

SOLICITATION:

1. PRICE SCHEDULE: Delete the price schedule as originally issued and substitute therefore the attached revised Price Schedule dated June 12, 2003.

2. SECTION 00100 - BIDDING SCHEDULE/INSTRUCTIONS TO BIDDERS: Insert the following clause:

"52.217.5 -- EVALUATION OF OPTIONS: Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interest, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirements. Evaluation of options will not obligate the Government to exercise the option(s). (FAR 52.217-5 JUL 1990)"

SPECIFICATIONS:

3. PAGE 01000-5, Para. 1.13: Make the following changes:

a. Subparagraph a. Erosion and Sedimentation (E&S) Control Plan, replace "Omitted" with the following text: "An application for E&S Control Plan has been submitted to MDE."

b. Subparagraph e. Joint Permit Application, replace "Omitted" with the following text: "An application for Joint Permit has been submitted to MDE."

4. PAGE 01320-6, Para. 3.5.1.1 - File Medium: Change "...under the MS-DOS Version 5. or 6.x" to "under WINDOWS 2000,..."

5. SECTION 01330-SUBMITTAL PROCEDURES, SUBMITTAL REGISTERS: Delete the submittal registers as submitted and substitute therefore the attached revised submittal registers. (THE CHANGES ARE: THE CONTRACT NUMBER IN THE UPPER RIGHT HAND CORNER HAS BEEN CORRECTED, and SECTION 04205 HAS BEEN ADDED)

6. PAGE 02315 - 8, Para. 3.12.1: Add the following text at the end of this paragraph: "The Contractor shall assume for bidding purposes that he shall encounter the soft subgrade materials, as reflected by boring log DH-123, for a distance of 20 feet landward from where the intake pipe intersects the river deposits."

7. PAGE 02532a-7, Para. 3.1.9.2: Immediately following this paragraph, insert the following

"3.1.10 INTERIOR PIPE LININGS

a. Ceramic epoxy pipe lining shall be factory applied to a minimum thickness of 40 mils. Application shall be done by a competent firm with at least at five years experience in the type of work specified. Surface preparation, application and touch-up or repair shall be done in accordance with the recommendations of the manufacturer.

b. All linings shall be checked for thickness using a magnetic film thickness gauge. The thickness testing shall be done using the method outlined in SSPC-PA-2 Film Thickness Rating.

- c. Lining shall be tested for pinholes with a non-destructive 2,500 volt test.
 - d. Each pipe joint and fitting shall be marked with the date of application of the lining with its numerical sequence of application of that date.
 - e. The finished lining surface shall provide a minimum Hazen & Williams "C value" of 150.
8. SECTION 03300: Immediately following this section, insert the attached SECTION 04205 - SIMULATED STONE MASONRY.
9. PAGE 11280-5, Para 2.3.8: Delete all occurrences of the words "crank" in the paragraph and substitute therefore the words "vertical hand wheel".
10. PAGE 11310A-4, Paragraph 2.2.1:
- a. Subparagraph. 2.2.1.b: Delete "45 percent" and substitute therefore "75 percent".
 - b. Subparagraph. 2.2.1.c: Delete "45 percent" and substitute therefore "75 percent".
 - c. Subparagraph. 2.2.1.d: Delete "45 percent" and substitute therefore "75 percent".
 - d. Subparagraph. 2.2.1.d: Delete "82 feet head" and substitute therefore "85 feet head".
 - e. Subparagraph. 2.2.1.j: Delete the existing sentence in its entirety and substitute therefore "Motor size shall be 75 Horsepower nameplate minimum."
 - f. Subparagraph. 2.2.1.k: Following this subparagraph insert the following "1. Pump discharge size shall be 6 inch minimum."
11. PAGE 11310A-6, Para. 2.3: Immediately following this paragraph, insert the following:

2.4 Raw Water Intake System:

"2.4.1 Intake Screen

The river water intake system shall consist of but not be limited to: intake screen, intake pipe with supports, and screen air purge system. The intake screen and the air purge system shall be provided by a single manufacturer.

The river water intake screen shall be horizontal tee type capable of 8 cubic feet per minute intake flow. The maximum water velocity through the screen openings shall not exceed 0.4 feet per second. The maximum pressure drop of the clean screen assembly shall be no greater than 0.1 psi. The pressure drop of the entire intake assembly shall be no greater than 0.75 feet of water at the rated flow.

The intake screen shall be a product of "USF Johnson Water Screens Inc." or approved equal.
Model number T30, 24 inch intake connection Flanged inlet pipe connection."

2.4.2 Air Purge System

The intake screen air purge system shall be the "Hydroburst" product of "USF Johnson Water Screens Inc." or approved equal. The air purge system shall be matched to the intake screen purge requirements by the manufacturer to provide a short burst of air for purging the screen. The air purge system shall consist of but not be limited to: air compressor with control package, 200 gallon ASME stamped air reservoir, automatic air release valves, complete programmable control panel in a NEMA 4 enclosure with internal environmental control sufficient for ambient temperature range of -25 °F to 110 °F, and 3 inch air piping between the compressor discharge and the screen connection in accordance with the manufacturer's recommendations. The compressor package shall be completely assembled on a skid frame for anchoring to the pump station shelter floor located atop the pump station.

2.5 Pump Handling Equipment

2.5.1 Gantry Crane

Provide portable adjustable height gantry crane. Gantry shall be aluminum tubular box frame construction suitable for 1 ton capacity. Gantry shall have 8 foot span on legs fitted with durable heavy duty swivel casters. Gantry shall be provided with I type trolley beam suitable for traveling portable electric winch attachment.

2.5.2 Trolley Hoist

Provide electric one ton trolley hoist. Hoist shall be suitable for traveling on standard I type trolley beam of the above specified gantry hoist. Hoist shall be wire rope type with sufficient cable drum and cable for total lift of 50 foot below the trolley beam. Wire rope shall be stainless with core and lubrication in accordance with the manufacturer's recommendations for longevity. Hoist shall have pendant control station. Hoist shall be multispeed. Hoist reeving may be single or double. Hoist block and hook with safety latch shall be provided.

12. PAGE 13120-5, Para. 2.2.A: Delete the second sentence in its entirety and substitute therefore "The buildings shall be equipped with double 4'-0" x 8'-0" x 1-3/4", 18-gauge galvanized/insulated CECO Imperial right hand reverse metal doors with 16-gauge galvanized frames.

DRAWINGS:

13. Plate 10, Sheet C-6: Make the following changes:

a. Note 3, add the following, "Contractor shall remove and replace the brick walkway after pipe installation."

b. Where the twin 10" ductile iron pipes pass under MD Route 942, delete the steel sleeve. The pipes will not require a steel sleeve where they pass under the roadway.

c. Delete the pipe sleeves conveying the 10 inch carrier pipe beneath the highway. The 10 inch carrier pipe shall remain direct buried.

14. PLATE 11, Sheet C-7: Make the following changes:

a. Delete the pipe sleeves conveying the 10 inch carrier pipe beneath the highway. The 10 inch carrier pipe shall remain direct buried.

b. Add the following text, "References: 1. Refer to Sheets M-1 through M-4 for details on the Pump Station, intake pipe & screen, and twin 10" pipes."

15. Plate 13, Sheet C-9: Add the following under Notes, "3. After construction is complete, the Contractor shall remove the temporary wood ramp along the Trestle Walk. The original Trestle Walk section shall then be replaced. This original section will be supplied by the Canal Place Authority."

16. Plate 14, Sheet C-10: Revise this plate in accordance with the attached Sketch, SK-C-10, dated 11 June 2003. Wall backfill for the area shown on the sketch shall be a contract option. Bottom elevation of optional backfill is 605.4, just above the wall footing.

17. Plate 15, Sheet C-11: Revise this plate in accordance with the attached Sketch, SK-C-11, dated 11 June 2003. Wall backfill for the area shown on the sketch shall be a contract option. Bottom elevation of optional backfill is 605.4 on left side of wall, just above the wall footing. On the right side, bottom elevation of optional backfill is 1 foot below top of wall.

18. Plate 16, Sheet D-1: For the 8" PVC just east of the new basin wall, delete the label "By Others". This 8" pipe shall be installed as part of this contract.

19. Plate 18, Sheet D-3: On "New Storm Sewer Profile Inlet 1 to Inlet 2", for the upstream end of the 8" PVC (by Inv. 609.00 label) add "Install Cap". This new pipe will be used as a trench drain, and tied into under a future contract. Same profile, delete the label "By Others" on the 8" PVC pipe. This 8" pipe shall be installed as part of this contract.

20. Plate 19, Sheet D-4: Add "Existing" to the titles of both details on this sheet, 6" Watermain Profile and Electrical Conduit Detail. Per the note on this sheet, these two features were previously constructed by others. Both utility lines are shown on Sheet D-1. The 6" Watermain lies outside the limits of the new basin walls, crossing the canal centerline at Sta. 652+73. The Electrical Ductbank crosses at Sta. 653+85 and does cross below the new basin wall.

21. Plate 20, Sheet A-1: Add the following text to the end of Note 1, "as long as such features lie within the excavation limits. Archeological features outside of the limits of excavation shall not be disturbed."

22. Plate 22: Sheet S-2: Make the following changes:

a. Delete note adjacent to SIMULATED STONE FORM LINER FINISH VIEW A-A and replace with the following: "NOTE: THE SIMULATED STONE FORM LINER SHALL BE MANUFACTURED BY "CUSTOM ROCK INTERNATIONAL, ST. PAUL, MN", PATTERN #12007. SEE SPECIFICATIONS."

b. Under "CONCRETE NOTES", add new note to read the following: "11. AFTER CURING AND STAINING OF CONCRETE AND PRIOR TO BACKFILL, COVER WALL WITH 6 MIL POLYETHYLENE SHEETING FROM THE TOP OF GEOTEXTILE MATERIAL ON LANDSIDE OF WALL, OVER TOP OF WALL AND DOWN TO 1 FOOT BELOW FORM LINER FINISH. LAP SHEETING SECTIONS 1'-0" MIN. PROVIDE AT ALL WALL SECTIONS WITH STONE FORM LINER FINISH."

23. Plate 26, Sheet S-6: Delete this plate as originally issued and substitute therefor the attached revised same like-numbered Plate, dated 4 June 2003.

24. Plate 27, Sheet S-7 Revise this plate in accordance with the attached Sketches, SK-S7-1 and SK-S7-2, both dated 4 June 2003.

25. PLATE 30, Sheet M-1: Delete this plate as originally issued and substitute therefore attached revised same like numbered plate dated June 4, 2002.

26. PLATE 31, Sheet M-2:

a. Add the following text under the label "To Pump Station Well, See Civil Drawings: "The Contractor must stabilize the subgrade soils per section 02315 of the specifications."

b. Add the following drawing note "The contractor shall be responsible for providing the air purge piping between the compressor and the intake filter connection in accordance with the intake filter manufacturer's recommendations. The contractor shall be responsible for attaching air purge line to the to the intake pipe in accordance with the intake filter manufacturer's recommendations."

27. PLATE 34, Sheet M-5:

a. Refer to Section AA - Delete the phrase "(not in contract)" from the float switch assembly note.

b. Refer to General note 3 - Delete the phrase "not in contract"

28. Plate 58, Sheet ES-1: Make the following changes:

a. Revise this plate in accordance with the attached Sketch, SK-ES-1, dated 11 June 2003.

b. Add the following note to this sheet: "11. Access is available along the levee crest west of the new pump station, out to the road approximately 300 feet from the pump station. A ramp up the landward levee slope will be required for this access. The contractor shall submit a plan for ramp construction to the Contracting Officer for approval, if this access route will be used."

c. Where the twin 10" ductile iron pipes pass under MD Route 942, delete the steel sleeve. The pipes will not require a steel sleeve where they pass under the roadway.

d. Delete the pipe sleeves conveying the 10 inch carrier pipe beneath the highway. The 10 inch carrier pipe shall remain direct buried.

29. Plate 59, Sheet ES-2: Make the following changes:

Revise the stockpile area label to read "Staging & Stockpile Area for Excavated Material" and add the label "Provide Positive Drainage Around Stockpile".

For the 8" PVC just east of the new basin wall, delete the label "By Others". This 8" pipe shall be installed as part of this contract.

30. Plate 60, Sheet ES-3: Add the following text under Note to Contractor: "Access beneath the Trestle Walk Pedestrian Bridge will not be available until 1 April 2003".

ATTACHMENTS:

1. PRICE SCHEDULE
2. SUBMITTAL REGISTERS
3. SECTION 04205
4. SKETCH SK-C-10
5. SKETCH SK-C-11
6. SKETCH SK-ES-1
7. PLATE 26, SHEET S-6
8. SKETCH SK-S7-1
9. SKETCH SK-S7-2
10. PLATE 30, SHEET M-1

SECTION 00010 – SUPPLIES OR SERVICES AND PRICES

PRICE SCHEDULE

BASE BID

ITEM NO	DESCRIPTION	AMOUNT
0001	All costs in connection with Cumberland Flood Mitigation Project, complete as shown on drawings and as specified, but exclusive of work covered under Optional Bid Item No. 0002 below.	\$ _____

TOTAL BASE BID AMOUNT: \$ _____

OPTIONAL ITEM

0002	All costs in connection with the backfilling in accordance with the attached sketches SK-C-10 and SK-C-11 dated June 11, 2003 as issued in Amendment No. 0004.	\$ _____

TOTAL BASE AND OPTIONAL BID AMOUNT: \$ _____

Offerors must quote on all items including Optional Items. Failure to bid on all items may be cause for rejection of the bid.

Optional Items may be exercised at any time within 180 calendar days after contract award. The Contracting Officer may exercise the Optional Items by written notice to the Contractor, postmarked within the period specified above. The Government may exercise any, all or none of the listed Optional Items in any order.

No additional time for contract completion will be allowed when an Optional Item is exercised.

ATTACHMENT TO ACCOMPANY AMENDMENT NO. 0004 TO IFB DACW31-03-B-0012 DATED JUNE 12, 2003

SUBMITTAL REGISTER

CONTRACT NO.
DACW31-03-B-0012

TITLE AND LOCATION						CONTRACTOR											
C & O CANAL REWATERING PROJECT, CUMBERLAND, MD.																	
A C T I V I T Y N O	T R A N S M I T T A L N O	S P E C I F I C S E C T	D E S C R I P T I O N	P A R A G R A P H	G O V E R N M E N T C L A S S I F I C A T I O N	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				M A I L E D T O C O N T R A C T O R /	R E M A R K S	
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	01000		SD-01 Preconstruction Submittals														
			Title Evidence														
			Invoice Copies														
			Payment Evidence														
			Photographs	1.11													
			SD-03 Product Data														
			Cost or Pricing Data	1.6													
			Equipment Data	1.7													
			SD-10 Operation and Maintenance Data														
			O and M Data	1.8													
	01050		SD-01 Preconstruction Submittals														
			Shut Down Utility Services	1.4.2	G AR												
			Advance Notice	1.4.3													
			Checklist	1.4.4	G AR												
			Maintenance of Traffic	1.19.2													
			Control Records	1.11													
			Survey Data	1.1	G AR												
			SD-07 Certificates														
			Operations Statement														
	01200		SD-04 Samples														
			Sample Tags	1.7.1.2													
	01320		SD-01 Preconstruction Submittals														
			Initial Project Schedule		G AR												
			Preliminary Project Schedule		G AR												
			Periodic Schedule Updates		G AR												

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	01320		Qualifications	1.3	G AR												
			Narrative Report	3.5.2	G AR												
			Schedule Reports	3.5.4	G AR												
	01351A		SD-02 Shop Drawings														
			Work Zones	1.17.1	G HN												
			Decontamination Facilities	1.18.1	G HN												
			SD-03 Product Data														
			Exposure Monitoring/Air Sampling Program	1.14	G HI												
			Site Control Log	1.17.2	G HN												
			HAZWOPER Qualifications Certificates		G HN												
	01451		SD-01 Preconstruction Submittals														
			CQC Plan	3.2	G AR												
			Phase Notification Request		G AR												
			CQC Mgr Qualification		G AR												
			SD-05 Design Data														
			Notification of Changes	3.2.4													
			Punchlist	3.8.1													
			Minutes	3.3													
			SD-06 Test Reports														
			Tests	3.7.1													
			Documentation	3.9													
			Tests Performed	3.7.1													
			QC Records		G AR												

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	01510		SD-02 Shop Drawings														
			Temporary Electrical Work	1.5	G AR												
	01561		SD-05 Design Data														
			Facility Plan	1.9.4	G AR												
			Temporary Plan	1.9.5	G AR												
	01720		SD-11 Closeout Submittals														
			Progress Prints		G AR												
			Final Requirements	1.6	G AR												
			CADD Files														
	02220a		SD-03 Product Data														
			Work Plan		G AR												
	02230a		SD-03 Product Data														
			Materials Other Than Salable	3.4.1													
			Timber														
	02250		SD-03 Product Data														
			Helical Anchor		G ED												
			SD-04 Samples														
			Shop Drawings		G ED												
			SD-07 Certificates														
			Product Certificates		G ED												
			Manufacturer Certificates		G ED												
			Qualification Data		G ED												
			SD-08 Manufacturer's Instructions														
			Helical Manufacturer's		G ED												
			Instructions														
			SD-11 Closeout Submittals														

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	02250		Warranty Record Documents		G ED												
	02315		SD-05 Design Data Shoring and Cofferdam Dewatering SD-06 Test Reports Testing SD-07 Certificates Testing Lab		G AR												
	02316		SD-05 Design Data Dewatering Plan. Copies of plans and calculations for approval not less than 60 days before installation. SD-06 Test Reports Field Density Tests Testing of Backfill Materials SD-07 Certificates Testing Lab														
	02378		SD-04 Samples Geotextile SD-07 Certificates Geotextile	2.1.1	G ED												
	02532a		SD-06 Test Reports Hydrostatic Tests	3.2	G AO												
	02630a		SD-03 Product Data														

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	02630a		Placing Pipe	3.3													
			SD-04 Samples														
			Pipe for Culverts and Storm Drains	2.1													
			SD-07 Certificates														
			Resin Certification														
			Pipeline Testing	3.8													
			Hydrostatic Test on Watertight Joints	2.7													
			Determination of Density	3.7.5													
			Frame and Cover for Gratings	2.3.6													
	02921a		SD-03 Product Data														
			Equipment														
			Surface Erosion Control Material	2.8													
			Chemical Treatment Material	1.4.3													
			Delivery	1.4.1													
			Finished Grade and Topsoil	3.2.1													
			Topsoil	2.2	G ED												
			Quantity Check	3.5	G ED												
			Seed Establishment Period	3.9													
			Maintenance Record	3.9.3.5													
			Application of Pesticide	3.6	G ED												
			SD-04 Samples														
			Delivered Topsoil	1.4.1.1	G ED												
			Soil Amendments	2.3	G ED												
			Mulch	2.4	G ED												

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	02921a		SD-06 Test Reports														
			Equipment Calibration	3.1.3													
			Soil Test	3.1.4	G ED												
			SD-07 Certificates														
			Seed	2.1	G ED												
			Topsoil	2.2	G ED												
			pH Adjuster	2.3.1	G ED												
			Fertilizer	2.3.2	G ED												
			Organic Material	2.3.4	G ED												
			Soil Conditioner	2.3.5	G ED												
			Mulch	2.4	G ED												
			Asphalt Adhesive	2.5	G ED												
			Pesticide	2.7	G ED												
	03100a		SD-02 Shop Drawings														
			Formwork	3.1.1													
			SD-03 Product Data														
			Design	1.3													
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	03150a		SD-02 Shop Drawings														
			Waterstops	2.3													
			SD-03 Product Data														
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TITLE AND LOCATION C & O CANAL REWATERING PROJECT, CUMBERLAND, MD.						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION	PARAGRAPH	G O V T C L A S S I F I C A T I O N	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR	REMARKS	
						APPROVAL NEEDED	MATERIAL NEEDED		A C T I O N C O D E	DATE OF A C T I O N	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	A C T I O N C O D E			DATE OF A C T I O N
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
	03150a		Field-Molded Type Non-metallic Materials	2.2.1 2.3.1													
			SD-07 Certificates														
			Preformed Expansion Joint Filler	2.1													
			Sealant	2.2													
			Waterstops	2.3													
	03200a		SD-02 Shop Drawings														
			Reinforcement	3.1	G ED												
			SD-07 Certificates														
			Reinforcing Steel	2.1													
	03300		SD-03 Product Data														
			Mixture Proportions	1.7	G ED												
			SD-04 Samples														
			Surface Retarder	2.3.5													
			SD-06 Test Reports														
			Testing and Inspection for Contractor Quality Control	3.13	G												
			SD-07 Certificates														
			Qualifications	1.4													
	04205		SD-02 Shop Drawings														
			Shop Drawings		G ED												
			SD-04 Samples														
			Sample Panel		G AR												
			Form Ties	2.2													
	05500a		SD-02 Shop Drawings														
			Miscellaneous Metal Items	1.6	G ED												

SUBMITTAL REGISTER

CONTRACT NO.
DACW31-03-B-0012

TITLE AND LOCATION						CONTRACTOR											
C & O CANAL REWATERING PROJECT, CUMBERLAND, MD.																	
A C T I V I T Y N O	T R A N S M I T T A L N O	S P E C I F I C S E C T	D E S C R I P T I O N	P A R A M E T E R S	G O V E R N M E N T C L A S S I F I C A T I O N	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				M A I L E D T O C O N T R A C T O R	R E M A R K S	
						S U B M I T	B Y	B Y	A C T I O N C O D E	D A T E O F A C T I O N	D A T E F O R W A R D F R O M	D A T E F O R W A R D T O O T H E R	D A T E F O R W A R D F R O M O T H E R	A C T I O N C O D E			D A T E O F A C T I O N
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		05500a	SD-04 Samples														
			Miscellaneous Metal Items	1.6													
		09965A	SD-03 Product Data														
			Safety and Health Provisions	1.6	G RMO												
			Confined Spaces	1.6.6.1	G RMO												
			Respirators	1.6.7.2	G RMO												
			Certified Laboratory	1.4.2	G RMO												
			Ventilation	1.6.6.1	G RMO												
			Medical Status	1.7	G RMO												
			Environmental Protection	1.9	G RMO												
			Waste Classification, Handling, and Disposal	1.9.1	G RMO												
			Containment	1.9.2	G RMO												
			Visible Emissions Monitoring		G RMO												
			PM-10 Monitoring		G RMO												
			Water Quality	1.9.3	G RMO												
			Soil Quality	1.9.4	G RMO												
			SD-04 Samples														
			Special Paint Formulas	2.1	G RMO												
			Paint Formulations	2.2	G RMO												
			Solvent and Thinners	2.3.3	G RMO												
			SD-06 Test Reports														
			PM-10 Monitoring		G RMO												
			TSP Monitoring		G RMO												
			Certified Laboratory	1.4.2	G RMO												
			Soil Quality	1.9.4	G RMO												

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CONTRACT NO.
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A C T I V I T Y N O	T R A N S M I T T A L N O	S P E C I F I C S E C T	D E S C R I P T I O N	P A R A G R A P H #	C L A S S I F I C A T I O N	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				M A I L E D T O C O N T R A C T O R	R E M A R K S	
						S U B M I T	B Y	B Y	A C T I O N	D A T E O F	D A T E F R O M	D A T E F R O M	D A T E F R O M	D A T E F R O M			D A T E O F
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
	09965A		Inspection	3.4	G RMO												
			SD-07 Certificates														
			Qualifications	1.4	G RMO												
			Qualified Painting Contractor	1.4.3	G RMO												
			Qualified Hazardous Paint		G RMO												
			Removal Contractor														
			Coating Thickness Gage	1.4.6	G RMO												
			Qualification														
	11310A		SD-02 Shop Drawings														
			Equipment Installation	3.1													
			SD-03 Product Data														
			Pump System		G ED												
			Spare Parts														
			Rewatering Pump System		G ED												
			SD-06 Test Reports														
			Field Testing and Adjusting	3.3	G ED												
			Equipment														
			SD-10 Operation and Maintenance														
			Data														
			Rewatering Pump System		G ED												
	13120A		SD-02 Shop Drawings														
			Drawings		G ED												
			SD-03 Product Data														
			Design Analysis		G ED												
			Instruction Manuals														
			Erection														

SUBMITTAL REGISTER

CONTRACT NO.
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TITLE AND LOCATION C & O CANAL REWATERING PROJECT, CUMBERLAND, MD.						CONTRACTOR											
A C T I V I T Y N O	T R A N S M I T T A L N O	S P E C T N O	D E S C R I P T I O N	P A R A G R A P H N O	G O V T C L A S S I F I C A T I O N	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				M A I L E D T O C O N T R A C T O R R E M A R K S		
						S U B M I T	B Y	B Y	A C T I O N C O D E	D A T E O F A C T I O N	D A T E F W D T O A P P R A U T H	D A T E F W D T O O T H E R	D A T E R C D F R O M O T H E R	A C T I O N C O D E		D A T E O F A C T I O N	D A T E R C D F R O M A P P R A U T H
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
	13120A		Qualifications														
			SD-04 Samples														
			Accessories		G ED												
			Roofing and Siding														
			Fasteners														
			Insulation														
			Gaskets and Insulating														
			Compounds														
			Sealant														
			SD-07 Certificates														
			Building Systems														
	16415A		SD-02 Shop Drawings														
			Interior Electrical Equipment														
			SD-03 Product Data														
			Manufacturer's Catalog														
			Material, Equipment, and Fixture														
			Lists														
			Installation Procedures														
			Onsite Tests		G ED												
			SD-06 Test Reports														
			Factory Test Reports		G ED												
			Field Test Plan		G ED												
			Field Test Reports	3.19	G ED												

SECTION 04205

SIMULATED STONE MASONRY
06/03

PART 1 GENERAL

1.1 SECTION INCLUDES

Construction of textured and colored formed concrete surfaces using simulated stone masonry molds and color stain system designed to duplicate closely the appearance of natural stone.

1.2 RELATED SECTION

Section 03300 - Cast-in-place Concrete: Cast-in-place concrete, concrete reinforcements, accessories, curing and form work. Quality standards specified in Section 03300 shall apply to concrete used for this Section.

1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3359	2002; Standard Test Methods for Measuring Adhesion by Tape Test
ASTM D 1308	2002; Standard Test Methods for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
ASTM G 152	2000; Standard Practice for Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G 153	2000; Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials

1.4 DESIGN REQUIREMENTS

Design and pattern of the concrete surface shall follow the manufacturer's standard drawing. If an actual stone surface or stone wall to be matched is available, the completed colored and formed concrete surface shall match the natural material as closely as possible. Patterning of simulated stone masonry shall appear natural and non-repeating. Seam lines or match lines caused from two or more molds coming together will not be apparent when viewing final wall. Final coloration of cast stone concrete surface shall accurately simulate the appearance of real stone including the multiple colors, shades, flecking, and veining that is apparent in real stone. It

shall also demonstrate the colors that may be apparent from aging, such as staining from oxidation, rusting and/or organic staining from soil and /or vegetation. Note that in PART 1, SUBMITTAL and PART 3, EXECUTION, a sample and mockup are required. Upon approval by Contracting Officer, mockup shall serve as quality standard for the project.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Shop Drawings; G ED

Plan, elevation and details to show overall pattern, joint locations, form tie locations, and end, edge and other special conditions.

SD-04 Samples

Sample Panel; G AR

Within 30 days of receiving the general contract, the General Contractor is required to submit a 24" x 24" sample of the simulated stone masonry finish. Sample is to demonstrate the finish described in paragraph 1.4 - DESIGN REQUIREMENTS. Approval of sample panel is required by the Contracting Officer.

Form Ties

Sample and description, showing method of separation when forms are removed.

1.6 QUALITY ASSURANCE

- a. Manufacturer of simulated stone masonry molds and custom coloring system: Five years experience making stone masonry molds and color stains to create formed concrete surfaces to match natural stone shapes, surface textures and colors.
- b. Pre-Installation Meeting: Schedule conference with manufacturer representative to assure understanding of simulated stone masonry molds use, color application, requirements for construction of mockup, and to coordinate the work.

1.7 PROJECT CONDITIONS

Environmental requirements: Apply color stain when ambient temperatures is between 50 and 100 degrees F. Consult manufacturer if conditions differ from this requirement.

1.8 SEQUENCING

Schedule color stain application with earthwork and back-filling of any wall areas making sure that all simulated stone texture is colored to the minimum distance below grade. Delay adjacent plantings until color application is completed. Coordinate work to permit coloring applications without interference from other trades.

PART 2 PRODUCTS

2.1 MANUFACTURERS

The specified system is based on the Custom Rock® Concrete Wall System, Custom Rock International, St. Paul, Minnesota 55116, phone (612)-699-1345, or equal as approved by the Department.

2.2 MATERIALS

- a. Simulated masonry molds: Reusable, made of high-strength urethane, easily attachable to forms. Molds shall not compress more than 1/4 in. when concrete is poured at rate of 10 vertical feet per hour. Molds shall be removable without causing deterioration of surface or underlying concrete. The wall mold pattern shall be #12007 by Custom Rock International, St. Paul, MN (800) 637-2447
- b. Release Agent: Compatible with simulated stone masonry molds and with color stain system to be applied to surface. Consult manufacturer.
- c. Form ties: Shall be made of either metal or fiberglass. Using metal ties which result in a portion of the tie permanently embedded in the concrete shall be designed to separate at least one inch back from finished surface, leaving only a neat hole that can be plugged with patching material. Contractor shall submit the type of form ties to the Contracting Officer for approval prior to use in this work.
- d. Mortar Joints: Joints shall be colored to simulate real mortar.
- e. Color stain: Special penetrating stain mix as provided by manufacturer, shall achieve color variations present in the natural stone being simulated for this project, as required by Contracting Officer as referenced in paragraph 1.4 DESIGN REQUIREMENTS. Stain shall create a surface finish that is breathable (allowing water vapor transmission), and that resists deterioration from water, acid, alkali, fungi, sunlight or weathering. Stain mix shall be a water borne, low V.O.C. material, less than 289 grams/liter, and shall meet requirements for weathering resistance of 2000 hours accelerated exposure measured by weather-o-meter in accordance with ASTM G 152 and ASTM G 153. Scrub test 1000 revolutions. Abrasive resistance (Tabor-CF-10) 500 cycles. Adhesion ASTM D 3359 0.04 inch cross cuts on glass pass 3 or higher on a scale of 1 to 5. Supply information pertaining to chemical resistance ASTM D 1308 to 87.

PART 3 EXECUTION

3.1 ACCEPTABLE INSTALLERS

- a. Formed concrete construction: five years experience pouring vertically formed architectural concrete. Installer shall be trained in manufacturer's special techniques in order to achieve realistic surfaces.
- b. Color stain system application: Manufacturer or manufacturer's authorized representative.

3.2 CONSTRUCTION

- a. Mockup: Build on site sixty days before work starts, using same materials, methods and work force that will be used for the project. Contracting Officer will determine specific requirements and location, and whether mockup shall be incorporated into the project.
 1. Size: 50 sq. ft., or larger if needed to adequately illustrate the pattern and texture selected.
 2. Include an area to demonstrate wall mold butt joint and if appropriate, continuation of pattern through expansion joint.
 3. If design includes stone texture across top of wall, include in mockup.
 4. After concrete work on mockup is completed and cured for a minimum of 28 days, and after surface is determined to be acceptable for coloring, apply color stain system.
 5. After coloring is determined to be acceptable by the Contracting Officer, construction of project may proceed, using mockup as quality standard.

3.3 SPECIAL TECHNIQUES - FORMING TEXTURED CONCRETE

- a. Simulated Stone Masonry Molds preparation: Clean and make free of buildup prior to each pour. Inspect for blemishes or tears. Repair if needed following manufacturer's recommendations.
- b. Simulated Stone Masonry Molds attachments: Place stone molds with less than 1/4 inch separation between them. Attach molds to form securely following manufacturer's recommendations.
- c. Form release agent: Apply following manufacturers' recommendations.
- d. Form stripping and related construction shall avoid creating defects in finished surface.
- e. Where stone texture is to continue across top of wall, a finish to achieve a continuity of the formed pattern must be done by hand when concrete is being poured. Hand carve and emboss the wet, pliable concrete, aligning rustication joints with those in the formed pattern. Great care must be taken to achieve intended

relief and texture as per Contracting Officer direction.

- f. If the pattern selected has molds connecting through the middle of the stones, carefully remove the seem line created by abutting molds. Match the texture and shape of the surrounding stone, avoiding visible seams or mold marks.
- g. Place form ties at thinnest points of molds (high points of finished wall). Neatly patch the hole remaining after disengaging the protruding portion of the tie so that it will not be visible after coloring the concrete surface.
- h. Where an expansion joint must occur at a point other than at mortar or rustication joints, such as at the face of concrete texture which is to have the appearance of stone, consult manufacturer for proper treatment of expansion material.

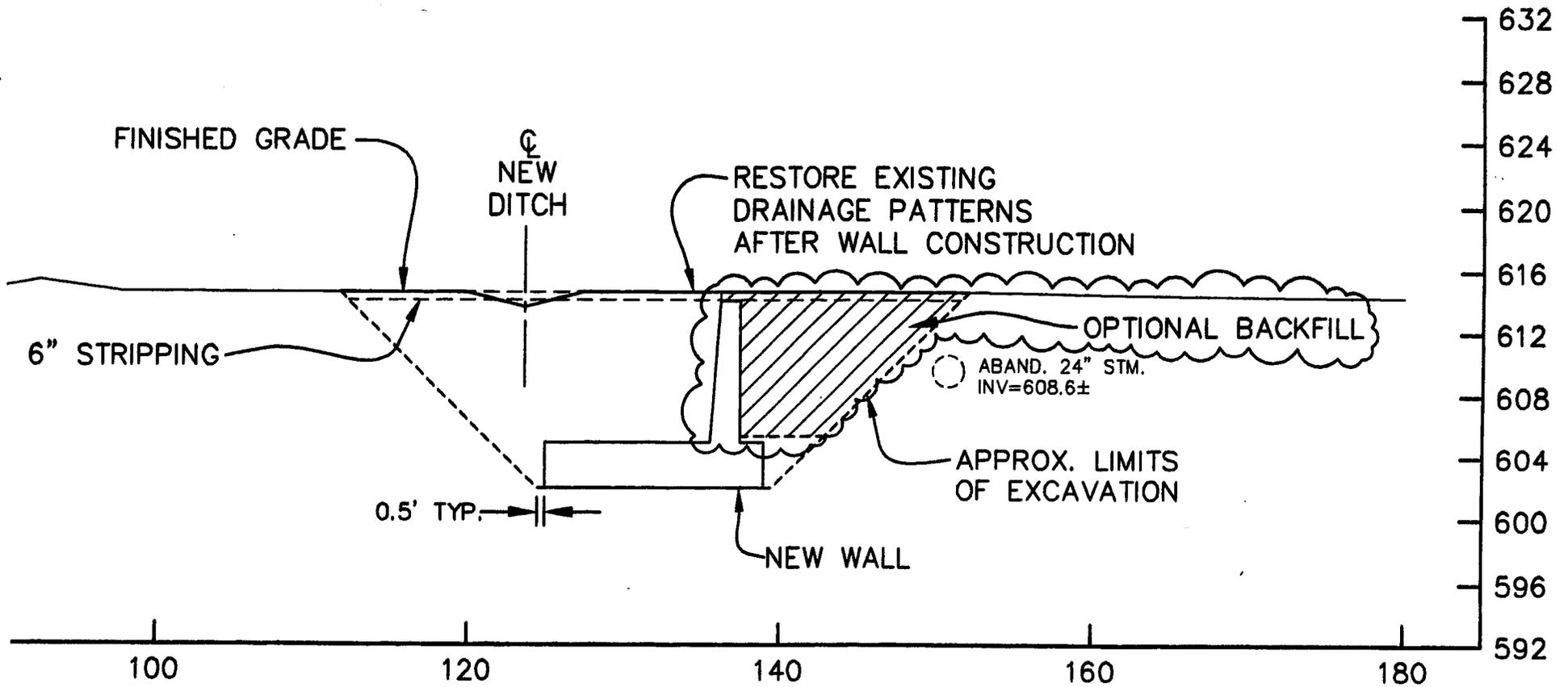
3.4 SPECIAL TECHNIQUES - APPLYING COLOR STAIN SYSTEM

- a. All Simulated Stone surfaces that are to be stained and any patching that has been done in these areas shall be at least 30 days old.
- b. Clean surface prior to application of stain materials to assure that surface is free of latency, dirt, dust, grease, efflorescence, paint, or other foreign material, following manufacturer's instructions for surface preparation. Do not sandblast. Preferred method to remove latency is pressure washing with water, minimum 3000 psi (a rate of three to four gallons per minute), using fan nozzle perpendicular to and at a distance of one or two feet from surface. Completed surface shall be free of blemishes, discoloration, surface voids and unnatural form marks.

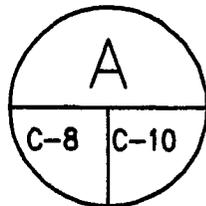
3.5 PROTECTION

Where exposed soil or pavement is adjacent which may spatter dirt or soil from rainfall, or where surface may be subject to over spray from other processes, provide temporary cover of completed work.

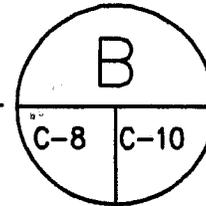
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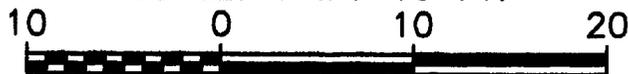
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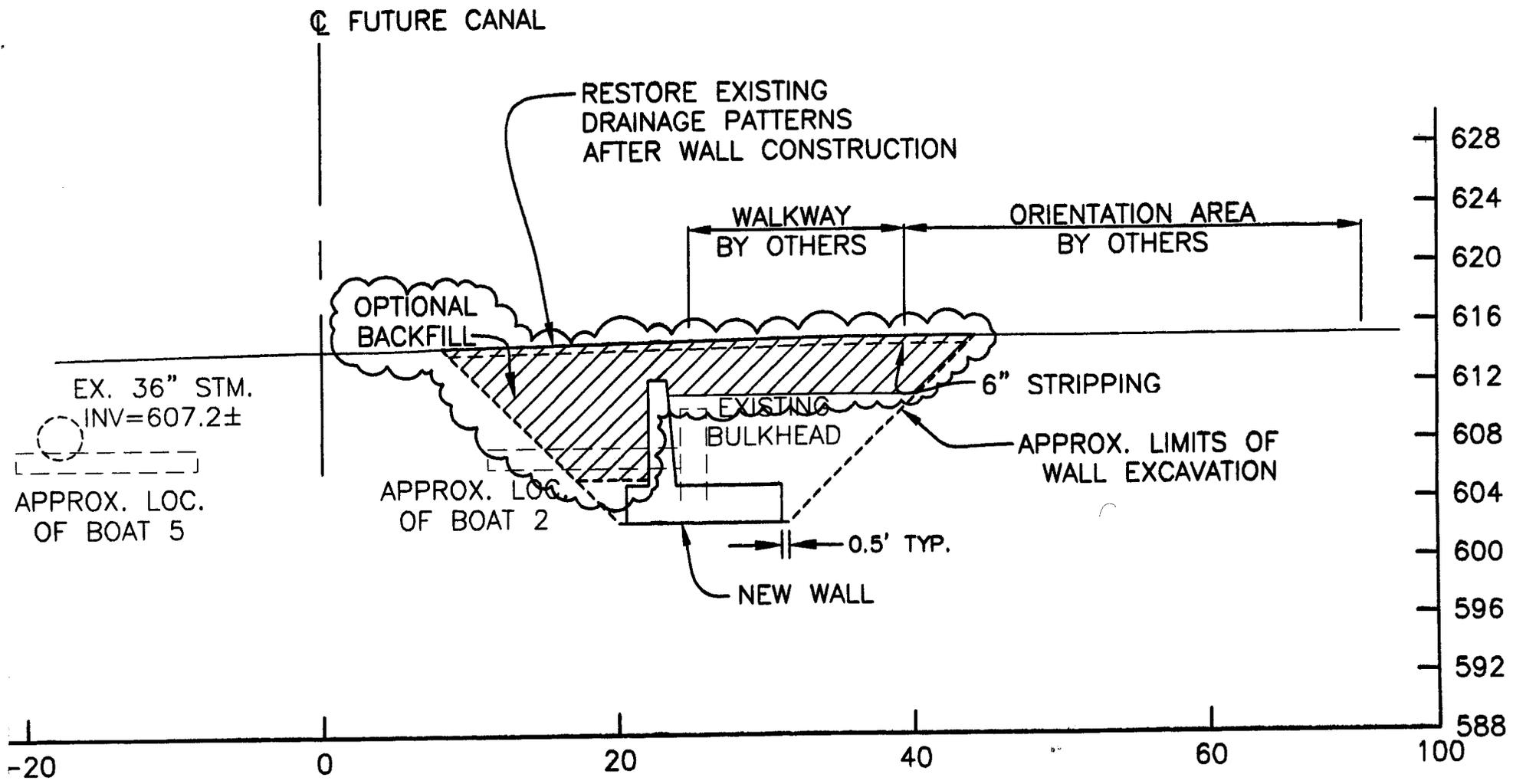


SCALE: 1 IN. = 10 FT.



SK-C-10

REFERENCE SHT C-10
C&O CANAL 11 JUN 03



EX. 36" STM.
INV=607.2±
APPROX. LOC.
OF BOAT 5

APPROX. LOC.
OF BOAT 2

RESTORE EXISTING
DRAINAGE PATTERNS
AFTER WALL CONSTRUCTION

WALKWAY
BY OTHERS

ORIENTATION AREA
BY OTHERS

OPTIONAL
BACKFILL

EXISTING
BULKHEAD

6" STRIPPING

APPROX. LIMITS OF
WALL EXCAVATION

0.5' TYP.

NEW WALL

FOR TYPICAL SECTIONS STA. 654+65, 654+15 AND 655+40

SCALE: 1 IN.=10 FT.



SK-C-11

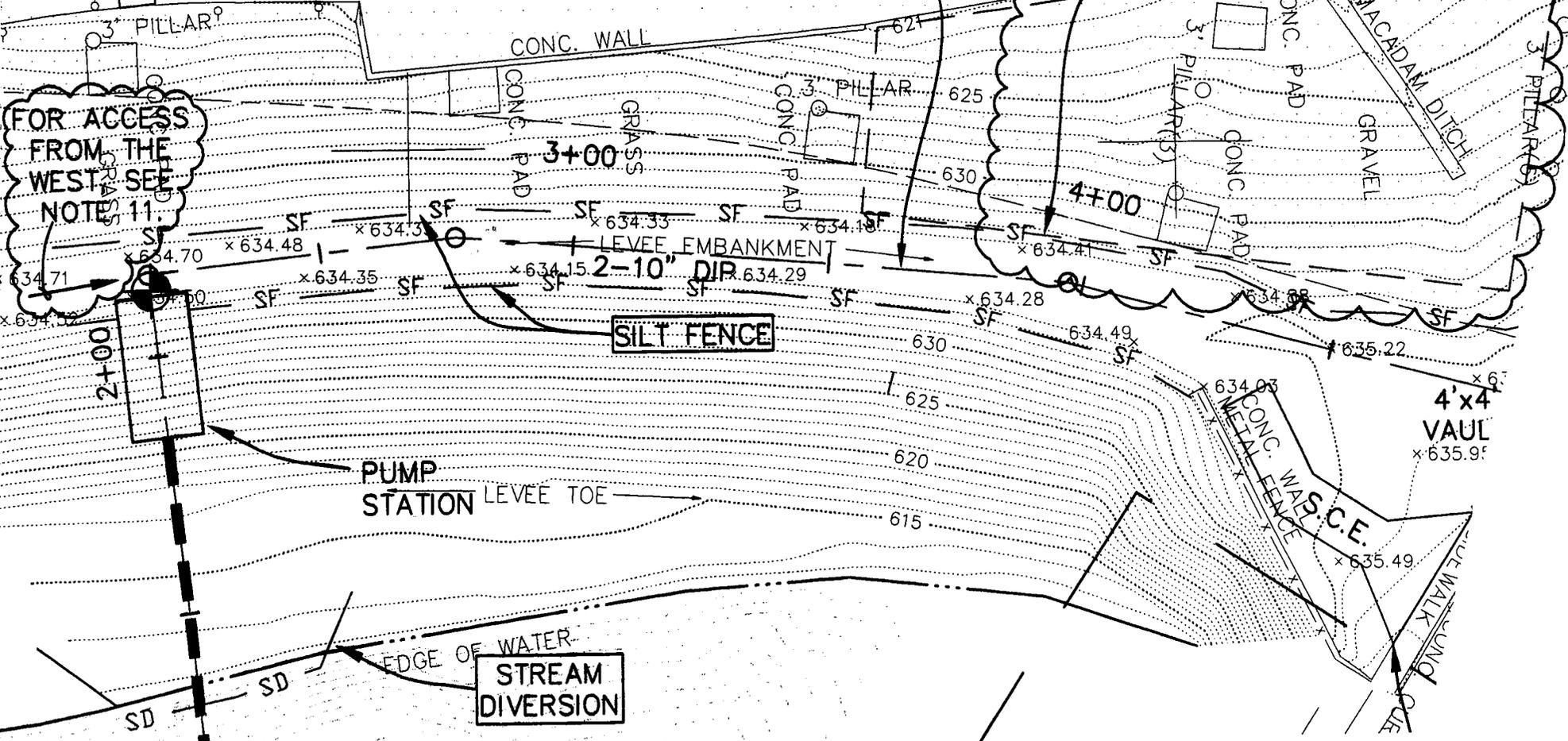
REFERENCE SHT C-11
C&O CANAL 11 JUN 03

PARKING LOT

CENTERLINE OF TWIN PIPES

PARKING LOT
STAGING AND STOCKPILING
AREA

FOR ACCESS
FROM THE
WEST SEE
NOTE 11.



PLAN

SCALE: 1 IN.=30 FT.



NORTH BRANCH POTOMAC RIVER

FLOW

SK-ES-1

REFERENCE SHT ES-1
C&O CANAL 11 JUN 03



#6 @6" EA. WAY TOP & BOTTOM.
TYP IN TOP SLAB ONLY.

2'-6"

4'-0" x 5'-0"
ACCESS DOOR 2
SEE SHEET S-9

CL LADDER AND
CL 30" x 30" HATCH

5'-0"

1'-0"

1'-0"

3-#7 W/ #3 STIRRUPS @ 8" O.C.
(TYP.)

1'-6"

1 TOP OF PUMP HOUSE REBAR DETAIL

SCALE: N.T.S.

SK-S7-1

REFERENCE SHT S-7

C&O CANAL 04 JUN 03

