September 15, 2004

Mr. David Pratt, P.E.
NYSDEC Region 8
6274 East Avon – Lima Road
Avon, New York 14414

Re: CSXT River St. Derailment
Genesee River Dredging
Alternative Dredging Approach
Rochester, New York

Dear Mr. Pratt:

The purpose of this letter is to illustrate difficulties we are experiencing when attempting to install the silt curtain system as designed for the above referenced project. Due to recent storm events the Genesee River is experiencing higher than normal flow rates. According to the USGS gauging station at Ballantyne Bridge, the river rose approximately 5' in a twenty-four hour period and is still 2' above typical flow conditions. While a 5' rise at Ballantyne doesn't necessarily indicate an identical increases at our project location it is an excellent indication of the increased volume currently in the river. Also associated with high flow conditions is the presence of excessive debris. Although debris was anticipated the quantity, size and frequency that it is appearing are not normal conditions. Deployment of the curtains in conditions such as these are neither safe nor effective. We attempted to deploy curtains in the river on Tuesday September 14, 2004 and experienced excessive curtain billowing and extreme stress along the leading edge resulting in damage to the curtains.

During curtain installation activities technical experts from Cable Arm, Inc (environmental dredging equipment) and Elastec, Inc (curtain manufacture) were present. Both experts commented that curtains would not function in the conditions that we are currently experiencing. As a result Cable Arm, Elastec, AMEC and DA Collins discussed alternatives and were able to come up with an approach that is effective and has been used in situations similar to ours. Both Cable Arm and Elastec cited projects where initial curtain designs required modifications and the alternative approach was successful. We have adapted their approach to our project.

Managing turbidity through the use of curtains is only a portion of the control techniques. The use of an environmental bucket along with specific software and GPS interface enables dredging activities to keep turbidity at a minimum. Project specifications required the use of low turbidity dredging techniques and equipment. Cable Arm is supplying the dredging equipment and their low turbidity techniques are being utilized. Providing these low turbidity dredging techniques are followed, modifying the curtain design will not increase the potential for turbidity.

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Alternative Dredging Approach

The alternative approach utilizes an environmental dredging system, which consists of: a crane scow; hopper scow; a mobile dredge cell; an operator trained in Cable Arm standard operating procedures; a Cable Arm environmental clamshell bucket with associated rigging including open/close alarms and depth sensors, real-time ClamVision bucket positioning software; deck spill containment from the dredge cell to the hopper scow; and a bucket wash tank.

The purpose of the dredge cell is to provide a defined work area for dredging activities where turbidity can be managed utilizing localized controls. Dredge cells can be constructed of various materials. For this project we will utilize the existing crane scow which is constructed of pre-engineered structures (Flexi Float). Additional Flexi Float pieces will be added to the scow to create the dredge cell. Engineering calculations will determine the ultimate scow / cell arrangement which could vary slightly however, the concept will remain consistent. Once the cell is constructed an oil boom will be installed within the cell and a ten-foot turbidity curtain will then be placed around the scow perimeter.

The primary means of particulate control in the water column is the environmental clamshell bucket. A trained and experienced operator using a Cable Arm environmental clamshell bucket in conjunction with real-time precision ClamVision bucket positioning software can greatly reduce and control sediment re-suspension.

<u>Secondary</u> turbidity controls will be used to provide further controls on sediment re-suspension. Secondary particulate controls include:

- controlled bucket decent and time managed cycles;
- perimeter turbidity curtain placed around the dredge cell;
- positioning of the crane barge upstream to deflect current and debris;
- a wash/rinse tank to submerge the clamshell bucket prior to its downward cycle to minimize any re-suspension of sediment from the bucket itself;
- a deck containment corridor for transferring material from the dredge cell to the transfer barge.

Controlled Cycles

Controlled cycles prevent excessive disturbance of the water column during bucket decent. It also prevents the bucket from aggressively coming to rest on the river bottom and disturbing the underlying sediments.

Turbidity Curtain

A majority of turbidity occurs within the top five feet of the water column and typically occurs as the bucket is removed. The proposed dredge cell will be the first piece of turbidity control while a ten-foot curtain around the cell will be the second. Turbidity control will be localized in lieu of attempting to encompass the entire project.

Crane Scow Placement

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Positioning the crane scow so that it is upstream while the cell is downstream will force the current around dredging operations, significantly decreasing flow rates within the immediate area. The barge will also act as protective barrier by deflecting debris.

Wash/Rinse Tank
A wash/rinse tank will be utilized to remove all sediments adhering to the bucket surface (interior/exterior) following sediment discharge to the receiving barge and prior to the start of the next bucket cycle. This simple approach is effective in removing sediment clinging to the bucket that would typically be re-suspended during the bucket's next descent into the water column. (For an environmental dredging project conducted in White Lake, Michigan in 2003, up to 3 cubic yards (1%) of sediment was removed from the wash tank at the end of a 10-hour dredging day using a 4.5 cubic yard capacity bucket.)

Deck Containment Corridor System
During the transfer of material from the dredge cell to the hopper scow, a deck containment corridor with sides will be used to contain any spillage from the bucket. This is another measure to ensure that sediment is controlled during the dredging operation at the project site.

Turbidity Monitoring during Dredging
To verify the control of re-suspended sediment, AMEC drafted and submitted a river quality-monitoring program that includes turbidity as a parameter. Turbidity was to be monitored at three locations (one between the turbidity curtains, one upstream and one downstream) every two hours. An exceedance in turbidity outside of the turbidity curtains is defined as a readings being either 20% above background or greater than 40 NTU (which ever is greater). An exceedance would require immediate mitigation. Work cannot proceed until a solution has been developed. This monitoring program would still be effective with the proposed alternative. In addition to the existing quality monitoring program turbidity readings will be continuously monitored at the mobile Data Control center during dredging activities to verify that turbidity does not exceed the criteria above. The dredge operator will have access to real-time turbidity data from all monitoring stations and can adjust the operational procedure (cycle time, cleaning, and so on) to ensure that the turbidity readings do not exceed the specified background level.

Case Study

In July, 2004, this alternative approach to minimize suspended sediment was used for dredging approximately 6,000 cubic yards of contaminated sediment from the Longbranch Cut of the St. John's River in Jacksonville, Florida. The precursors of this method were successful at the Dow Canada site near Sarnia, Ontario, at 25 feet below the surface of the water in a 5 feet/second current in the St. Clair River and later at a site in White Lake, Michigan at 60 feet below the surface of the water.

The dredging project at Jacksonville, Florida was successfully completed using this alternative approach to minimize re-suspension of sediment. The success of the project was measured by real-time turbidity monitoring of the water column within the Data Control center, the removal of contaminated sediment from a pre-determined project boundary, and confirmatory sediment sampling verifying that the sediment clean-up criteria has been met.

The Cable Arm environmental clamshell bucket is the primary means of controlling sediment re-suspension. Secondary means of controlling sediment re-suspension include the controls discussed above. To assure that turbidity is controlled through use of this specialized and proven equipment, quality assurance/quality control procedures are used that meet all applicable requirements at the project site. Using this design with proper operational dredging procedures to control re-suspension of sediment to near background levels, contaminated sediments can be dredged without a full encompassing silt curtain in waterways where flow velocity exceeds 2 feet/second.

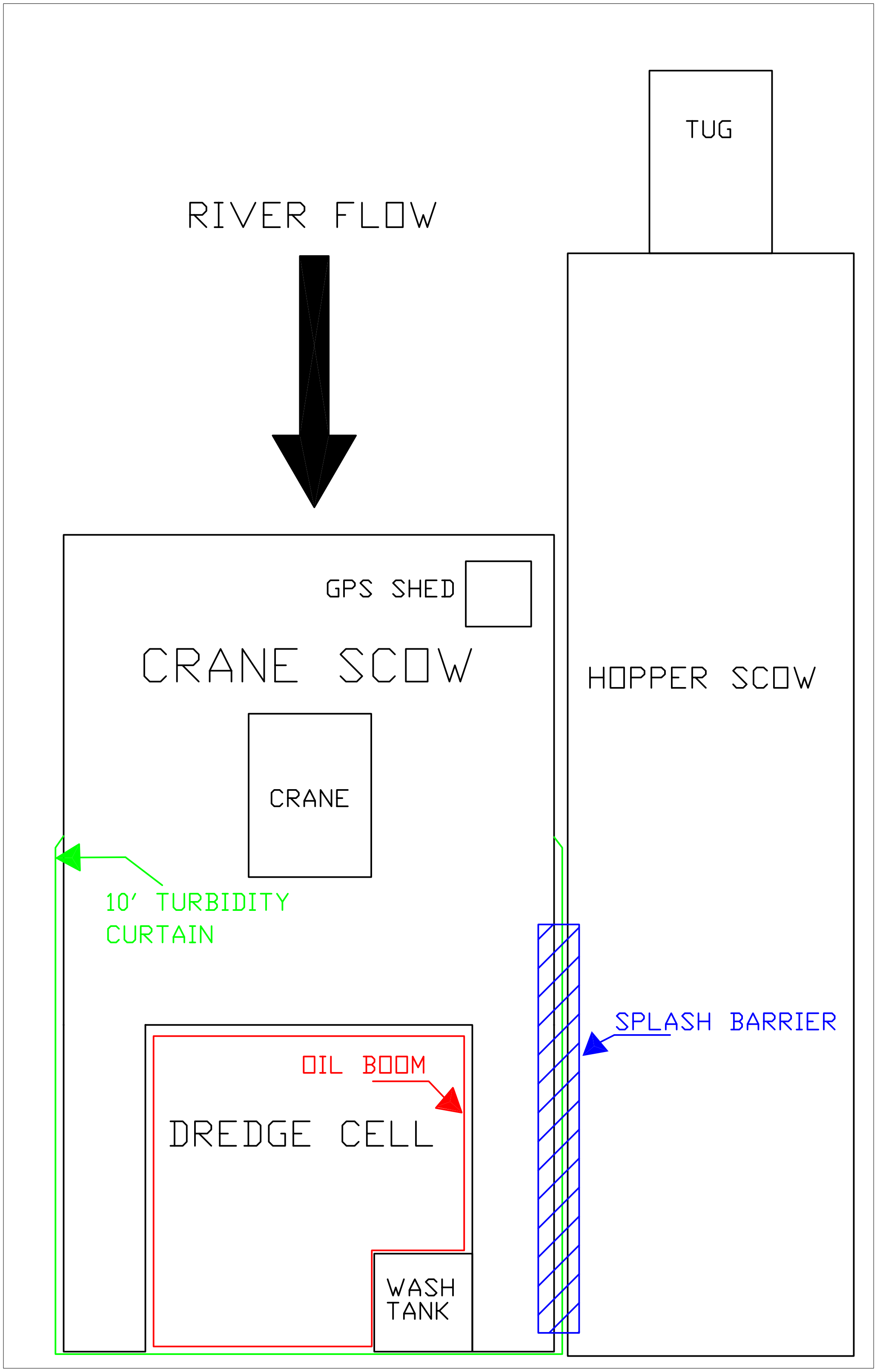
Although this method is different than that proposed in our original work plan we are confident that it is an effective approach to our project. This is based on the case history cited above. Both the USEPA and USACE have utilized this method on various projects. Utilizing the proposed alternative is a safer method when dealing with the conditions we are currently experiencing. Based on the recent weather conditions that include an extremely wet summer and a very active hurricane season (that still has a month remaining) it is anticipated that utilizing this method will allow the project to be completed this construction season especially if additional storm events should occur.

For your review I have included pictures of a dredge cell, a CAD drawing of our anticipated cell setup and low turbidity dredging procedures. As you are aware this is an important issue and your prompt response is greatly appreciated. I along with our technical resources are available to meet with you or conduct a conference call to discuss this matter in greater detail if necessary.

Sincerely,

Timothy P. Ahrens, CHMM
Project Manager

Cc:	Paul Kurzanski	CSX Transportation, Inc.
	Steve Metivier	USACE
	Dave MacDougall	DA Collins Environmental



NOTES:

1: THIS DRAWING REPRESENTS A TYPICAL DREDGE CELL SETUP. ACTUAL CONFIGURATION MAY VARY SLIGHTLY. HOWEVER, THE CONCEPT AND ENVIRONMENTAL PROTECTION MEASURES WILL REMAIN INTACT.

REV	D/M/Y	REVISION	DRN	CHK	APP	APP	APP	APP

ISS	D/M/Y	APP	ISSUED FOR
01	09/14/04	TPA	CSXT, NYSDEC, USACE

	BY	D/M/Y
DSN.	TPA	09/15/04
DRN.	TPA	09/15/04

PROJECT NO. 6-4300-8523

PROJECT PHASE NA

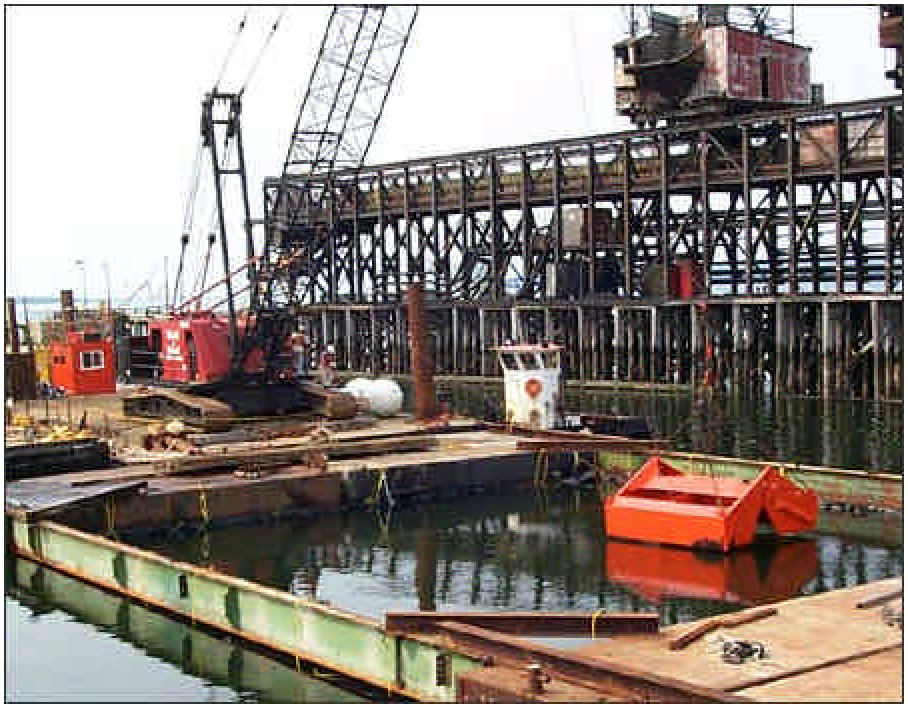
SCALE 1=20

amec

SUBJECT
CSX_TRANSPORTATION,_INC.
DREDGE_CELL
PROPOSED_LAYOUT

DRAWING NO. DREDGE_CELL

REV. A



Environmental Dredging Tips

1. Involve entire crew in project and update daily
2. Provide written/verbal orientation package for all crew (especially new crew)
3. Train crane operators for precision dredging (set standards +/- 3 inches)
4. Dry land test all equipment and instrumentation
5. Identify limitations of equipment and instrumentation
6. Design dredge plan to maximize removal volume within environmental performance criteria (i.e. turbidity, noise, volatiles, free board, spills etc.)
7. Install a Base Station for DGPS (avoid location near hydro wires or transformers)
8. Provide current pre-dredge survey (1 meter grid)
9. Use DGPS positioning system (i.e. ClamVision) with boom tip antenna
10. Identify GPS reference landmarks for confirming survey and positioning GPS
11. Avoid bucket overfills by controlling bucket penetration depth (ClamVision)
12. Certify crane performance (power up and down)
13. Lower bucket through water column at controlled speed
14. If digging "to grade" requires removal of consolidated material - remove soft sediment first with a Cable Arm Environmental Clamshell Bucket
15. Equip digging bucket with instrumentation (ClamVision)
16. Dig from high to low on slopes
17. Expect some water (averaging 10-15 % of sediment removed) - cannot completely fill buckets to capacity when precision dredging.
18. Locate receiving container close to working area to minimize cycle time.
19. Receiving container must be large enough for easy bucket entry.
20. Work inside a floating dredge cell (40’ x 50’)
21. Equip dredge cell with: adjustable silt curtains, oil booms, skimmers, drip pan etc.
22. Transport (swing) semi-submerged closed filled bucket to a specified discharge point near material scow
23. Rinse bucket prior to re-entry (position a” Wash Tank” near receiving container)
24. Continually monitor turbidity inside and outside silt curtains or other barriers
25. Identify all turbidity generators (i.e. prop wash, spudding, bucket, storm events, outfalls within work area etc.)
26. Have a data management plan if data logging.
27. Have a well trained technical support person on site
28. Provide a communication system for crane operator and technical support person