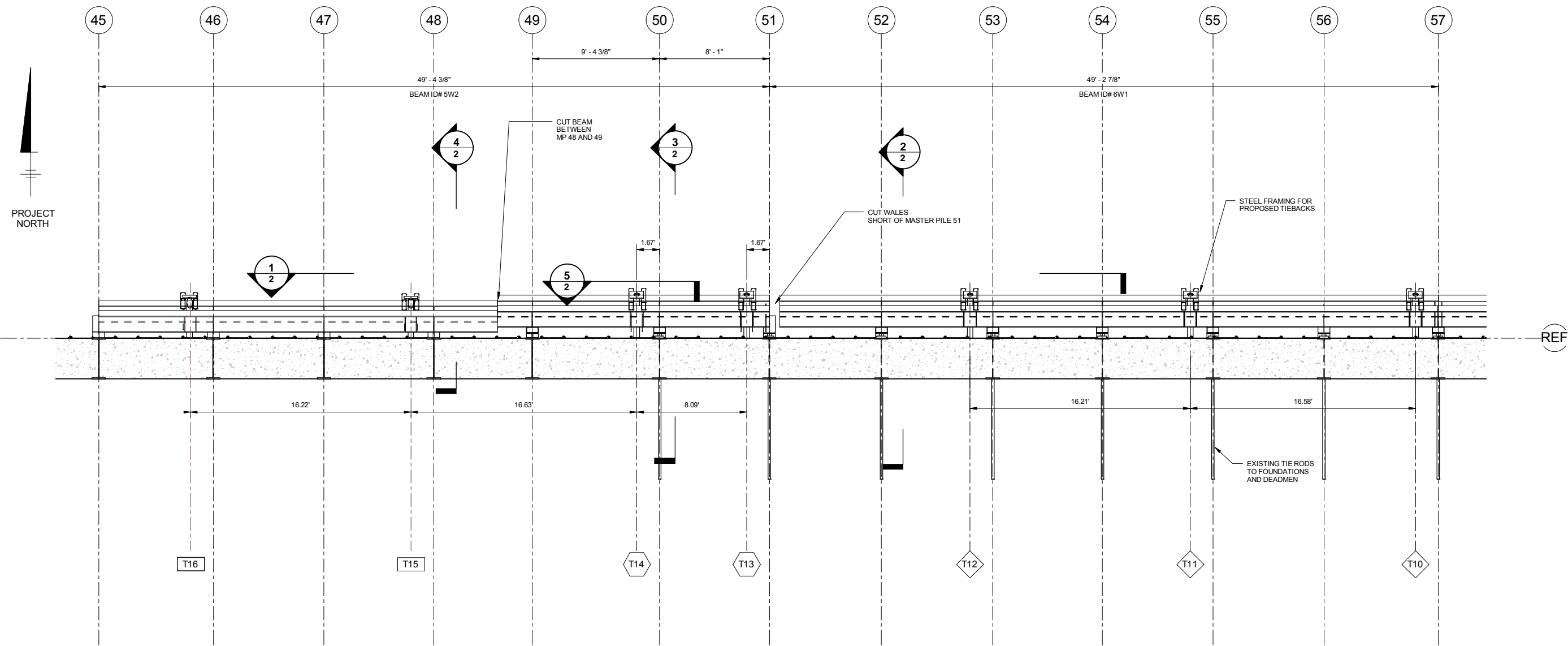
FM distributed to: Matthew Bowman (ARCADIS), Coleman King (ARCADIS), Rob Reed (ARCADIS), James Beaver (ARCADIS), Aaron Hunt (ARCADIS), Claude Dion (Weeks),

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____ Date

CB distributed to:



(A) SECTIONAL PLAN - ELEV 5.0

GRIDLINE LEGEND

	GRIDLINE FOR TIEBACKS AT ELEV +4.25
	GRIDLINE FOR TIEBACKS AT ELEV +4.57 TO +4.65
	GRIDLINE FOR TIEBACKS AT ELEV +5.42
	GRIDLINE FOR TIEBACKS AT ELEV +5.75
	GRIDLINE OF EXISTING MASTER PILE

C:\Users\ahunt\Documents\Projects\Passaic Items\CONST_MODEL\OU-1 Floodwall Const.rvt

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING.

USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	8/29/11	RELEASE FOR FIELD MODIFICATION	AAH	
1	8/22/11	REVISIONS THROUGHOUT SHEET	AAH	

Professional Engineer's Name
AARON A HUNT

Professional Engineer's No.
24GE04804300

State	Date Signed	Project Mgr.
NJ		RAR
Designed by	Drawn by	Checked by
AAH	AAH	RAK

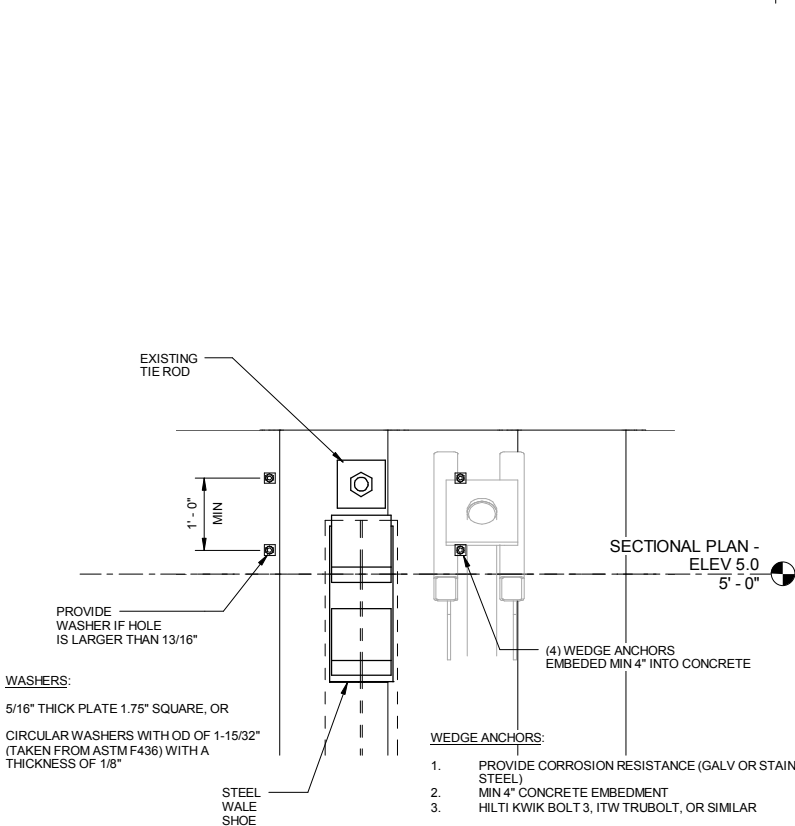
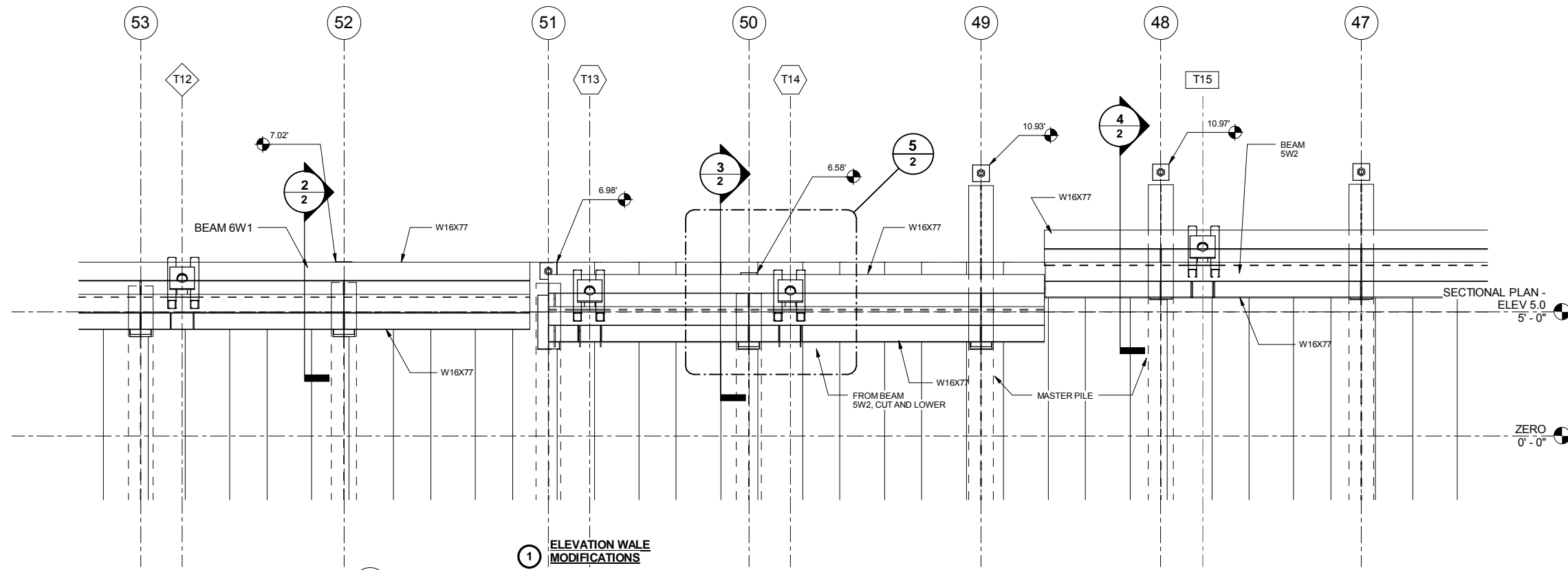
ARCADIS U.S., INC.
NEW JERSEY ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 24GA27939600

TIERRA SOLUTIONS, INC. • LOWER PASSAIC RIVER, NEWARK NJ
PHASE I CERCLA NON-TIME-CRITICAL REMOVAL ACTION
OU-1 FLOODWALL TIEBACKS WALE MODIFICATIONS - (1 OF 3)

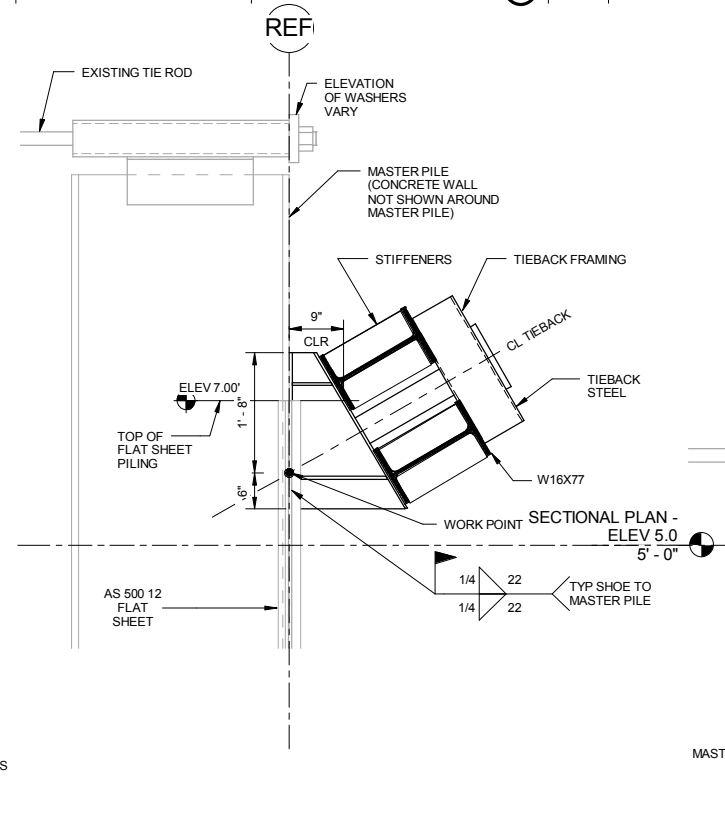
ARCADIS Project No.
LISTER AVE

Date
8/16/2011

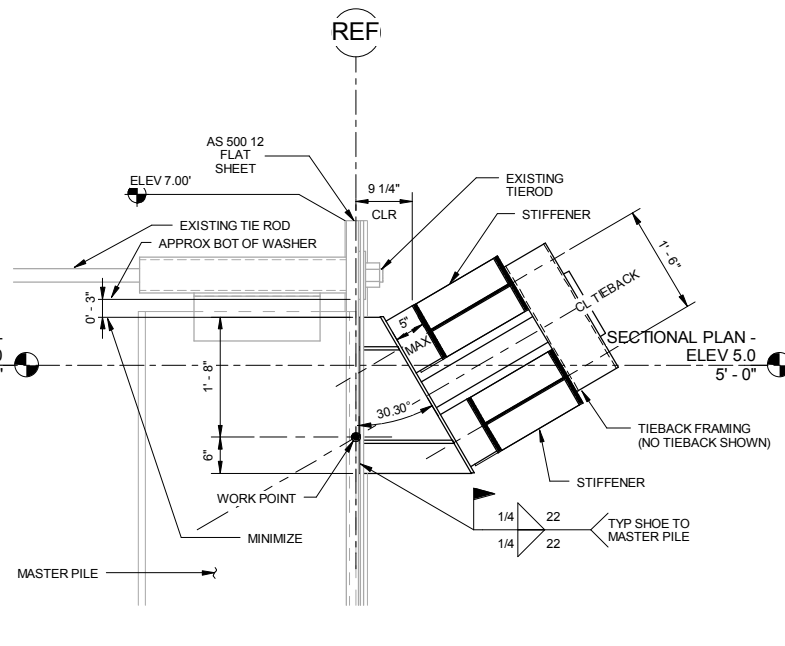
ARCADIS
6723 Towpath Road
P.O. Box 66
Syracuse, New York 13214
Tel. 315.446.9120



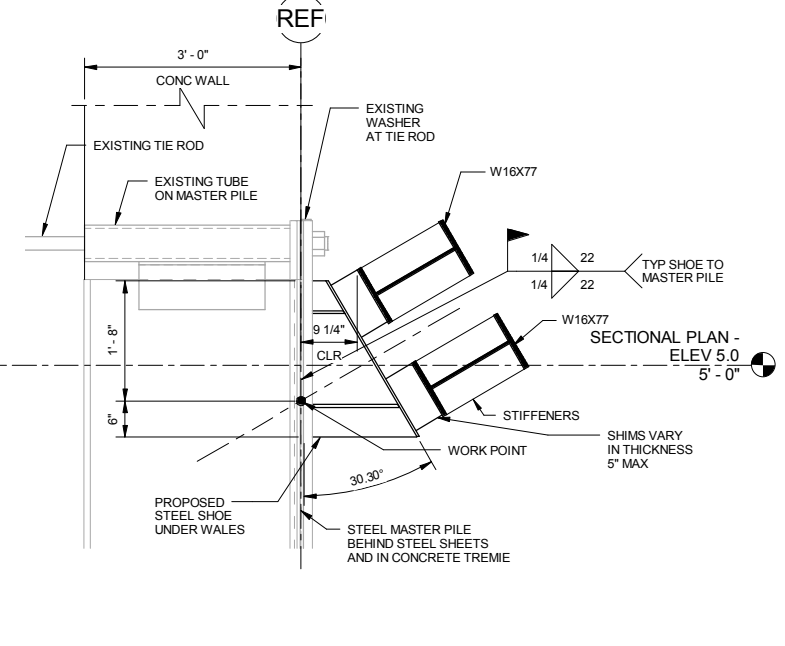
5 ANCHORAGE OF EXIST SHEETS



4 MASTER PILES 10 TO 48



3 MASTER PILES 49 TO 51



2 MASTER PILES 52 TO 73

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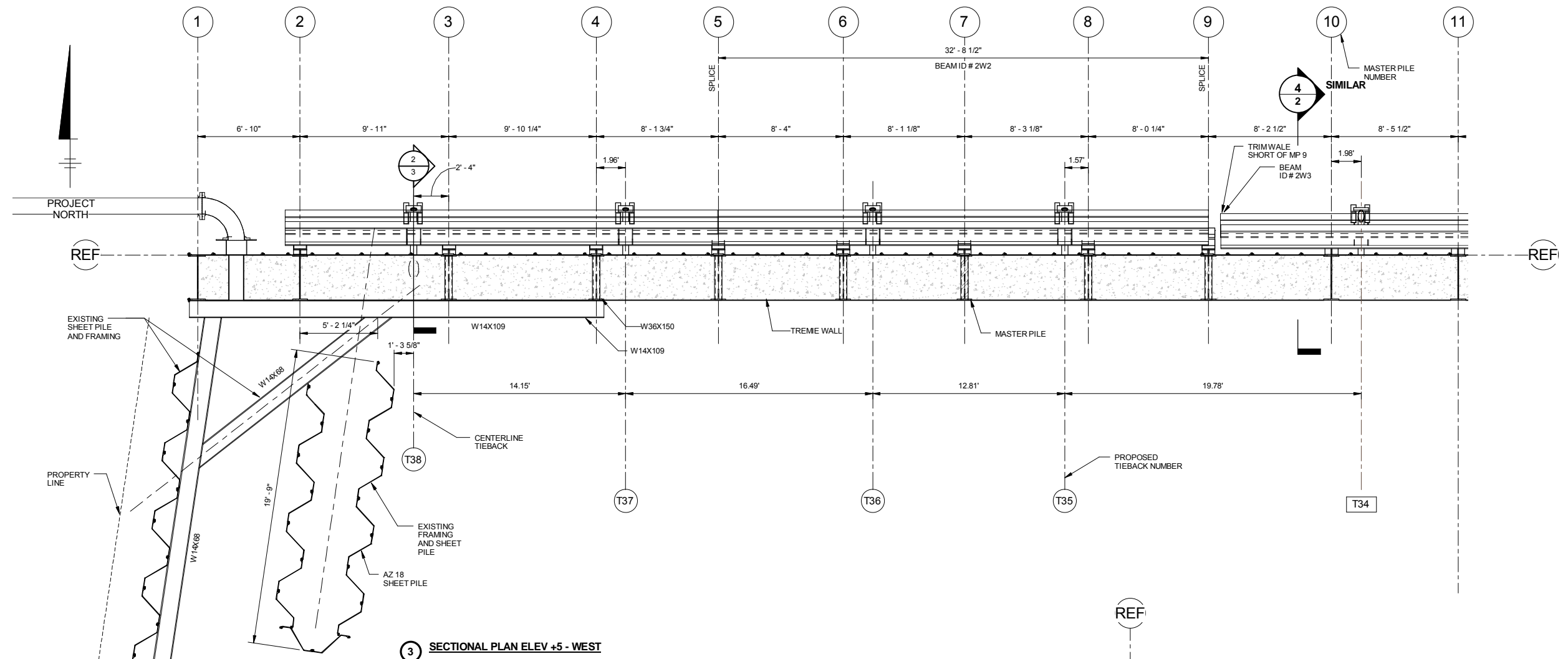
No.	Date	Revisions	By	Ckd
2	8/29/11	RELEASE FOR FIELD MODIFICATIONS	AAH	
1	8/22/11	REVISIONS THROUGHOUT SHEET	AAH	

Professional Engineer's Name AARON A HUNT			
Professional Engineer's No. 24GE04804300			
State	Date Signed	Project Mgr.	
NJ		RAR	
Designed by	Drawn by	Checked by	
AAH	AAH	RAK	

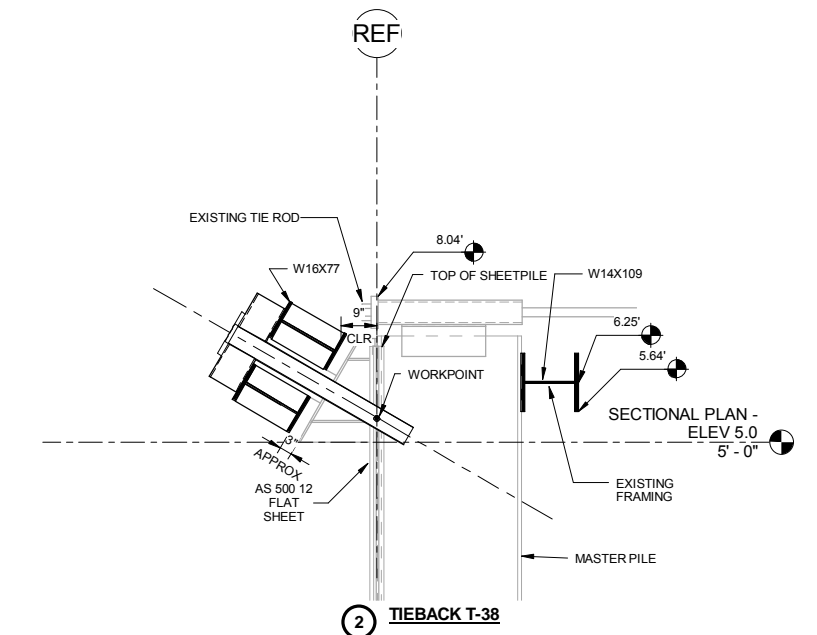
ARCADIS U.S., INC.
NEW JERSEY ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 24GA27939600

TIERRA SOLUTIONS, INC. • LOWER PASSAIC RIVER, NEWARK NJ
PHASE I CERCLA NON-TIME-CRITICAL REMOVAL ACTION
OU-1 FLOODWALL TIEBACKS WALE MODIFICATIONS - (2 OF 3)

ARCADIS Project No. LISTER AVE
Date 8/16/2011
ARCADIS 6723 Towpath Road P.O. Box 66 Syracuse, New York 13214 Tel. 315.446.9120



3 SECTIONAL PLAN ELEV +5 - WEST



2 TIEBACK T-38

GRIDLINE LEGEND

TXX	GRIDLINE FOR TIEBACKS AT ELEV +4.25
◇XX	GRIDLINE FOR TIEBACKS AT ELEV +4.57 TO +4.65
◯XX	GRIDLINE FOR TIEBACKS AT ELEV +5.42
□XX	GRIDLINE FOR TIEBACKS AT ELEV +5.75
◯	GRIDLINE OF EXISTING MASTER PILE

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THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING.

USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
1	8/29/11	RELEASE FOR FIELD MODIFICATIONS	AAH	
0	8/22/11	ISSUE SHEET	AAH	

Professional Engineer's Name AARON A HUNT		
Professional Engineer's No. 24GE04804300		
State NJ	Date Signed	Project Mgr. RAR
Designed by AAH	Drawn by AAH	Checked by RAK



TIERRA SOLUTIONS, INC. • LOWER PASSAIC RIVER, NEWARK NJ
PHASE I CERCLA NON-TIME-CRITICAL REMOVAL ACTION
OU-1 FLOODWALL TIEBACKS WALE MODIFICATIONS - (3 OF 3)

ARCADIS Project No. LISTER AVE
Date 8/16/2011
ARCADIS 6723 Towpath Road P.O. Box 66 Syracuse, New York 13214 Tel. 315.446.9120

Field Modification / Construction Bulletin Form	Date (dd/mm/yyyy):	9/8/2011
Lower Passaic River Project, Phase I Removal	FM # or CB # (FM - ### or CB - ###):	FM-002
ARCADIS	Revision (##):	01

Field Modification (design change requiring PE approval)
 Construction Bulletin (provides clarification of existing design)

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:

Based on a review of project specifications specific to the 6-inch protective layer within the stockpile areas, Abscope requested a change in materials specified from sand to DGA for the 6 -inch protective layer within the stockpile. Results in cost savings (unit cost for DGA< sand). ARCADIS design and Construction engineers agreed via email to this change during mobilization. This change needs to be addressed via a field modification to complete the submittal process.

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$ <input type="text" value="DGA Price in Bid"/>	<input type="text"/>
Approval by Design Lead: <u>Allen J. Evans</u>	9/8/2011	<input type="text"/>
Approval by Engineer of Record: <u>[Signature]</u>	9/08/2011	<input type="text"/>
	(Signature)	(Date)

Notes/Exceptions:

Design Coordination and Documentation

Are sketches detailing design modifications attached to FM?	Yes / <input checked="" type="radio"/> No	Date
Are existing drawings required to be updated, sealed and re-issued? <small>(note - as-built drawings will be issued after construction and will incorporate FM)</small>	Yes / <input checked="" type="radio"/> No	<input type="text"/>
Do the specifications need to be modified?	Yes / <input checked="" type="radio"/> No	<input type="text"/>
Specific drawings and/or specification sections and paragraphs affected: <u>C-8 and SMP (C-8 Attached)</u>		

FM distributed by: Allen Evans Date

FM distributed to: Matthew Bowman (ARCADIS), Coleman King (ARCADIS), Rob Reed (ARCADIS), Chris Moody (ARCADIS), Dustin Winn (ABSCOPE)

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____ Date

CB distributed to:

Field Modification / Construction Bulletin Form
 Lower Passaic River Project, Phase I Removal
 ARCADIS

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Construction Coordination and Documentation

Reason for and nature of modification:

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(Signature) (Date)

Notes/Exceptions:

Design Coordination and Documentation

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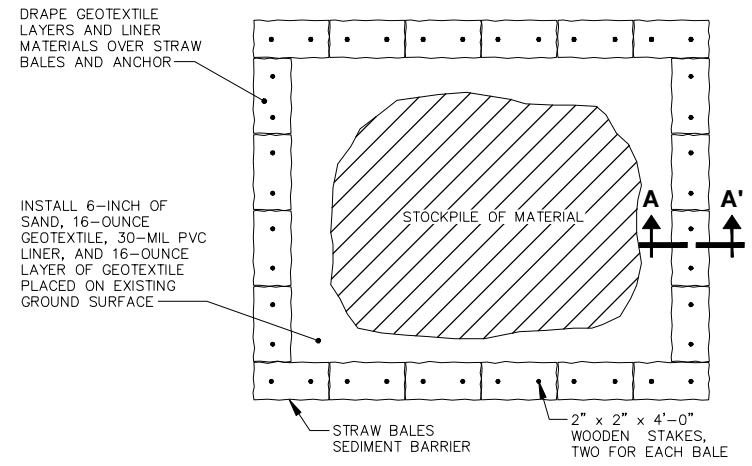
Construction Bulletin Ç [] [~ cøø • ^ &ç] ä [[áäääëä] ç á^ ä } ä BUV | ^ ~ ä^ á D

Subject and contents of required clarification:

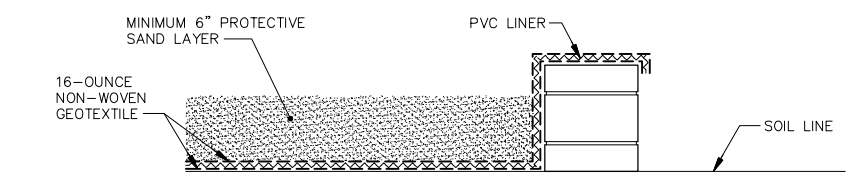
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CB distributed to:

CITY: SYRACUSE DIV/GRP: 141/ENV DB: GSTEINBERGER ID: GSTEINBERGER PIC: RROMAGNOLI TM: RROMAGNOLI LVR(OPTION*OFF)=REF*
 G:\ENV\CAD\SYRACUSE\ACT\B0009964\001129113\CONTRACT\09961C08.dwg LAYOUT: C-8. SAVED: 8/9/2011 12:46 PM ACADVER: 18.0S (LMS TECH) PAGES: 18 PLOTSTYLETABLE: PLTCONT1.CTB PLOTTED: 8/9/2011 12:46 PM BY: RITSCHHEL, TIMOTHY
 XREFS: 09961X00 PROJECT NAME:



PLAN



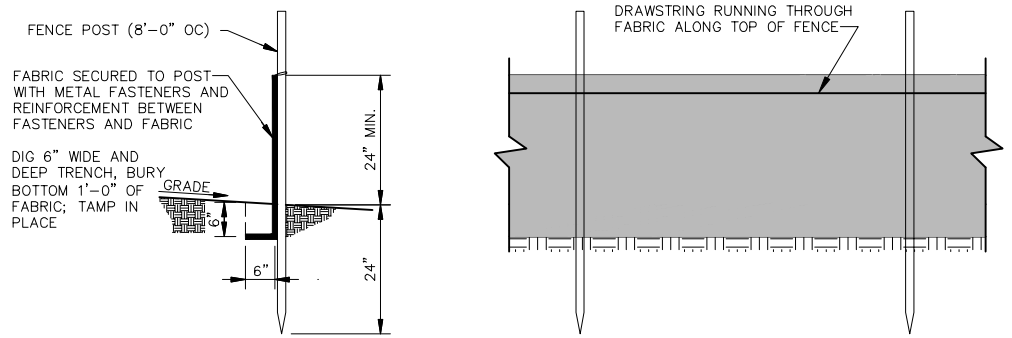
SECTION A-A'

- CONSTRUCTION NOTES:**
- MATERIALS WILL NOT BE STOCKPILED WITHOUT PRIOR REVIEW OF THE ENGINEER AND THE MORRIS COMPANIES.
 - CLEAR EXISTING SURFACE DEBRIS THAT COULD DAMAGE GEOTEXTILE/PVC LINER MATERIALS. SURFACE SOILS WILL NOT BE DISTURBED BY CLEARING ACTIVITIES.
 - LINE STOCKPILE AREA INSTALL 6-INCHES OF SAND, 16-OUNCE GEOTEXTILE, 30-MIL PVC LINER, AND 16-OUNCE LAYER OF GEOTEXTILE PLACED ON EXISTING GROUND SURFACE. THE PLACEMENT OF SOIL INTO THE STAGING AREA SHALL NOT INVOLVE ANY EQUIPMENT OR PROCEDURES THAT MAY JEOPARDIZE THE INTEGRITY OF THE UNDERLYING MATERIALS.
 - STRAW BALES WILL BE INSTALLED AROUND THE STOCKPILE AREA. GEOTEXTILE MATERIAL WILL BE DRAPED OVER THE STRAW BALES AND ANCHORED TO STOCKPILE AREA.
 - EXCAVATED SOILS REQUIRING OFF-SITE DISPOSAL MAY BE PLACED DIRECTLY ON 16-OUNCE GEOTEXTILE MATERIAL (OMITTING THE 6-INCH PROTECTIVE LAYER) IF IT IS DETERMINED THAT EXCAVATED MATERIAL WILL NOT DAMAGE GEOTEXTILE/LINER MATERIALS.
 - COVER TEMPORARY STOCKPILES WITH A PROPERLY ANCHORED PLASTIC COVER (NO LESS THAN 10 MIL), EXCEPT WHILE SOIL IS ACTIVELY BEING MANAGED (PLACED OR REMOVED). THE COVER WILL BE PROVIDED TO MINIMIZE POTENTIAL SILTATION/MIGRATION OF SOIL/DEBRIS BEYOND THE STAGING AREAS. THE COVER WILL BE MAINTAINED AND SECURED OVER THE WASTE MATERIAL (TO RESIST WIND FORCES) FOR THE DURATION OF STAGING ACTIVITIES, EXCEPT WHEN THE WASTE MATERIAL IS BEING ACTIVELY MANAGED. SOIL, WASTE MATERIALS, AND DEBRIS MAY NOT BE USED AS ANCHOR MATERIALS.

SEDIMENT CONTROL DETAILS FOR TEMPORARY STOCKPILES OF EXCAVATED MATERIAL

NOT TO SCALE

1

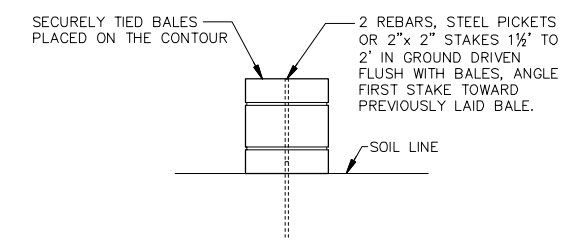


- CONSTRUCTION NOTES:**
- FENCE POSTS SHALL BE SPACED 8 FT C/C OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FT INTO THE GROUND. THEY SHALL EXTEND AT LEAST 2 FT ABOVEGROUND.
 - A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 IN. DEEP INTO THE GROUND. THE FILTER FABRIC SHALL EXTEND AT LEAST 2 FT ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POST USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH-STRENGTH REINFORCEMENT MATERIAL (e.g., NYLON WEBBING, GROMMETS, WASHERS) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

SILT FENCE DETAIL

NOT TO SCALE

2

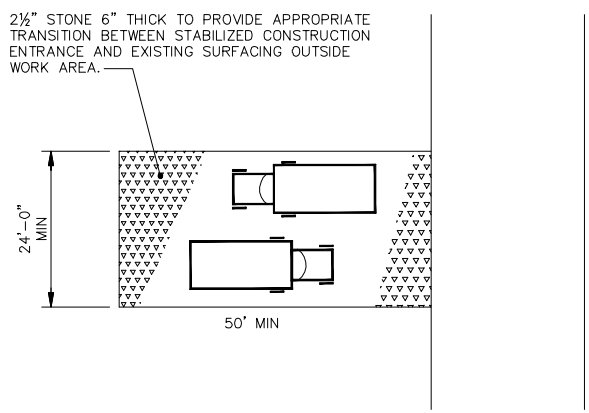


- CONSTRUCTION NOTES:**
- BALES SHALL BE SECURELY ANCHORED IN PLACE EITHER BY TWO STAKES OR BY REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
 - INSPECTION SHALL BE CONDUCTED WEEKLY AT A MINIMUM, AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY, AS NEEDED.

STRAW BALE SEDIMENT BARRIER EMBEDDING DETAIL

NOT TO SCALE

3



STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

4

SOIL EROSION AND SEDIMENT CONTROL NOTES:

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NJ STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL, REVISED JULY 1999. THESE MEASURES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ALL SOIL TO BE EXPOSED OR STOCKPILED FOR MORE THAN 60 DAYS, AND NOT UNDER ACTIVE CONSTRUCTION, SHALL BE TEMPORARILY SEEDED AND HAY MULCHED OR OTHERWISE PROVIDED WITH EROSION PROTECTION. THIS TEMPORARY COVER SHALL BE MAINTAINED UNTIL PERMANENT RESTABILIZATION IS ESTABLISHED.
- SEEDING DATES: THE FOLLOWING SEEDING DATES ARE BEST RECOMMENDED TO ESTABLISH PERMANENT VEGETATIVE COVER WITHIN MOST LOCATIONS IN THE HUDSON-ESSEX-PASSAIC SOIL CONSERVATION DISTRICT: SPRING - 03/01-05/15 AND FALL - 08/15-10/01.
- SEDIMENT FENCES SHALL BE PROPERLY TRENCHED AND MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.
- ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY ONE OF THE PRACTICES ACCEPTED IN THE STANDARDS AND REMAIN UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED. STORM DRAINAGE OUTLET POINTS SHALL BE PROTECTED AS REQUIRED BEFORE THEY BECOME FUNCTIONAL.
- MULCH MATERIALS SHALL BE UN-ROTTED SALT HAY OR SMALL-GRAIN STRAW APPLIED AT THE RATE OF 70-90 POUNDS PER 1,000 SF (1.5-2.0 TONS/ACRE). ADDITIONAL REQUIRED MULCH PRACTICES ARE PRESCRIBED IN THE STANDARDS.
- ALL EROSION CONTROL DEVICES SHALL BE PERIODICALLY INSPECTED, MAINTAINED, AND CORRECTED BY THE CONTRACTOR. ANY DAMAGE INCURRED BY EROSION SHALL BE RECTIFIED IMMEDIATELY.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. DO NOT UTILIZE A FIRE OR GARDEN HOSE TO CLEAN ROADS UNLESS THE RUNOFF IS DIRECTED TO A PROPERLY DESIGNED AND FUNCTIONING SEDIMENT BASIN. ALL PUMP DEWATERING OPERATIONS SHALL BE DIRECTED TOWARD A FUNCTIONING SEDIMENT BASIN.
- ALL SURFACES SHALL BE COVERED WITH 6 IN. OF TOPSOIL PRIOR TO RE-SEEDING.
- A CRUSHED STONE WHEEL-CLEANING TRACKING PAD SHALL BE INSTALLED AT ALL SITE EXITS USING 2½-IN. CRUSHED STONE TO A MINIMUM LENGTH OF 50 FT. ALL DRIVEWAYS MUST BE PROVIDED WITH CRUSHED STONE UNTIL PAVING IS COMPLETE.
- MAXIMUM SOIL SLOPES SHALL NOT EXCEED 2:1 UNLESS ADDITIONAL MEASURES ARE TAKEN AND APPROVED BY THE SOIL CONSERVATION DISTRICT. THESE "SPECIAL" MEASURES SHALL BE DESIGNED BY THE APPLICANT'S ENGINEER.

NOT TO SCALE		Professional Engineer's Name ROBERT ROMAGNOLI		TIERRA SOLUTIONS, INC. • LOWER PASSAIC RIVER, NEWARK, NJ PHASE I CERCLA NON-TIME-CRITICAL REMOVAL ACTION		ARCADIS Project No. B0009964.0001	
THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING.		Professional Engineer's No. 24GE04659400		ARCADIS U.S., INC. NEW JERSEY ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 24GA27939600		Date AUGUST 2011	
USE TO VERIFY FIGURE REPRODUCTION SCALE		State NJ		ARCADIS EROSION AND SEDIMENTATION CONTROL DETAILS		ARCADIS 6723 TOWPATH ROAD BOX 66 SYRACUSE, NY 13214 TEL: 315.446.9120	
		Date Signed 8/9/2011		Project Mgr. RAR		C-8	
		Revisions 1 ADD NOTE 5 - DETAIL 1		Checked by RR			
		Designed by AJE		Drawn by BKD			
		NOT BE REPRODUCED OR ALTERED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF SAME.		CIVIL			

Field Modification / Construction Bulletin Form	Date (dd/mm/yyyy):	9/8/2011
Lower Passaic River Project, Phase I Removal	FM # or CB # (FM - ### or CB - ###):	FM-004
ARCADIS	Revision (##):	01

Field Modification (design change requiring PE approval)
 Construction Bulletin (provides clarification of existing design)

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:

Abscope requested a modification to the Type-B catch basin lid design to change the solid lid material from 5/8-inch checker plate when they determined the material was not readily available and would have an increased cost. ARCADIS evaluated options and selected a modification to 1/2-inch solid plate w/anti-skid tape on the lid following completion of structural calculations.

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$ no impact	
Approval by Design Lead: <u>Allen J. Evans</u>	9/8/2011	
	<small>(Date)</small>	
Approval by Engineer of Record: <u>Chris G. G. G.</u>	9/9/2011	
	<small>(Signature)</small>	<small>(Date)</small>

Notes/Exceptions:

Design Coordination and Documentation

Are sketches detailing design modifications attached to FM?	Yes / No	Date
Are existing drawings required to be updated, sealed and re-issued? <small>(note - as-built drawings will be issued after construction and will incorporate FM)</small>	Yes / No	9/6/2011
Do the specifications need to be modified?	Yes / No	
Specific drawings and/or specification sections and paragraphs affected: <u>Revised detail on S-23</u>		

FM distributed by: Allen Evans Date 9/8/2011

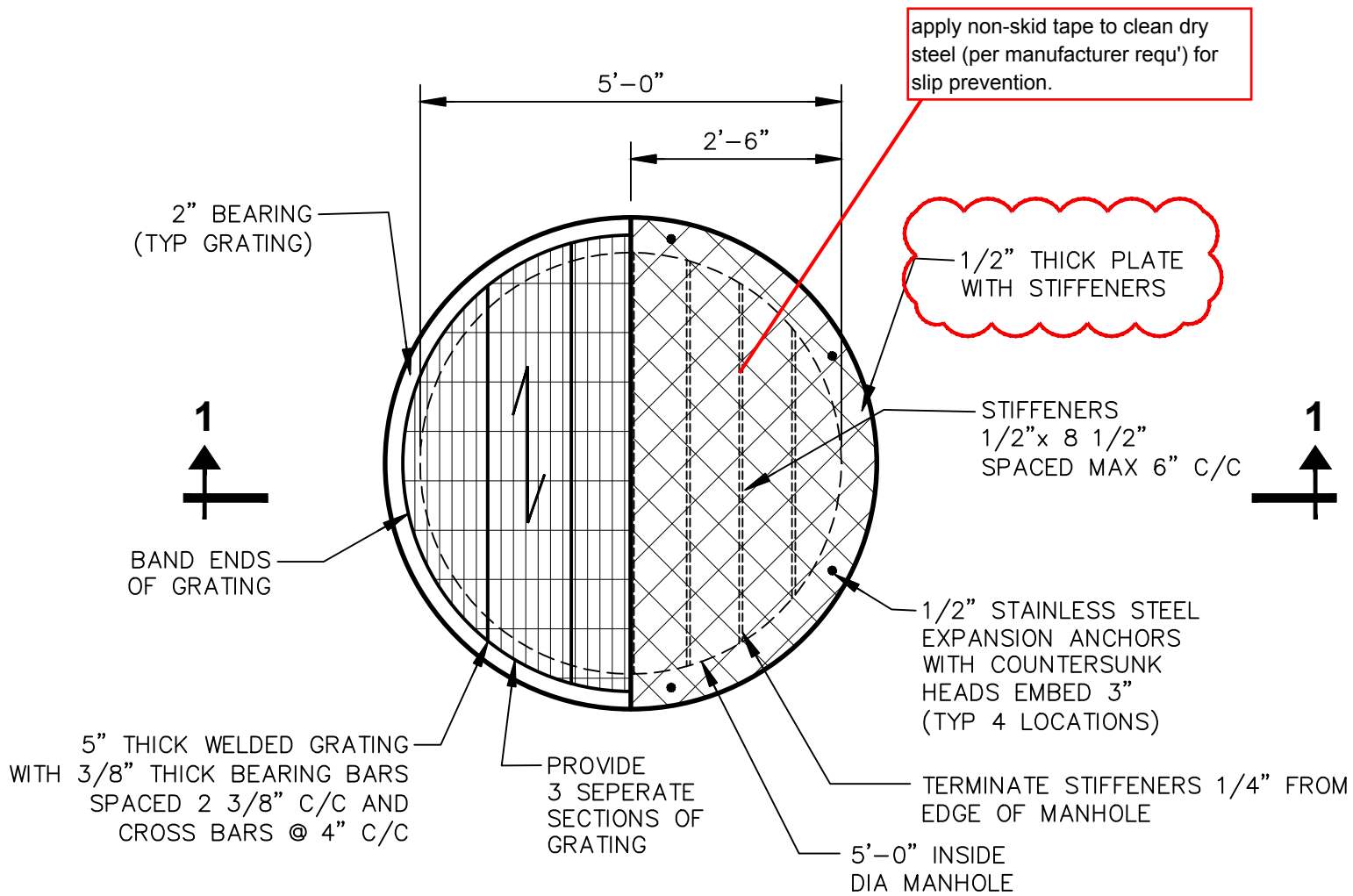
FM distributed to: Matthew Bowman (ARCADIS), Coleman King (ARCADIS), Rob Reed (ARCADIS), Chris Moody (ARCADIS), Dustin Winn (ABSCOPE)

Construction Bulletin (only fill out this section if modification to design is NOT required)

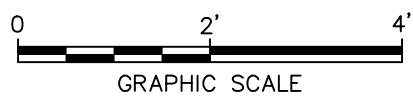
Subject and contents of required clarification:

CB distributed by: _____ Date

CB distributed to:



CATCH BASIN (TYPE B) COVER PLAN



AILS

1

Field Modification / Construction Bulletin Form	Date (dd/mm/yyyy):	9/8/2011
Lower Passaic River Project, Phase I Removal	FM # or CB # (FM - ### or CB - ###):	FM-005
ARCADIS	Revision (##):	01
<input checked="" type="checkbox"/> Field Modification (design change requiring PE approval) <input type="checkbox"/> Construction Bulletin (provides clarification of existing design)		

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:

During design coordination meetings with SECI catch basin CB-2 was located beneath the conveyor pivot point and it needs to be relocated to the north. Catch basin can be relocated without any changes to grading; therefore, only updated location information is needed. Pipes will be field fitted.

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$ no impact	
Approval by Design Lead: <u>Allen J. Evans</u>	9/8/2011	
Approval by Engineer of Record: <u>[Signature]</u>	9/09/2011	
	(Signature)	(Date)

Notes/Exceptions:

<u>Design Coordination and Documentation</u>		Date
Are sketches detailing design modifications attached to FM?	<input checked="" type="radio"/> Yes / <input type="radio"/> No	8/29/2011
Are existing drawings required to be updated, sealed and re-issued? <small>(note - as-built drawings will be issued after construction and will incorporate FM)</small>	<input type="radio"/> Yes / <input checked="" type="radio"/> No	
Do the specifications need to be modified?	<input type="radio"/> Yes / <input checked="" type="radio"/> No	
Specific drawings and/or specification sections and paragraphs affected: <u>Revised catch basin CB-2 location on drawing C-3</u>		

FM distributed by: <u>Allen Evans</u>	Date	9/8/2011
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FM distributed to: Matthew Bowman (ARCADIS), Coleman King (ARCADIS), Rob Reed (ARCADIS), Chris Moody (ARCADIS), Dustin Winn (ABSCOPE)

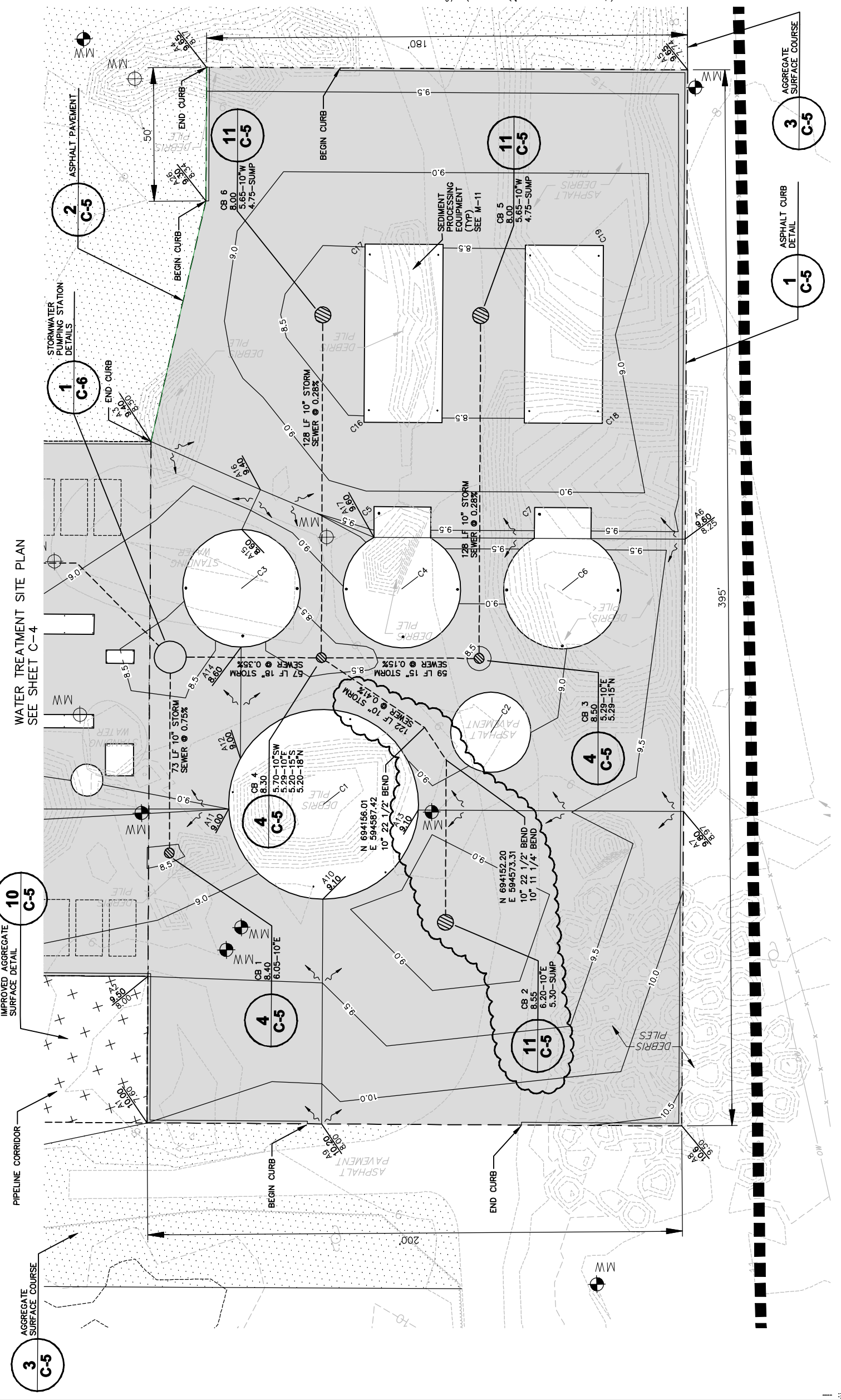
Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____	Date	_____
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CB distributed to:

WATER TREATMENT SITE PLAN
SEE SHEET C-4



ASPHALT PAVEMENT LOCATION COORDINATE TABLE

POINT	NORTHING	EASTING
A1	694301.19	594479.86
A2	694283.56	594531.76
A3	694219.39	594721.19
A4	694155.45	594847.53
A5	693984.98	594789.75
A6	694041.34	594623.45
A7	694074.04	594527.08
A8	694111.80	594415.66
A9	694239.34	594458.89
A10	694212.37	594538.47

CONCRETE FOUNDATION LOCATION COORDINATE TABLE

POINT	NORTHING	EASTING
C1	694200.97	594572.09
C2	694133.12	594577.91
C3	694204.58	594658.44
C4	694147.75	594639.18
C5	694147.91	594671.79
C6	694090.93	594619.92
C7	694091.05	594652.52

CATCH BASIN LOCATION COORDINATE TABLE

POINT	NORTHING	EASTING
CB 1	694261.45	594572.99
CB 2	694171.60	594515.82
CB 3	694128.54	594505.49
CB 4	694184.46	594624.37
CB 5	694087.52	594726.99
CB 6	694143.45	594745.87
PS	694238.00	594642.45

SCALE IN FEET

USE TO VERIFY REVISIONS NOTED IN ORIGINAL DRAWING. SCALE

No.	Date	By	Checked	Designed	Reviewed	SRP	AJE	CKG	SRP
1	8-29-11								

ARCADIS

Professional Engineer's Name
ROBERT ROMAGNOLI

Professional Engineer's No.
24GE046594.00

Professional Engineer's Name
ARCADIS U.S., INC.
NEW JERSEY ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 24GA27939600

TERRA SOLUTIONS, INC. • LOWER PASSAIC RIVER, NEWARK, NJ
PHASE I CERCLA NON-TIME-CRITICAL REMOVAL ACTION

UPLAND PROCESSING FACILITY

SEDIMENT PROCESSING SITE PLAN

CIVIL

ARCADIS Project No.
B000964.0001

Date
AUGUST 2011

ARCADIS
6723 TOWPATH ROAD
BOA 06
BOA USE, NY 13214
TEL:315.446.9120

C-3

- SITE PREPARATION NOTES:**
- EXISTING DEBRIS PILES WILL BE RELOCATED FROM WORK AREA TO OTHER ON-SITE AREAS BY MORRIS COMPANIES PRIOR TO MOBILIZATION.
 - MODIFY MONITORING WELLS ON HAUL ROUTES TO BE AT ELEVATION EQUAL TO FINAL GRADE. INSTALL TRAFFIC RATED PROTECTIVE COVERS AT EACH LOCATION. PROTECTIVE COVER WILL HAVE 3-BOLT, WATERTIGHT, CAST IRON RING AND COVER; NEOPRENE GASKET; ALUMINUM IDENTIFICATION PLATE; AND AN OPTIONAL 20-GAUGE GALVANIZED STEEL SKIRT. COVER WILL BE RATED TO H-20 TRAFFIC LOADING.
 - INSTALL CONCRETE JERSEY-TYPE BARRIERS AROUND ALL WELLS ADJACENT TO HAUL ROUTES THAT ARE NOT MODIFIED TO FLUSH MOUNT COVER. A MINIMUM OF 2 BARRIERS WILL BE PLACED AROUND THE WELL ON SIDE OF WELL EXPOSED TO SITE TRAFFIC.

- BENCHMARK 1**
BENCH TIE & TAG SET IN UTILITY POLE NEAR GATE AT END OF ASPHALT DRIVE AT SW CORNER OF PROPERTY. ELEVATION 11.16 (DATUM NGVD29)
- BENCHMARK 2**
BENCH TIE & TAG SET IN UTILITY POLE NORTH OF MAIN ENTRANCE AT SE CORNER OF PROPERTY. ELEVATION 9.39 (DATUM NGVD29)
- BENCHMARK 3**
BENCH TIE & TAG SET IN UTILITY POLE ALONG WESTERN PROPERTY LINE AT NORTH END OF ASPHALT DEBRIS PILE. ELEVATION 13.60 (DATUM NGVD29)

PLAN
SCALE: 1"=20'

Field Modification / Construction Bulletin Form	Date (dd/mm/yyyy):	09/21/2011
Lower Passaic River Project, Phase I Removal	FM # or CB # (FM - ### or CB - ###):	FM-006
ARCADIS	Revision (##):	0

Field Modification (design change requiring PE approval)
 Construction Bulletin (provides clarification of existing design)

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:
 Water within the enclosure will need to be managed by lowering the existing weir gate by one foot to allow water to enter into the enclosure during the winter, when pumps are not yet mobilized to the site. The current weir gate design was not anticipated to allow water in during high tide, and water is expected to leave the enclosure due to infiltration. Therefore water will need to be maintained within the enclosure. Lowering the weir gate by one foot resulted in several changes to the current weir gate design which are provided in the attachment to this Field Modification.

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$ 5,997.00	8/31/2011
Approval by Design Lead:	9/21/2011	9/13/2011
	(Date)	
Approval by Engineer of Record:	9/21/2011	
	(Date)	

Notes/Exceptions:

Design Coordination and Documentation

Are sketches detailing design modifications attached to FM?	Yes / No	Date
Are existing drawings required to be updated, sealed and re-issued? (note - as-built drawings will be issued after construction and will incorporate FM)	Yes / No	9/21/2011
Do the specifications need to be modified?	Yes / No	
Specific drawings and/or specification sections and paragraphs affected: S-18		

FM distributed by: Adam Chwalibog Date 9/21/2011

FM distributed to: Matthew Bowman (ARCADIS), Coleman King (ARCADIS), Jamie Beaver (ARCADIS), Claude Dion (Weeks), Aaron Hunt (ARCADIS), Rob Reed (ARCADIS)

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____ Date

CB distributed to:



DREDGING – MARINE CONTRACTORS
STEVEDORING – EQUIPMENT RENTALS
TOWING – HEAVY LIFT - SALVAGE

4 COMMERCE DR., 3rd FLOOR, CRANFORD, NEW JERSEY 07016-3598 (908) 272-4010 FAX: (908) 272-8957

September 13, 2011

Letter WMI-ARC-029

Arcadis USA Inc.
251 East Ohio St. Suite 800
Indianapolis, IN 46204

Attention: Mr. Matthew Bowman
Senior Project Manager

Reference: Lower Passaic River Study Area-Phase 1 Removal Action
Arcadis Project No. B0009966.001

Subject: Passaic River Weir Gate Modification

Mr. Bowman,

Weeks has prepared this cost proposal to modify the weir gate as shown in the attached drawing provided by Arcadis on August 31, 2011. The total cost proposal for this change is in the amount of \$5,997.00.

The two (2) vertical W18X35 will be extended one (1) foot instead of extending a temporary plate above the W18x35. A 1/8" steel plate will be welded to the HSS and the W18X35. Finally, a 1/8" steel plate will be welded perpendicular to the weir gate as shown in the drawing.

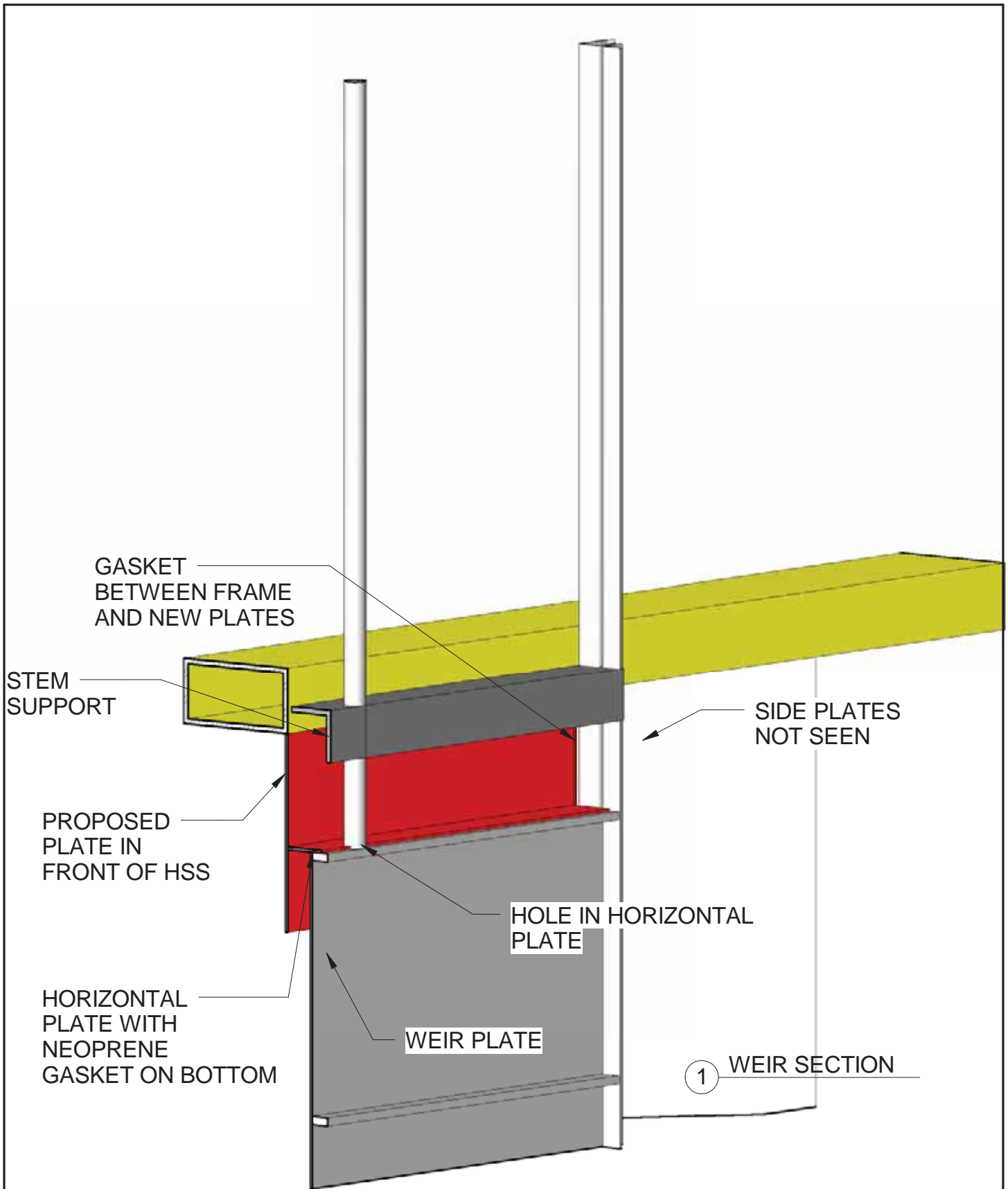
Please provide a change order or direction to begin the modification of the W18X35 since the material is ready to be delivery to Weeks Greenville Yard.

If you have any concerns please do not hesitate to contact our office.

Regards,

Claude Dion
Weeks Marine, Inc.

Cc.Dave Vosseller, Area Manager



ARCADIS

Infrastructure, environment, buildings

PROJECT MANAGER Approver	DEPARTMENT MANAGER Checker	LEAD DESIGN PROF. Designer	CHECKED BY Checker
SHEET TITLE PASSAIC ENCLOSURE WEIR WEIR SEAL 8/31/2011		TASK/PHASE NUMBER	DRAWN BY Author
		PROJECT NUMBER Project Number	DRAWING NUMBER W2

Field Modification / Construction Bulletin Form
 Lower Passaic River Project, Phase I Removal
 ARCADIS

Date (dd/mm/yyyy): 9/26/2011
 FM # or CB # (FM - ### or CB - ###): FM-008
 Revision (##): 00

Field Modification (design change requiring PE approval)
 Construction Bulletin (provides clarification of existing design)

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:

Based on ongoing discussion with Brown & Caldwell on effective performance of the GWTS, changes in tie-in and pre-treated water storage have been made to now route pre-treated tieback water before the GWTS oil-water separate and T-1. Water will be pumped to T-1 during daytime operation on a batch basis under supervision. Piping for recirculation as shown on the attached form.

Date Contractor has confirmed receipt of modification: _____ Date _____
 The modification pricing provided by Contractor is: \$ _____
 Approval by Design Lead: James Ba 9/26/2011
 (Signature) (Date)
 Approval by Engineer of Record: [Signature] _____
 (Signature) (Date)

Notes/Exceptions:

Design Coordination and Documentation

Are sketches detailing design modifications attached to FM? Yes / No
 Are existing drawings required to be updated, sealed and re-issued? Yes / No
 (note - as-built drawings will be issued after construction and will incorporate FM)
 Do the specifications need to be modified? Yes / No
 Specific drawings and/or specification sections and paragraphs affected:
Enclosure RAWP Part 1

FM distributed by: Jamie Beaver Date 9/26/2011

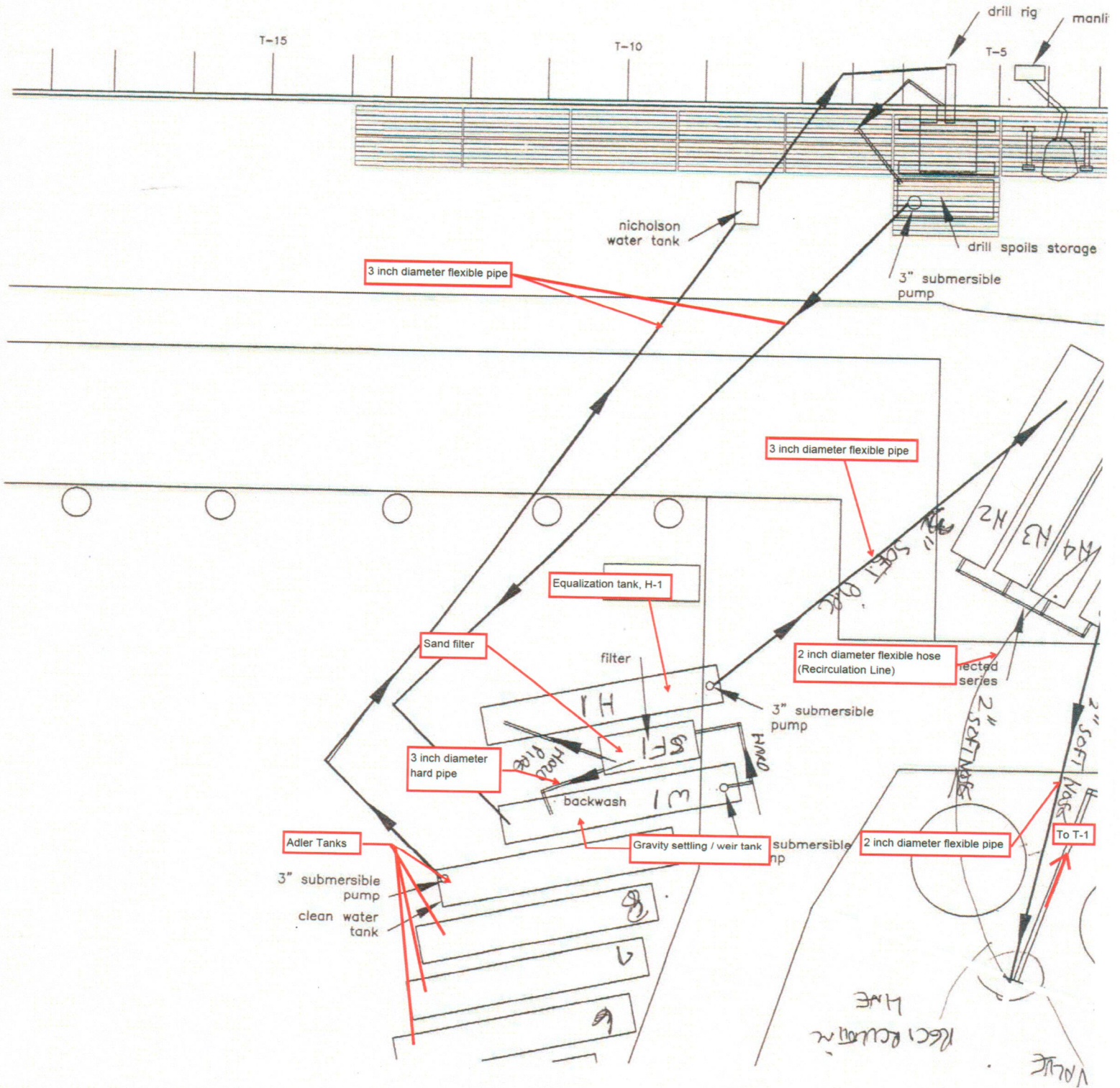
FM distributed to: Matthew Bowman (ARCADIS), Coleman King (ARCADIS), Bob Romagnoli (ARCADIS), Joe Molina (ARCADIS), Rob Reed (ARCADIS), Daryck Brown (Brown & Caldwell), Ben Leff (Brown & Caldwell)

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____ Date _____

CB distributed to:



Field Modification / Construction Bulletin Form Date (dd/mm/yyyy): 11/11/2011
Lower Passaic River Project, Phase I Removal FM # or CB # (FM - ### or CB - ###): FM-009
ARCADIS Revision (##): 0

- Field Modification (design change requiring PE approval)
 Construction Bulletin (provides clarification of existing design)

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification: FM-009 includes the following modifications:

The flexible connection at the connections to the floating pipeline at the Phase I Work Area and at the UPF may not form a secure seal between the sections of HDPE piping. As an alternate to a flexible connection, Weeks will adjust the routing of the dual containment piping from the enclosure to the floating section (see attached sketch), and Weeks will provide sufficient slack in the pipeline for tidal fluctuations where the floating pipeline transitions from floating to fixed connections.

Date Contractor has confirmed receipt of modification: _____ Date _____
 The modification pricing provided by Contractor is: \$ TBD
 Approval by Design Lead: Brooke Bonkoski 11/16/11
(Signature) (Date)
 Approval by Engineer of Record: [Signature] _____
(Signature) (Date)

Notes/Exceptions:

Design Coordination and Documentation

Are sketches detailing design modifications attached to FM? Date 17/10/2011
 Are existing drawings required to be updated, sealed and re-issued? Yes / No
(note - as-built drawings will be issued after construction and will incorporate FM) Yes / No
 Do the specifications need to be modified? Yes / No
 Specific drawings and/or specification sections and paragraphs affected:
Drawing M-12 and Section 35 20 23.14 HYDRAULIC PIPELINE Paragraphs 3.4.1 and 3.5.1.

FM distributed by: _____ Date 11/11/2011

FM distributed to: Matthew Bowman (ARCADIS), Coleman King (ARCADIS), Joe Molina (ARCADIS), Bob Romagnoli (ARCADIS), Rob Reed (ARCADIS), Brooke Bonkoski (ARCADIS), Barbara Orchard (ARCADIS), Claude Dion (Weeks), Paul Bluestein (Tierra), Paul Bryzowski (Tierra), Barry Kellems (ARCADIS)

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____ Date _____

CB distributed to:

REQUEST FOR INFORMATION (RFI) NO. 014-1

CONTRACT NO. B000964.001

Monday, October 17, 2011

Project Name: Lower Passaic River Phase I

To: Arcadis U.S. Inc.

From: Weeks Marine, Inc

**251 E. Ohio St., Suite 800
Indianapolis, IN, 46204**

**4 Commerce Drive,
Cranford, NJ 07016**

Attention: Matthew Bowman

Attention: Claude Dion

Subject: Pipeline New Location

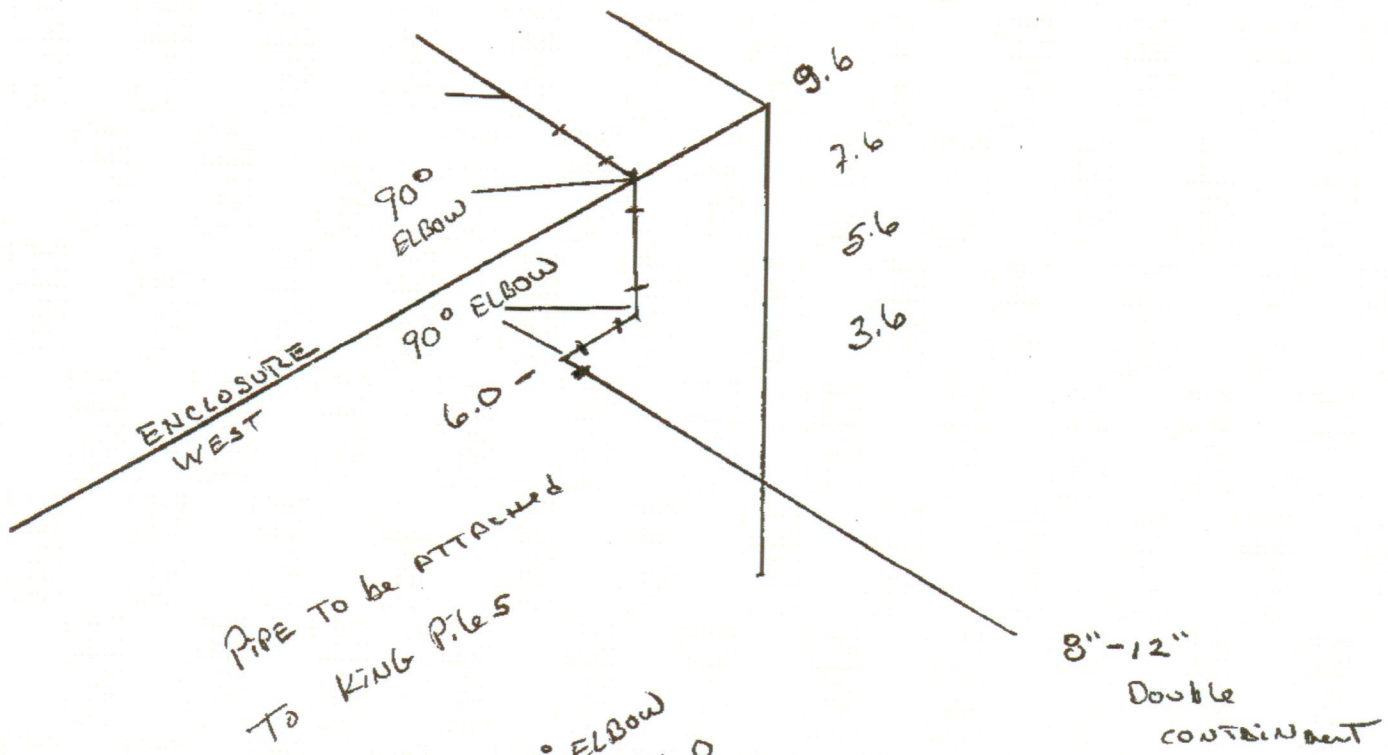
Reference: M-12

Description:

This submittal is a complement to RFI 014. The double containment pipeline will not have the felxibel joint but will be re-directed as shown on the isomtric drawing attached.

Date Reply Required: 10/24/2011

Owner Use Only:



PIPE TO BE ATTACHED
TO KING PILES

NOTE 90° ELBOW
AT ELEVATION 6.0
WILL BE ROTATE
IN DIRECTION OF THE
RIVER.

DOUBLE CONTAINMENT
PIPE AT ENCLOSURE
CLAUDE DION
2011-10-17

Field Modification / Construction Bulletin Form	Date (dd/mm/yyyy):	10/28/11
Lower Passaic River Project, Phase I Removal	FM # or CB # (FM - ### or CB - ###):	FM-010
ARCADIS	Revision (##):	0
<input checked="" type="checkbox"/> Field Modification (design change requiring PE approval) <input type="checkbox"/> Construction Bulletin (provides clarification of existing design)		

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:

During field survey of the proposed S-W enclosure wall alignment, it was determined that the existing S-W sheet pile wall would interfere with enclosure alignment. This was due to inaccuracy in the existing DPK survey information for the alignment of the existing S-W sheet pile wall. In order to install the S-W enclosure wall outboard of the existing S-W sheet pile wall, survey control points E and F (Drawing G-4) were adjusted. To accomplish the revised positioning, King Pile P-38 was removed from the west enclosure wall, and King Pile P-1 was adjusted approximately nine inches north into the Passaic River. These changes resulted in a change to the S-W enclosure wall alignment. The old and revised S-W enclosure wall alignment and old and revised survey information of the S-W sheet pile wall are provided as an attachment to this field modification along with the plan views showing the elimination of P-38 and adjustment to the OU-1/S-W enclosure wall connection (Detail 6 on S-4). The revised alignment was positioned to minimize change to the Phase I footprint and removal volume.

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$ <input type="text" value="N/A"/>	<input type="text"/>
Approval by Design Lead: _____	10/28/11	<input type="text"/>
<small>(Signature)</small>	<small>(Date)</small>	
Approval by Engineer of Record: _____	10/28/11	<input type="text"/>
<small>(Signature)</small>	<small>(Date)</small>	

Notes/Exceptions:

<u>Design Coordination and Documentation</u>		Date
Are sketches detailing design modifications attached to FM?	Yes / No	<input type="text" value="10/28/11"/>
Are existing drawings required to be updated, sealed and re-issued? <small>(note - as-built drawings will be issued after construction and will incorporate FM)</small>	Yes / No	<input type="text"/>
Do the specifications need to be modified?	Yes / No	<input type="text"/>
Specific drawings and/or specification sections and paragraphs affected: Drawings G-4, S-2, S-3, S-4 (Details 4 and 6)		

FM distributed by: Adam Chwalibog Date

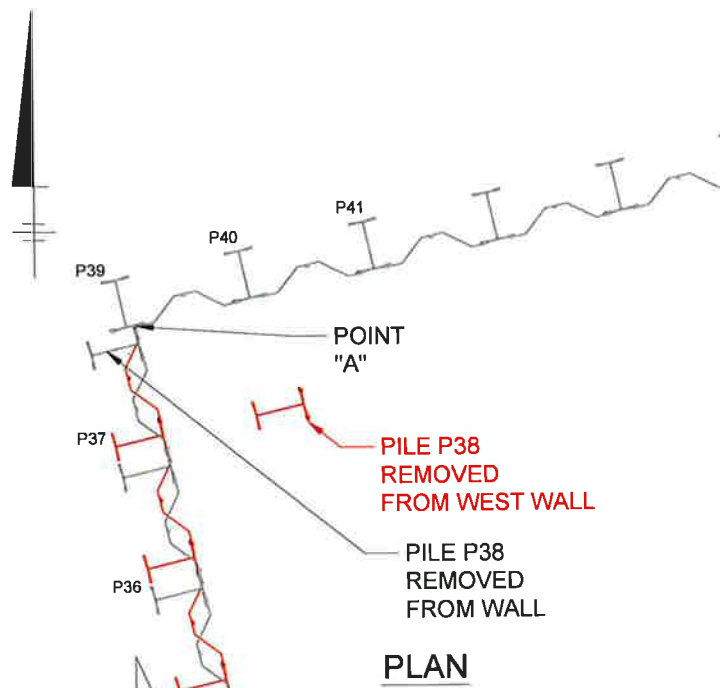
FM distributed to:
 Claude Dion (Weeks Marine), Coleman King (ARCADIS), Matt Bowman (ARCADIS), Aaron Hunt (ARCADIS), Jamie Beaver (ARCADIS), Bob Romagnoli (ARCADIS), Rob Reed (ARCADIS), Brooke Bonkoski (ARCADIS), Erika Denkenberger (ARCADIS)

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____ Date

CB distributed to:



VERTICES - NEW/UPDATED DESIGN

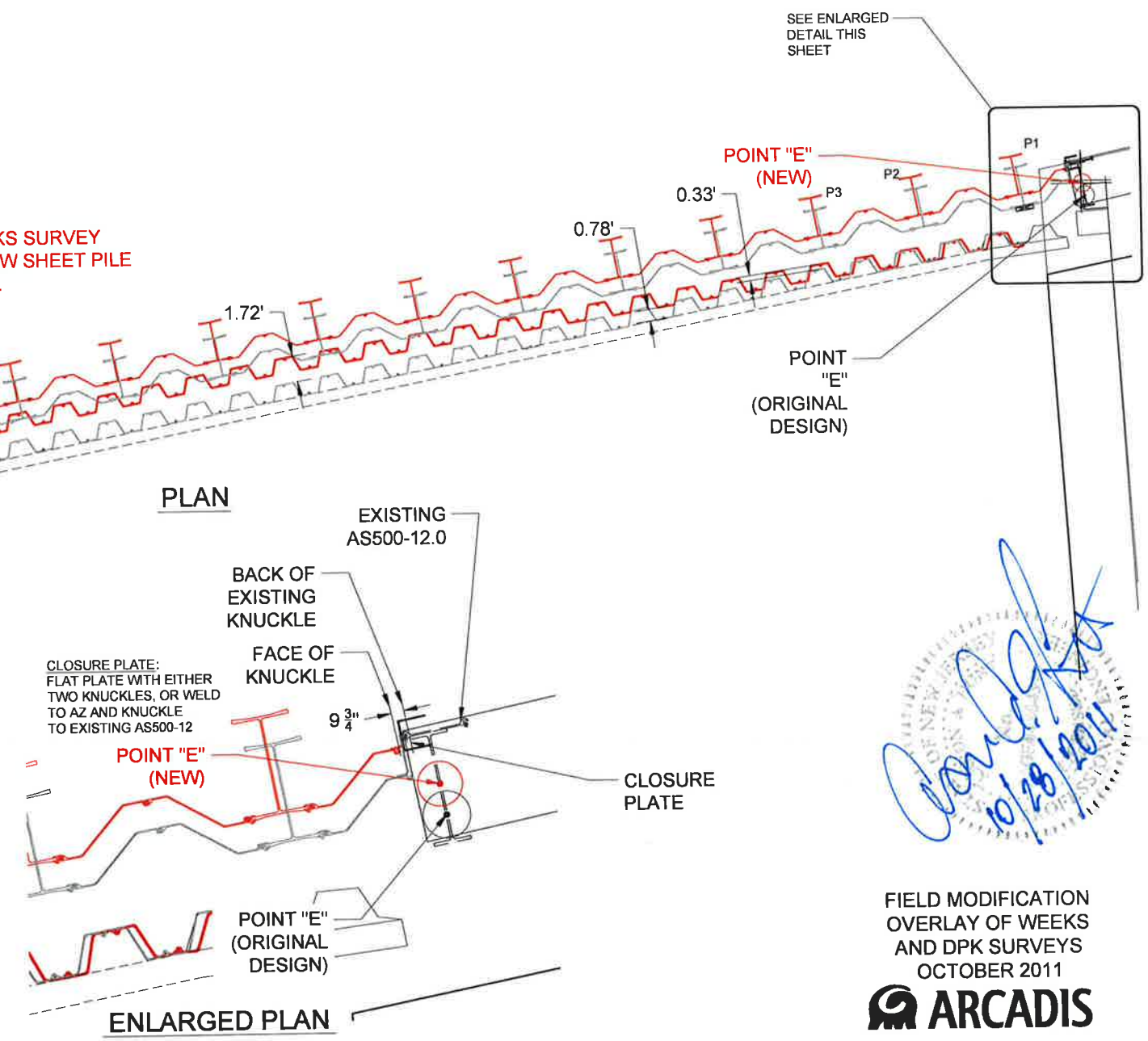
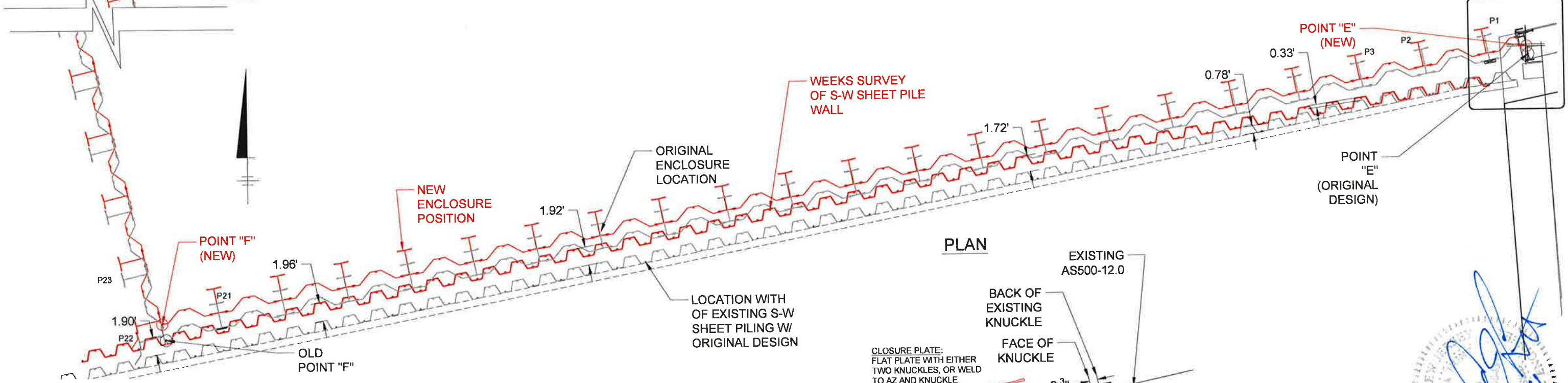
ENCLOSURE VERTICES			
POINT	NORTHING	EASTING	STATION
"A"	N = 694986.257	E = 592601.821	2+49.75
"B"	N = 695153.987	E = 593334.420	10+01.30
"C"	N = 695022.635	E = 593365.814	11+37.65
"D"	N = 694909.960	E = 592770.504	17+43.57
"E"	N = 694908.617	E = 592770.783	17+44.94
"F"	N = 694881.189	E = 592627.659	1+41.53

GATE VERTEX			
POINT	NORTHING	EASTING	STATION
"G"	N = 695134.721	E = 593339.025	10+21.11

VERTICES - ORIGINAL DESIGN

ENCLOSURE VERTICES			
POINT	NORTHING	EASTING	STATION
"A"	N = 694986.257	E = 592601.821	2+51.44
"B"	N = 695153.987	E = 593334.420	10+03.00
"C"	N = 695022.635	E = 593365.814	11+38.05
"D"	N = 694909.960	E = 592770.504	17+43.97
"E"	N = 694907.886	E = 592770.935	17+46.08
"F"	N = 694879.493	E = 592628.012	1+41.52

GATE VERTEX			
POINT	NORTHING	EASTING	STATION
"G"	N = 695134.721	E = 593339.025	10+22.81



[Handwritten Signature]
 10/28/2011

Field Modification / Construction Bulletin Form	Date (dd/mm/yyyy):	11/14/11
Lower Passaic River Project, Phase I Removal	FM # or CB # (FM - ### or CB - ###):	FM-011
ARCADIS	Revision (##):	0
<input checked="" type="checkbox"/> Field Modification (design change requiring PE approval) <input type="checkbox"/> Construction Bulletin (provides clarification of existing design)		

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:

During tieback core hole operations at locations T-1, T-10 and T-26, obstructions were encountered which prohibited completion of drilling, and resulted in design modifications. In accordance with Specification 31 51 00 1.4.5.3, ARCADIS reviewed and evaluated each location for possible relocation. Due to system loads and location, it was determined that T-1 would be abandoned in place and no offset required. Core hole locations for T-10 and T-26 were abandoned and relocated. T-10 was relocated 1'-4" west and T-26 was relocated 4'-2" east. All three original locations were tremie grouted to the wall face and terminated in accordance with the design. Tieback changes also not installing Tiebacks T-1 (due to issue mentioned above), T-38 due to obstructions encountered in the field during drilling and T-22 load cell being moved to T-24 because Nicholson cut tieback strands prior to installing load cell. Backup calculations supporting elimination of Tiebacks T-1 and T-38 are provided in an attachment to the Field Modification. Calculations are provided for T-1 only, but apply to T-38 due to symmetry of the system.

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$ <input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>
Approval by Design Lead:	11/14/11	<input style="width: 50px;" type="text"/>
<small>(Signature)</small>	<small>(Date)</small>	
Approval by Engineer of Record:	11/14/11	<input style="width: 50px;" type="text"/>
<small>(Signature)</small>	<small>(Date)</small>	

Notes/Exceptions:

Design Coordination and Documentation

Are sketches detailing design modifications attached to FM?	Yes / No	Date
Are existing drawings required to be updated, sealed and re-issued? <small>(note - as-built drawings will be issued after construction and will incorporate FM)</small>	Yes / No	11/14/11
Do the specifications need to be modified?	Yes / No	<input style="width: 50px;" type="text"/>
Specific drawings and/or specification sections and paragraphs affected: Drawings S-14 and S-15		

FM distributed by: Adam Chwalibog Date

FM distributed to:
 Claude Dion (Weeks Marine), Coleman King (ARCADIS), Matt Bowman (ARCADIS), Aaron Hunt (ARCADIS), Jamie Beaver (ARCADIS), Bob Romagnoli (ARCADIS), Rob Reed (ARCADIS), Erika Denkenberger (ARCADIS)

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____ Date

CB distributed to:



ARCADIS U.S., Inc.
One SeaGate
Suite 700
Toledo
Ohio 43604
Tel 419 473 1121
Fax 419 473 2108

MEMO

To:
Jamie, Adam

Copies:

ARCADIS U.S., Inc.
TX Engineering License # F-533

From:
Aaron Hunt

Date:
January 30, 2012

ARCADIS Project No.:

Subject:
Tieback Number T-1

This document and the CAD figure are intended to show the effects of removing Tieback T-1 from the project due to the difficulties core drilling. Three scenarios have been calculated:

- Design with the Tieback number 1 in place.
- Effects of removing Tieback number 1.
- Effects of removing Tieback number 1 and stressing Tieback 2 with additional 40 kip load.

Please notice that both Tiebacks 1 and 2 are attached to the same wale shown in red on the attached figure. These two tiebacks (T-1 and T-2) use this one wale to support the Master Piles.

The analysis performed is based on the design loading with a factor of safety of 1.25 on passive resistance. Previous analysis was performed in order to determine the maximum loads to tiebacks. This analysis is different in that specific Master Piles are required to be analyzed. The original design did not specifically include this area of the wall due to the corner frame and associated shearwalls. With removing tie back number 1, the connections to the framing required verification.

Removing T-1 does the following:

- Increases demand on existing anchors at several Master Piles. Largest load is 134 kips in MP 73.
- Increases Tie back T-2 load to 142 kips (increased by 8.1 kips).

- Deflections in MP 72 increase 0.25" for a final value of 1.25" total.
- Wale deflection increases slightly to 0.64" total. A 0.18" increase.

Adding 40 kips of additional prestressing to T-2 after T-1 is no longer modeled does the following:

- Increases Tie back load to T-2 to a total of 173 kips.
- Reduces reactions to MP 70 (by 11.5 kips), MP 71 (by 9.3 kips), and MP 72 (by 4.6 kips).
- There is a negligible additional load put on MP 73.

In summary, the absence of T-1 will theoretically require more demand on the connection to the frame at MP 73. This final value is conservative in the sense that loadings to the system are not likely to be this large. According to field notes, the as-built connection has a larger capacity than the demanded 135 kips.

Increasing prestressing has slight advantage to connections at MP 70, 71, and 72, but requires 173 kip capacity in Tie back T-2. There is vertically no change in deflections by increasing prestressing.

Field Modification / Construction Bulletin Form	Date (dd/mm/yyyy):	10/22/12
Lower Passaic River Project, Phase I Removal	FM # or CB # (FM - ### or CB - ###):	FM-012
ARCADIS	Revision (##):	0

Field Modification (design change requiring PE approval)
 Construction Bulletin (provides clarification of existing design)

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:

This field modification documents the changes to the replacement of the C15x33.9 wale between the existing Sherwin-Williams (S-W) bulkhead and the S-W enclosure wall, as detailed on Drawing S-3. Due to not being able to weld the C15x33.9 wale to the existing S-W wall due to access restrictions, health and safety concerns in regards to installing and making the structural connection after the enclosure wall was installed, and variations between the gap between the two walls, the C15x33.9 connection between the walls was replaced with timber shims and blocking. Timber blocking and shims were cut to shape by Weeks Marine and placed at each king pile location.

The changes were agreed to by ARCADIS and Weeks Marine in a conference call on 11/4/2011.

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$	N/A
Approval by Design Lead: <u><i>James Ba</i></u>	11/2/12	N/A
Approval by Engineer of Record: <u><i>Usan Bon</i></u>	11/2/12	
	<small>(Signature)</small>	<small>(Date)</small>

Notes/Exceptions:

Design Coordination and Documentation

Are sketches detailing design modifications attached to FM?	Yes / No	Date
Are existing drawings required to be updated, sealed and re-issued? <small>(note - as-built drawings will be issued after construction and will incorporate FM)</small>	Yes / No	
Do the specifications need to be modified?	Yes / No	
Specific drawings and/or specification sections and paragraphs affected:		
<u>Drawing S-3, S-4, S-6, S-20</u>		

FM distributed by: Adam Chwalibog Date 10/22/12

FM distributed to: N/A

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____ Date

CB distributed to:

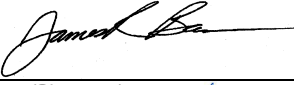

Field Modification / Construction Bulletin Form		Date (dd/mm/yyyy):	1/25/12
Lower Passaic River Project, Phase I Removal		FM # or CB # (FM - ### or CB - ###):	FM-013
ARCADIS		Revision (##):	0
<input checked="" type="checkbox"/> <u>Field Modification</u> (design change requiring PE approval) <input type="checkbox"/> <u>Construction Bulletin</u> (provides clarification of existing design)			

Field Modification (only fill out this section if modification to design is required)

Construction Coordination and Documentation

Reason for and nature of modification:

As-built position of P170 (the king pile nearest to the SE corner of the enclosure at the OU-1 floodwall), has slightly shifted south creating a geometry that makes the designed junction pile connecting the enclosure and OU-1 no longer workable. This junction pile at the SE corner is shown on S-6, Detail 3 and enlargement interlock detail. This junction pile included a pipe section welded as part of the individual sheet pile to increase deflection capacity at this location (the pile was to be field measured prior to fabrication by Skyline/L&L). The field modification includes a revised geometry for the junction pile and inclusion of CDF grout to make the SE corner water tight as shown in the attached detail.

Date Contractor has confirmed receipt of modification:		Date
The modification pricing provided by Contractor is:	\$ <input type="text"/>	<input type="text"/>
Approval by Design Lead:	 (Signature)	1/13/12 (Date)
Approval by Engineer of Record:	 (Signature)	1/13/12 (Date)

Notes/Exceptions:

Design Coordination and Documentation

Are sketches detailing design modifications attached to FM?	<input checked="" type="radio"/> Yes / <input type="radio"/> No	Date
Are existing drawings required to be updated, sealed and re-issued? (note - as-built drawings will be issued after construction and will incorporate FM)	<input type="radio"/> Yes / <input checked="" type="radio"/> No	1/25/12
Do the specifications need to be modified?	<input type="radio"/> Yes / <input checked="" type="radio"/> No	<input type="text"/>
Specific drawings and/or specification sections and paragraphs affected: Drawings S-14 and S-15	<input type="text"/>	

FM distributed by: Adam Chwalibog Date

FM distributed to:
 Claude Dion (Weeks Marine), Coleman King (ARCADIS), Matt Bowman (ARCADIS), Aaron Hunt (ARCADIS), Jamie Beaver (ARCADIS), Bob Romagnoli (ARCADIS), Rob Reed (ARCADIS), Erika Denkenberger (ARCADIS)

Construction Bulletin (only fill out this section if modification to design is NOT required)

Subject and contents of required clarification:

CB distributed by: _____ Date

CB distributed to:

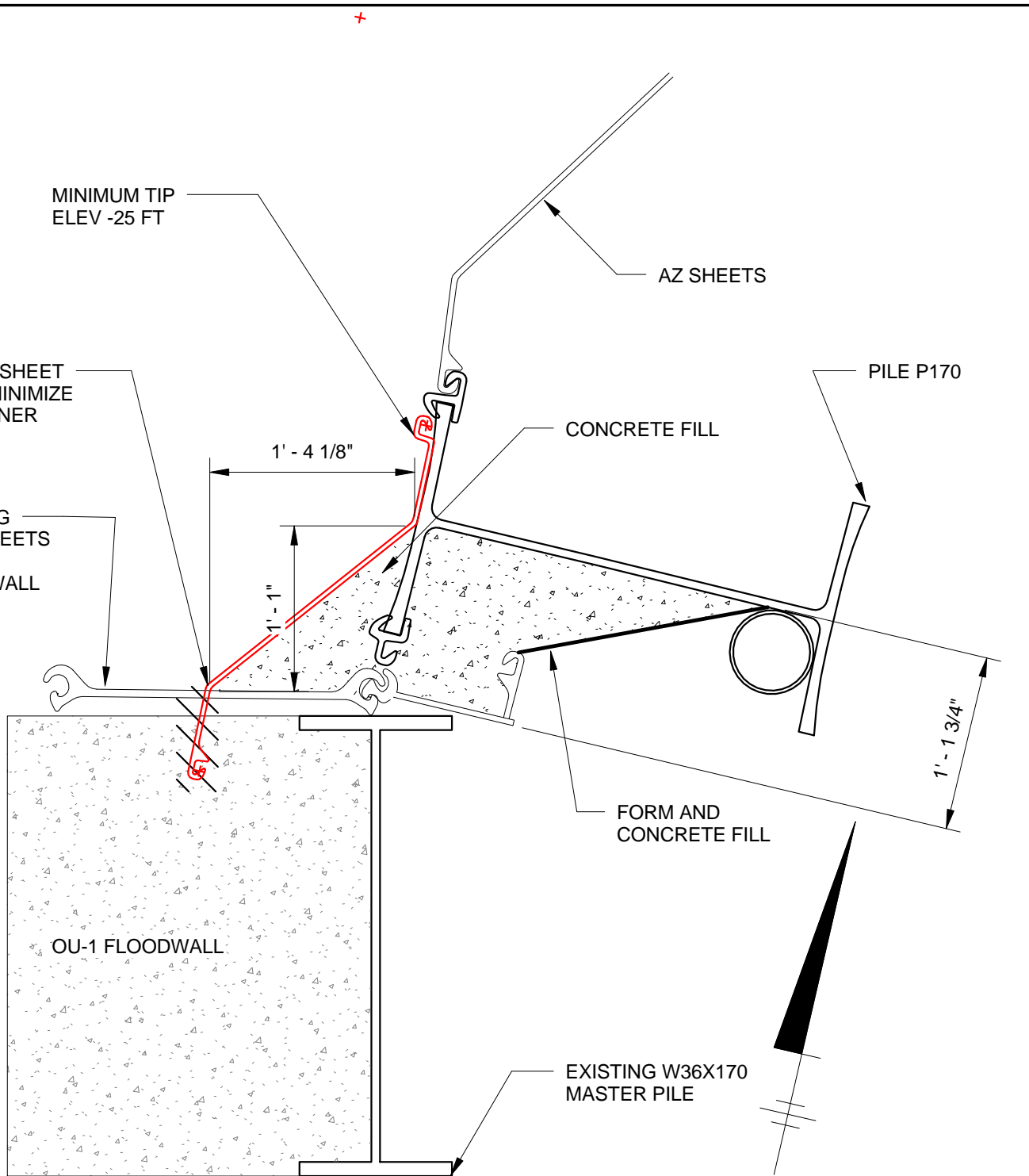
\\OH03FP01\Data\Project\B0009961.0000\Struct\Construction\CONST_MODEL\2012-01-25 OU-1 Floodwall Const.rvt

1/25/2012 7:59:28 AM

PHASE I CERCLA NON-TIME-CRITICAL REMOVAL ACTION



PROJECT MANAGER Approver	DEPARTMENT MANAGER Checker	LEAD DESIGN PROF. Designer	CHECKED BY Checker
SHEET TITLE SOUTHEAST CLOSURE PILE		TASK/PHASE NUMBER	DRAWN BY Author
01/24/12		PROJECT NUMBER LISTER AVE	DRAWING NUMBER SE01



1 SE CORNER JAN-24-2012