SOLICITATION NO. W911WN-04-R-0003

CHARLEROI LOCKS, CONTRACT 1
CHARLEROI LOCKS AND DAM
MONONGAHELA RIVER, PENNSYLVANIA

AMENDMENT

NUMBER 6

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
0006	23-JUN-2004	W81ET4-4058-0100	

6. ISSUED BY	CODE	7. ADMINISTERED BY *(If other than Item 6)*	CODE
US ARMY ENGR DISTRICT PGH 727 WM S MOORHEAD FEDERAL BLDG 1000 LIBERTY AVENUE PITTSBURGH PA 15222-4186 Michele R. Hutfles C02 (412)395-7479	W911WN	US ARMY ENGR DISTRICT PGH 727 WM S MOORHEAD FEDERAL BLDG 1000 LIBERTY AVENUE PITTSBURGH PA 15222-4186	W911WN

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP code)*	(X)	9A. AMENDMENT OF SOLICITATION NO.
		W911WN-04-R-0003
	X	9B. DATED *(SEE ITEM 11)* 26-APR-2004
		10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED *(SEE ITEM 13)*
CODE / FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [ ] is extended, [X] is not extended.
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(X)	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

SEE ATTACHED

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
15B. CONTRACTOR/OFFEROR _____ *(Signature of person authorized to sign)*	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ *(Signature of Contracting Officer)*	16C. DATE SIGNED

The following changes are made to the Request for Proposal for Charleroi Locks, Contract 1, Charleroi Locks and Dam, Monongahela River, Pennsylvania:

SPECIFICATIONS:

The following specification sections have been revised by Amendment No. 0006. Text revisions for Amendment No. 0006 are indicated within the specification sections by overstrike (deletions) and underscore (additions) and sections which have been revised have a footnote at the bottom which states "Section Revised By Amendment 0006".

SECTION 00010 - SUPPLIES OR SERVICES AND PRICES/COSTS. Delete the bid schedule in its entirety and replace it with the attached revised bid schedule. Note that changes are not highlighted, but are indicated by an asterisk (*) in the margin. THESE REVISED PAGES MUST BE SUBMITTED WITH YOUR OFFER.

SECTION 00800 – SPECIAL CONTRACT REQUIREMENTS.

Page 00800-3, Clause 52.216-4000 Economic Price Adjustment – Steel. Delete this clause in its entirety and substitute the attached revised clause 52.216-4000.

Wage Rates
General Decision Number PA030001 04/16/2004. Delete this decision in its entirety and substitute the attached revised General Decision No. PA030001 06/18/2004 in lieu thereof.

General Decision Number PA030004 05/14/2004. Delete this decision in its entirety and substitute the attached revised General Decision No. PA030004 06/18/2004 in lieu thereof.

Replace the following Specification Sections with the attached revised sections:

Section 01270
Section 03052

Questions for Clarification:

The following are representative questions received by the Government and responses to those questions:

Q1. Section 03052-7, paragraph 3.1.2.1. Do the secondary storage silos and plant silos for the cementitious materials need to be enclosed in addition to the batch plant?

A1. The secondary silos may be outside the batch plant enclosure.

Q2. Section 03052-7, paragraph 3.1.2, specifies a dual drum configuration for a batch plant with a capacity of only 15O CY per hour. Is the second drum intended to be a backup? If this is the intended purpose wouldn't a smaller backup batch plant be a better solution? There are numerous components other than the drum that could breakdown causing the plant to stop producing concrete.

A2. The dual drum is required to provide a more continuous supply of concrete. Due to the multiple constituents and the heavy dependence on admixtures, the tremie and flowable concretes require extended charging and mixing times. A continuous supply of concrete is critical to consistent and uniform concrete quality with these types of concrete, so the dual drum is specified to allow one drum to be discharging while the other drum is mixing.

Q3. Please clarify the following statement in Section 03052-7, paragraph 3.1.2.1: "The combined storage capacity of in-plant bins and secondary storage for each material shall be adequate for the plant capacity, except that the minimum combined capacity shall be 1000 barrels for three (3) silos, and 500 barrels for two (2) silos." Does this mean that three of the secondary silos have to have a capacity of l000 barrels each and two of the secondary silos have to have a capacity of 500 barrels each in addition to the in plant bins? What capacity is required for the in plant bins?

A3. The intent of the specification is that there shall be in-plant and secondary silos for 5 dry constituents going into the concrete (cement, fly ash, GGBFS, limestone powder and silica fume). For each of the 5 constituents, 3 shall have a minimum storage capacity for 1000 bbl each, i.e. 3 storage capacities of 1000 bbl or more. Two constituents shall have a minimum storage capacity of 500 bbl or more. The capacity for each constituent shall be the combined capacity of the in-plant storage and the secondary storage for that constituent. In addition, the capacities have to be adequate to supply the concrete at the minimum rate of 150 CY/hr without interruption to a placement. Any transfer from the secondary silo to the in-plant bins, and any large placement that require restocking during the placement must be accomplished without undue disruption to concrete production. The plant has to be configured so that additional material can be restocked during a placement without interruption or the storage silo capacities must be large enough so that the placements can be accomplished in a continuous and uninterrupted manner.

Q4. What unit weight for each of the cementitious materials in the aerated state did the USACOE use for the mix designs? This information is necessary to determine the volume of the plant bins.

A4. The size was estimated based on MIX 2 which is the placements that will require continuous production. The capacities were based on a typical 800 cy/hr day, however some placements may be 1200 cy or larger. The capacities were based on a 1.5 swell factor when the materials are pneumatically delivered to the silo. The unit weights were based on the following:

Cement 94 pcf
Fly Ash 47 pcf
GGBFS 84 pcf
Limestone Powder 76 pcf
Silica Fume 40 pcf

Q5. Section 03052-8, paragraph 3.1.2.2 a. Batchers states "Each aggregate shall be weighed in separate weigh batchers with individual scales.'" Page 9, paragraph f. indicates that the aggregates may be weighed cumulatively provided the smallest aggregate is batched first. Please clarify the number of weigh batchers required for the aggregates. Does each aggregate bin have its own weigh batcher or can we use one weigh batcher for the aggregates and a separate weigh batcher for the cementitious products?

A5. Aggregates shall be weighed separately. Paragraph a is correct, paragraph f is not correct. A weigh hopper shall be provided for each size of aggregate.

Q6. Section 03052-8; paragraph 3.1.2.2 a. Batchers states that the Silica fume shall always be batched separately. Will the Silica Fume require its own weigh batcher?

A6. Silica fume shall be weighed and batched separately. This is to achieve more accurate batching since the silica fume is only a small percent of the total cementitious material.

Q7. Section 03052-12, paragraph 3.1.2.4 Heating and Cooling Plants states, "The cooling system shall be capable of chilling water and producing ice." Can ice trailers in lieu of an ice producing plant be used provided that a crusher and separate weigh batcher are used?

A7. Ice trailers are not permitted, ice must be produced at an on-site ice plant.

Q8. Section 03052-15, paragraph 3.1.5.2 Coarse Aggregate requests that samples are taken immediately prior to the material entering the mixer. Are the samples to be taken after rescreening and prior to entering the aggregate storage bins or are they to be taken after they are placed in the aggregate bins and prior to entering the mixer?

A8. Coarse aggregate samples shall be taken with an automatic sampler system as required by 03052 paragraph 3.1.5.2. The aggregate can be sampled at any point between the rescreener and the mixer, therefore this can be before or after the aggregate storage bins.

Q9 What capacity is required for each aggregate bin on the plant?

A9. The aggregate bins have to be adequately sized to provide aggregate at a rate that can produce 150 CY/hr of concrete.

This amendment will be issued via the internet only.

This page was intentionally left blank for duplex printing.

SECTION 00010
SUPPLIES OR SERVICES AND PRICES/COSTS

ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT
0001	REIMBURSEMENT FOR ACTUAL PERFORMANCE AND PAYMENT BONDS PREMIUM (SEE SECTION 00800 PARAGRAPH 52.777-4020)			NOT TO EXCEED	$_____.____
0002	MOBILIZATION AND DEMOBILIZATION	1	LS	SUM	$_____.____
0003	MONTHLY PROGRESS IMAGES	48	MO	$_____.____	$_____.____
0004	CONSTRUCTION PROJECT SCHEDULE	1	LS	SUM	$_____.____
0005	RELOCATE GOVERNMENT TRAILER	1	LS	SUM	$_____.____
0006	FURNISH AND SET UP GOVERNMENT CONSTRUCTION OFFICE	1	LS	SUM	$_____.____
0007	CONCRETE TESTING LAB	1	LS	SUM	$_____.____
0008	OPERATE AND MAINTAIN CONCRETE TESTING LAB	48	MO	$_____.__	$_____.____
0009	TEMPORARY CONSTRUCTION FACILITIES	1	LS	SUM	$_____.____
0010	DREDGING, LOCK AND APPURTENANCES	53,410	CD	$_____.____	$_____.____
0011	DRILLING HOLES IN CONCRETE FOR H-PILES, RIVERWALL STABILIZATION	85	LF	$_____.____	$_____.____
0012	FURNISH AND INSTALL H-PILES, RIVERWALL STABILIZATION	395	LF	$_____.____	$_____.____
0013	DRILLING HOLES IN ROCK FOR ROCK ANCHORS, RIVERWALL STABILIZATION	570	LF	$_____.____	$_____.____
0014	DRILLING HOLES IN CONCRETE FOR ROCK ANCHORS, RIVERWALL STABILIZATION	126	LF	$_____.____	$_____.____
0015	DRILLING AND CASING HOLES IN EARTH FOR ROCK ANCHORS, RIVERWALL STABILIZATION	420	LF	$_____.____	$_____.____
0016	ROCK ANCHORS, RIVERWALL STABILIZATION	1,090	LF	$_____.____	$_____.____
0017	PERFORMANCE TESTS, ROCK ANCHORS, RIVERWALL STABILIZATION	2	EA	$_____.____	$_____.____
0018	PROOF TESTS, ROCK ANCHORS, RIVERWALL STABILIZATION	12	EA	$_____.____	$_____.____
0019	WATERTIGHTNESS TESTING, ROCK ANCHORS, RIVERWALL STABILIZATION	28	EA	$_____.____	$_____.____

ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT
0020	PREGROUTING HOLES, ROCK ANCHORS, RIVERWALL STABILIZATION	330	CF	$_____.____	$_____.____
0021	REDRILLING GROUTED HOLES, ROCK ANCHORS, RIVERWALL STABILIZATION	1,135	LF	$_____.____	$_____.____
0022	PORTLAND CEMENT	5,150	TN	$_____.____	$_____.____
0023	POZZOLAN	3,765	TN	$_____.____	$_____.____
0024	GROUND GRANULATED BLAST FURNACE SLAG	10,897	TN	$_____.____	$_____.____
0025	SILICA FUME	412	TN	$_____.____	$_____.____
0026	ANTI-WASHOUT MIXTURE	16,814	GL	$_____.____	$_____.____
0027	TREMIE CONCRETE	32,205	CD	$_____.____	$_____.____
0028	MASS CONCRETE, LOCK WALL MONOLITHS	27,020	CD	$_____.____	$_____.____
0029	CAST IN PLACE STRUCTURAL CONCRETE, LOCK WALL MONOLITHS	331	CD	$_____.____	$_____.____
0030	PVC WATERSTOPS	1,100	LF	$_____.____	$_____.____
0031	COPPER WATERSTOPS	195	LF	$_____.____	$_____.____
* **0032**	**FABRICATION AND INSTALLATION COSTS FOR REINFORCING STEEL AND DOWELS, LOCK WALLS AND APPURTENANCES**	**2,000,000**	**LB**	**$_____.____**	**$_____.____**
0033	FIELD DEMONSTRATIONS	1	LS	SUM	$_____.____
0034	FABRICATION AND INSTALLATION COSTS FOR PERMANENT CASING, 54-INCH DIAMETER FOUNDATION DRILLED SHAFTS (48-INCH ROCK SOCKET)	525	LF	$_____.____	$_____.____
0035	FABRICATION AND INSTALLATION COSTS FOR PERMANENT CASING, 78-INCH DIAMETER FOUNDATION DRILLED SHAFTS (72-INCH ROCK SOCKET)	1,430	LF	$_____.____	$_____.____
0036	SOIL EXCAVATION, 54-INCH DIAMETER FOUNDATION DRILLED SHAFTS	270	LF	$_____.____	$_____.____
0037	SOIL EXCAVATION, 78-INCH DIAMETER FOUNDATION DRILLED SHAFTS (72-INCH ROCK SOCKET)	1,026	LF	$_____.____	$_____.____
0038	ROCK EXCAVATION, 54-INCH DIAMETER FOUNDATION DRILLED SHAFTS (48-INCH ROCK SOCKET)	1,170	LF	$_____.____	$_____.____

ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT
0039	ROCK EXCAVATION, 78-INCH DIAMETER FOUNDATION DRILLED SHAFTS (72-INCH ROCK SOCKET)	4,106	LF	$_____.____	$_____.____
0040	CROSSHOLE SONIC LOGGING (CSL), FOUNDATION DRILLED SHAFTS	144	EA	$_____.____	$_____.____
0041	ACCESS TUBES, CROSSHOLE SONIC LOGGING, FOUNDATION DRILLED SHAFTS	1	LS	SUM	$_____.____
0042	CONCRETE, FOUNDATION DRILLED SHAFTS	6,705	CD	$_____.____	$_____.____
0043	CORING OF FOUNDATION DRILLED SHAFTS, VERIFICATION OF CROSSHOLE SONIC LOGGING RESULTS	2,800	LF	$_____.____	$_____.____
0044	FABRICATION AND INSTALLATION COSTS FOR REINFORCING STEEL, FOUNDATION DRILLED SHAFTS	4,347,400	LB	$_____.____	$_____.____
0045	EXPLORATORY DRILLING, SOIL DRILLING WITHOUT SAMPLING	230	LF	$_____.____	$_____.____
0046	EXPLORATORY DRILLING, SOIL DRILLING WITH SAMPLING	230	LF	$_____.____	$_____.____
0047	EXPLORATORY DRILLING, ROCK DRILLING, WITH CORING	1,090	LF	$_____.____	$_____.____
0048	EXPLORATORY DRILLING, SEALING OF EXPLORATORY HOLES WITH CEMENT GROUT	1,090	LF	$_____.____	$_____.____
0049	EXPLORATORY PILE DRIVING	1	LS	SUM	$_____.____
0050	FABRICATION AND INSTALLATION COSTS FOR SHEET PILE, NON-COFFERBOXES	8,710	LF	$_____.____	$_____.____
0051	FABRICATION AND INSTALLATION COSTS FOR H-PILES, NON-COFFERBOXES	1,010	LF	$_____.____	$_____.____
0052	FURNISH, INSTALL AND REMOVE COFFERBOX PILING	1	LS	SUM	$_____.____
0053	UNDERWATER ALLUVIUM EXCAVATION INSIDE COFFERBOXES	3,400	CD	$_____.____	$_____.____
0054	COFFERBOX DEWATERING	1	LS	SUM	$_____.____

ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT
0055	MODIFICATIONS TO EXISTING STUB WALL	1	LS	SUM	$_____.____
0056	ALTERNATING TREAD STAIRS	1	LS	SUM	$_____.____
0057	MITER GATE EMBEDDED ANCHORAGES	1	LS	SUM	$_____.____
0058	FLOATING MOORING BITT ANCHORAGES	1	LS	SUM	$_____.____
0059	PRECAST CONCRETE EMPTYING CULVERTS	1	LS	SUM	$_____.____
0060	CORNER PROTECTION	475	LF	$_____.____	$_____.____
0061	WALL ARMOR AND MONOLITH JOINT PROTECTION	2,000	LF	$_____.____	$_____.____
0062	CORNER CASTINGS	10	EA	$_____.____	$_____.____
0063	ACCESS HATCHES	1	LS	SUM	$_____.____
0064	GRATING	20	SF	$_____.____	$_____.____
0065	ALUMINUM PLANKING	1,480	SF	$_____.____	$_____.____
0066	EQUIPMENT ACCESS AND EMPTYING VALVE ACCESS COVERS	578	SF	$_____.____	$_____.____
0067	GATE ANCHORAGE RECESS COVER	38	SF	$_____.____	$_____.____
0068	ALUMINUM RABBET ANGLES	1,225	LF	$_____.____	$_____.____
0069	CHECK POSTS	8	EA	$_____.____	$_____.____
0070	LINE HOOKS AND GUARDS	10	EA	$_____.____	$_____.____
0071	FABRICATION AND INSTALLATION COSTS FOR EMPTYING VALVES AND EMPTYING BULKHEADS	1	LS	SUM	$_____.____
0072	COMPRESSED AIR AND SERVICE WATER LINES	1	LS	SUM	$_____.____
0073	ELECTRICAL WORK	1	LS	SUM	$_____.____
0074	ROCK CONSTRUCTION ENTRANCE, GOVERNMENT FURNISHED DISPOSAL SITE	4	EA	$_____.____	$_____.____
0075	COAL FINE REMOVAL, GOVERNMENT FURNISHED DISPOSAL SITE	11,400	CD	$_____.____	$_____.____
0076	OFF-LOADING DOCK IMPROVEMENTS, GOVERNMENT FURNISHED DISPOSAL SITE	1	LS	SUM	$_____.____
0077	SILT FENCE, GOVERNMENT FURNISHED DISPOSAL SITE	3,680	LF	$_____.____	$_____.____

ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT
0078	SUPER SILT FENCE, GOVERNMENT FURNISHED DISPOSAL SITE	1,035	LF	$_____.____	$_____.____
0079	GRASS LINED CHANNELS, GOVERNMENT FURNISHED DISPOSAL SITE	1,980	LF	$_____.____	$_____.____
0080	SEDIMENT BASIN NO. 1, GOVERNMENT FURNISHED DISPOSAL SITE	1	LS	SUM	$_____.____
0081	CLEANING OF SEDIMENT BASIN NO. 1, GOVERNMENT FURNISHED DISPOSAL SITE	1	LS	SUM	$_____.____
0082	HAUL ROAD EXCAVATION, GOVERNMENT FURNISHED DISPOSAL SITE	1,325	CD	$_____.____	$_____.____
0083	CONFINEMENT BERM, GOVERNMENT FURNISHED DISPOSAL SITE	2,280	CD	$_____.____	$_____.____
0084	HAUL ROAD EMBANKMENTS, FILL, GOVERNMENT FURNISHED DISPOSAL SITE	28,770	CD	$_____.____	$_____.____
0085	8-INCH AGGREGATE SURFACING, GOVERNMENT FURNISHED DISPOSAL SITE	9,315	SY	$_____.____	$_____.____
0086	GUIDERAIL, GOVERNMENT FURNISHED DISPOSAL SITE	465	LF	$_____.____	$_____.____
0087	DREDGING AT DOCK, GOVERNMENT FURNISHED DISPOSAL SITE	4,700	CD	$_____.____	$_____.____
0088	SECURITY SIGNS, GOVERNMENT FURNISHED DISPOSAL SITE	1	LS	SUM	$_____.____
0089	15-INCH RCP CULVERT, GOVERNMENT FURNISHED DISPOSAL SITE	114	LF	$_____.____	$_____.____
0090	18-INCH RCP CULVERT, GOVERNMENT FURNISHED DISPOSAL SITE	55	LF	$_____.____	$_____.____
0091	TEMPORARY DISPOSAL STOCKPILE	44,000	CD	$_____.____	$_____.____
0092	TEMPORARY SEEDING, GOVERNMENT FURNISHED DISPOSAL SITE	12	AC	$_____.____	$_____.____
0093	FILTER FABRIC FENCE, 18-INCH HIGH, LEFT BANK BATCH PLANT AREA	1,530	LF	$_____.____	$_____.____
0094	FILTER FABRIC FENCE, 30-INCH HIGH, LEFT BANK BATCH PLANT AREA	240	LF	$_____.____	$_____.____
0095	SUPER SILT FENCE, LEFT BANK BATCH PLANT AREA	410	LF	$_____.____	$_____.____

ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT
0096	ROCK CONSTRUCTION ENTRANCE, LEFT BANK BATCH PLANT AREA	2	EA	$_____.____	$_____.____
0097	SITE CLEANUP, CLEARING AND GRUBBING, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0098	CONCRETE FOUNDATION SLABS DEMOLITION AND PLACEMENT, AND EXISTING DEBRIS DISPOSAL, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0099	SITE EARTHWORK, LEFT BANK BATCH PLANT AREA	20,000	CD	$_____.____	$_____.____
0100	GRANULAR FILL MATERIAL, LEFT BANK BATCH PLANT AREA	870	CD	$_____.____	$_____.____
0101	ROCK FILTER OUTLETS AND ASSOCIATED 18-INCH HIGH FILTER FABRIC FENCE, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0102	DIRT-BAG PUMPED SILT CONTROL SYSTEM, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0103	OUTFALL 002, ROCK FILTER, AND RIPRAP EROSION PROTECTION, LEFT BANK BATCH PLANT AREA	1	EA	$_____.____	$_____.____
0104	TRAPEZOIDAL CHANNEL, R-3 RIPRAP LINING, BULKHEAD STRUCTURE AREA, LEFT BANK BATCH PLANT AREA	130	LF	$_____.____	$_____.____
0105	OUTFALL 001, MANHOLE, 48-INCH DIAMETER PRECAST REINFORCED CONCRETE, LEFT BANK BATCH PLANT AREA	1	EA	$_____.____	$_____.____
0106	24-INCH OUTFALL 001 PIPE & FITTINGS, REINFORCED CONCRETE PIPE AND BACKFILL, LEFT BANK BATCH PLANT AREA	70	LF	$_____.____	$_____.____
0107	VALVE STATION MANHOLE, 60-INCH DIAMETER PRECAST REINFORCED CONCRETE, LEFT BANK BATCH PLANT AREA	1	EA	$_____.____	$_____.____
0108	GATE VALVE AND REDUCER COUPLING, LEFT BANK BATCH PLANT AREA	1	EA	$_____.____	$_____.____

ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT
0109	24-INCH, SDR 21 HDPE PIPE FROM VALVE STATION MANHOLE TO INLET NO. 1, LEFT BANK BATCH PLANT AREA	12	LF	$_____.____	$_____.____
0110	INLETS NO. 1, 2 AND 5, PADOT TYPE C, LEFT BANK BATCH PLANT AREA	3	EA	$_____.____	$_____.____
0111	INLETS NOS. 3 AND 4, PADOT TYPE M, LEFT BANK BATCH PLANT AREA	2	EA	$_____.____	$_____.____
0112	24-INCH PE, SMOOTH INTERIOR, STORM SEWER PIPE FROM INLET NO. 1 THROUGH NO. 4, BETWEEN INLET NO. 2 AND NO. 5 AND BETWEEN MANHOLE NO. 1 AND NO. 2, LEFT BANK BATCH PLANT AREA	710	LF	$_____.____	$_____.____
0113	MANHOLES NOS. 1 & 2, 48-INCH DIAMETER PRECAST REINFORCED CONCRETE, LEFT BANK BATCH PLANT AREA	2	EA	$_____.____	$_____.____
0114	PLAIN CONCRETE CURB, INSIDE EDGE OF ACCESS RAMP, LEFT BANK BATCH PLANT AREA	11	CD	$_____.____	$_____.____
0115	CONCRETE PAVEMENT, ACCESS RAMP AND LANDING AREA, LEFT BANK BATCH PLANT AREA	460	CD	$_____.____	$_____.____
0116	TOPSOIL, LEFT BANK BATCH PLANT AREA	2,075	TN	$_____.____	$_____.____
0117	SEEDING, LEFT BANK BATCH PLANT AREA	1.5	AC	$_____.____	$_____.____
0118	TURF REINFORCEMENT MAT, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0119	SOIL-FILLED CELLULAR/GRID CONFINEMENT SYSTEM, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0120	GUIDERAIL, PADOT TYPE 2-SC, LEFT BANK BATCH PLANT AREA	690	LF	$_____.____	$_____.____
0121	CHAIN LINK FENCING, 6-FT HIGH GENERAL SECURITY FENCE, LEFT BANK BATCH PLANT AREA	1,095	LF	$_____.____	$_____.____
0122	CHAIN LINK FENCING, 8-FT HIGH HIGH SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA	500	LF	$_____.____	$_____.____

ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT
0123	MAIN ACCESS GATE, 31-FT MIN OPENING, 6-FT HIGH, GENERAL SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA	1	EA	$_____.____	$_____.____
0124	SLIDING ACCESS GATE, 19-FT WIDE, 8-FT HIGH, HIGH SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA	1	EA	$_____.____	$_____.____
0125	SWINGING ACCESS GATE, 4'-0" WIDE, 6-FT HIGH, GENERAL SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA	1	EA	$_____.____	$_____.____
0126	SWINGING ACCESS GATE, 4'-0" WIDE, 8-FT HIGH, HIGH SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA	1	EA	$_____.____	$_____.____
0127	MODIFICATIONS TO EXISTING GROUNDWATER MONITORING WELLS, CBP-1 AND CBP-2, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0128	BITUMINOUS CONCRETE BASE COURSE (BCBC) , LEFT BANK BATCH PLANT AREA	18,700	SY	$_____.____	$_____.____
0129	BITUMINOUS WEARING COURSE, LEFT BANK BATCH PLANT AREA	18,700	SY	$_____.____	$_____.____
0130	BITUMINOUS BINDER COURSE, LEFT BANK BATCH PLANT AREA	18,700	SY	$_____.____	$_____.____
0131	TRAPEZOIDAL CHANNEL, PAVED LINING, LEFT BANK BATCH PLANT AREA	385	LF	$_____.____	$_____.____
0132	ASPHALT DIVERSION BERM, LEFT BANK BATCH PLANT AREA	2	EA	$_____.____	$_____.____
0133	ASPHALT WEDGE CURB, ID-2 WEARING, LEFT BANK BATCH PLANT AREA	1,860	LF	$_____.____	$_____.____
0134	GRAVEL ACCESS ROAD, LEFT BANK BATCH PLANT AREA	1,528	SY	$_____.____	$_____.____
0135	SEDIMENTATION BASINS NOS. 1 & 2, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0136	CLEANING OF SEDIMENT BASIN NO. 1, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0137	CLEANING OF SEDIMENT BASIN NO. 2, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____

ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT
0138	PRECAST CONCRETE BLOCK WALL BETWEEN SEDIMENTATION BASIN NO. 1 AND NO. 2, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0139	OUTLET STRUCTURE FROM SEDIMENTATION BASIN NO. 2 TO pH TREATMENT SYSTEM, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0140	OIL/CONTAINMENT BOOM (60-FT LONG), LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0141	OPEN GRATE TRENCH, LEFT BANK BATCH PLANT AREA	320	LF	$_____.____	$_____.____
0142	CONCRETE SLABS, BATCH PLANT BIN AREA AND TRUCK TIRE WASH AREA, LEFT BANK BATCH PLANT AREA	360	CD	$_____.____	$_____.____
0143	CONCRETE BATCH PLANT, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0144	SHEET PILE BARRIER, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0145	BULKHEAD STRUCTURE INSTALLATION, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0146	PH MONITORING AND CONTROL SYSTEM, LEFT BANK BATCH PLANT AREA	1	LS	SUM	$_____.____
0147	ENVIRONMENTAL COMPLIANCE MEASUREMENTS, SAMPLING, TESTING AND REPORTING DURING BATCH PLANT OPERATION, LEFT BANK BATCH PLANT AREA	48	MO	$_____.____	$_____.____
0148	ENVIRONMENTAL CONTROL REPRESENTATIVE (ECR) FOR ENVIRONMENTAL COMPLIANCE MONITORING AND EQUIPMENT OPERATION AND MAINTENANCE, LEFT BANK BATCH PLANT AREA AND GOVERNMENT FURNISHED DISPOSAL SITE	48	MO	$_____.____	$_____.____
0149	JET GROUT COLUMNS, COFFERBOX CLOSURES	64	LF	$_____.____	$_____.____
0150	TEST CORE SAMPLES, JET GROUT COLUMNS	16	LF	$_____.____	$_____.____

	ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT
*	**0151**	**STEEL MATERIALS COSTS FOR REINFORCING STEEL AND DOWELS, LOCK WALLS AND APPURTENANCES**	**2,000,000**	**LB**	**$_____.____**	**$_____.____**
	0152	STEEL MATERIALS COSTS FOR PERMANENT CASING, 54-INCH DIAMETER FOUNDATION DRILLED SHAFTS (48-INCH ROCK SOCKET)	152,935	LB	$_____.____	$_____.____
	0153	STEEL MATERIALS COSTS FOR PERMANENT CASING, 78-INCH DIAMETER FOUNDATION DRILLED SHAFTS (72-INCH ROCK SOCKET)	572,725	LB	$_____.____	$_____.____
	0154	DELETED				
	0155	STEEL MATERIALS COSTS FOR REINFORCING STEEL, FOUNDATION DRILLED SHAFTS	4,347,400	LB	$_____.____	$_____.____
	0156	STEEL MATERIALS COSTS FOR SHEET PILE, NON-COFFERBOXES	575,000	LB	$_____.____	$_____.____
	0157	STEEL MATERIALS COSTS FOR H-PILES, NON-COFFERBOXES	115,000	LB	$_____.____	$_____.____
	0158	DELETED				
	0159	STEEL MATERIALS COSTS FOR EMPTYING VALVES AND EMPTYING BULKHEADS	554,900	LB	$_____.____	$_____.____
	0160	MISCELLANEOUS METALS	1	LS	SUM	$_____.____
	0161	ENVIRONMENTAL COMPLIANCE MEASUREMENTS, SAMPLING, TESTING AND REPORTING GOVERNMENT FURNISHED DISPOSAL SITE	48	MO	$_____.____	$_____.____
	0162AA	SEDIMENT REMOVAL, STUB WALL MODIFICATIONS, 0 TO 300 CUBIC YARDS	300	CD	$_____.____	$_____.____
	0162AB	SEDIMENT REMOVAL, STUB WALL MODIFICATIONS, 301 TO 500 CUBIC YARDS	200	CD	$_____.____	$_____.____
	0162AC	SEDIMENT REMOVAL, STUB WALL MODIFICATIONS, ALL OVER 500 CUBIC YARDS	200	CD	$_____.____	$_____.____
*	**0163**	**LIMESTONE POWDER**	**3,765**	**TN**	**$_____.____**	**$_____.____**

ITEM	DESCRIPTION	* QUANTITY	U/M	U/P	AMOUNT

SUBTOTAL, ITEMS 0001 THROUGH **0163** INCLUSIVE $_____.____

ALL QUANTITIES ARE ESTIMATED, EXCEPT WHERE THE UNIT IS GIVEN AS "LS" OR "EA"

NOTE: ALL EXTENSIONS OF THE UNIT PRICES SHOWN WILL BE SUBJECT TO VERIFICATION BY THE GOVERNMENT.

PLEASE DO NOT ROUND OFF TOTALS. IN CASE OF VARIATION BETWEEN THE UNIT PRICE AND THE EXTENSION, THE UNIT PRICE WILL BE CONSIDERED TO BE THE BID. IF A MODIFICATION TO A BID BASED ON UNIT PRICES IS SUBMITTED, WHICH PROVIDES FOR A LUMP SUM ADJUSTMENT TO THE TOTAL ESTIMATED COST, THE APPLICATION OF THE LUMP SUM ADJUSTMENT TO EACH UNIT PRICE IN THE BID SCHEDULE MUST BE STATED. IF IT IS NOT STATED, THE BIDDER AGREES THAT THE LUMP SUM ADJUSTMENT SHALL BE APPLIED ON A PRORATA BASIS TO EVERY UNIT PRICE IN THE BID SCHEDULE.

THE FOLLOWING IS A LIST OF ABBREVIATIONS AND THEIR MEANINGS AS USED IN THE PRICE SCHEDULE UNDER U/M (UNIT OF MEASURE):

AC	ACRES
CD	CUBIC YARD
CF	CUBIC FEET
DA	DAYS
EA	EACH
GL	GALLONS
LB	POUNDS
LF	LINEAR FEET
LS	LUMP SUM
MO	MONTHS
SE	SETS
SF	SQUARE FEET
SY	SQUARE YARDS
TN	TONS

This page was intentionally left blank for duplex printing.

52.216-4000 Economic Price Adjustment - Steel

(a) The Government will adjust the contract price on each applicable progress estimate to reflect increases or decreases in steel prices from the time steel is shipped from the producing mill for incorporation into the various items covered by this clause, to the prices in effect during the month in which the final proposal was received. This price adjustment is dependent upon an increase or decrease in the average price of raw steel (prior to rolling or manipulation) used in the production of products utilized on this project. Item Nos. 0151, 0152, 0153,, 0155, 0156, 0157, and 0159 as listed in the Unit Price schedule shall be considered "Indexed Items", and only these items will be subject to the provisions of this clause.

(b) Definitions. The following terms as used in this clause shall be defined as follows:

(1) "Producers Price Index (PPI)": U.S. Department of Labor – Bureau of Labor Statistics index entitled "Producers Price Index" for non-seasonally adjusted "Shredded Carbon Steel Scrap" – Series ID WPU10121193, available from: http://data.bls.gov/labjava/outside.jsp?survey=wp). In the event this index is discontinued, the Bureau of Labor Statistics Producers Price Index for non-seasonally adjusted "Carbon Steel Scrap Bundles" – Series WPU10121192 will be used instead. Do not use seasonally adjusted indexes. The Bureau of Labor Statistics publishes preliminary numbers for the most recent data, and may revise these indexes four months after original publication. The Contracting Officer will review the PPI 4 months after initial publication to determine if the data has been revised. Final payments will be adjusted accordingly.

(2) "Mill Shipping Index" (MI): The Producers Price Index for the month the raw steel is shipped from the producing mill.

(3) "Bidding Index" (BI): The Producers Price Index for the month when final proposal was received by the Government, and will be set by the Contracting Officer.

(4) "Quoted Prices" (QP): Certified original quotes shall be submitted with the Contractor's final proposal and listed as unit price in dollars per pound. Each certified quote will constitute the baseline raw steel material price for the particular pay item. Each quote must clearly provide the associated pay item, weights, how the raw material will be utilized in the final project, and a breakdown of all costs.

(c) The Contractor will not be given the option of accepting or rejecting this adjustment. Price adjustments will be made only when the Mill Shipping Index varies by more than 10% of the Bidding Index, and then only on the portion that varies by more than 10%. Aggregate adjustments to steel prices due to an increases or decreases in the Mill Shipping Index shall not exceed 20 percent of the Quoted Price (QP), and no further adjustment beyond the 20 percent level will be made. No adjustment will be made for changes in the cost of manufacturing, fabrication, painting, galvanizing, shipping, storage, etc, and no adjustment will be made for quantities of non-steel items nor quantities of stainless steel.

(d) No price adjustments will be made for any items manufactured from steel having a mill shipping date prior to the date of the contract.

(e) Payment on progress estimates will be adjusted to reflect changes in the prices for steel materials in accordance with the following:

SPA = Total Steel Price Adjustment, in dollars = (CD)(Q)

Where Q = Quantity of manufactured steel, in pounds.

CD = Cost Difference = [MI/BI – 0.90]*QP when the Producers Price Index~~steel price index~~ has decreased between the month final proposal is received and month of this progress estimate, and CD > -0.20, else CD=-0.20.

Clause Revised by Amendment 0006

CD = Cost Difference = [MI/BI – 1.10]*QP when the Producers Price Index~~steel price index~~ has increased between the month final proposal is received and month of this progress estimate, and CD < 0.20, else CD=0.20.

(f) The Contractor shall provide signed certification of the following for the period represented by each invoice:

(1) The dates and amounts of steel shipped from the mill to the fabricator.
(2) The amount of steel (by weight) incorporated into the Indexed items.
(3) Shop drawings, materials orders, materials lists, mill test reports and shipping bills as required by the Specifications.

(g) The Contractor acknowledges that he is certifying the following for the period represented by each request for payment:

(1) The dates and amounts of steel shipped from the mill to the fabricator.
(2) The amount of steel incorporated in the indexed items.

Example Calculations:

Example 1:
Final proposal was received for a project on March 15, 2000, and the certified quoted price for 500 tons (1 million pounds) of structural steel is $0.10 per pound. The~~ fabricator purchases the material~~material is shipped to the fabricator on July 15, 2001. The Bureau of Labor Statistics – Producers Price Index – Shredded Carbon Steel Scrap for March 15, 2000 is 81.3 and for July 15, 2001 is 61.0. Therefore, the Bidding Index is 81.3 and the Mill Shipping Index is 61.0. The Mill Shipping Index has decreased from the month the final proposal was received. The Mill Shipping Index has changed from the Bidding Index by (61.0-81.3)/81.3=-.249 or decreased by 24.9%. Since this represents a difference of more than 10%, the price can be adjusted, and will be adjusted by the amount greater than 10%. The Steel Price Adjustment is calculated as follows:

Price Adjustment=(MI/BI-0.90)*(QP)*Q
=(61.0/81.3-0.90)*$0.10/lb*(1,000,000 lb)
=-$14,969.25 Since this represents a difference from the original quoted price of less than 20 percent, the full amount of the adjustment can be made.

Example 2:
Final proposal was received for a project on March 15, 2002, and the certified quoted price for 500 tons (1 million pounds) of structural steel is $0.10 per pound. The material is shipped to the fabricator~~fabricator purchases the material~~ on April 15, 2002. The Bureau of Labor Statistics – Producers Price Index – Shredded Carbon Steel Scrap for March 15, 2002 is 64.2 and for April 15, 2002 is 68.7. Therefore, the Bidding Index is 64.2 and the Mill Shipping Index is 68.7. The Mill Shipping Index has increased from the month the final proposal was received. The Mill Shipping Index has changed from the Bidding Index by (68.7-64.2)/64.2=0.07 or increased by 7%. Since this represents a difference of less than 10%, the price cannot be adjusted.

Example 3:
Final proposal was received for a project on March 15, 2002, and the certified quoted price for 500 tons (1 million pounds) of structural steel is $0.10 per pound. The material is shipped to the fabricator~~fabricator purchases the material~~ on July 15, 2002. The Bureau of Labor Statistics – Producers Price Index – Shredded Carbon Steel Scrap for March 15, 2002 is 64.2 and for July 15, 2002 is 73.9. Therefore, the Bidding Index is 64.2 and the Mill Shipping Index is 73.9. The Mill Shipping Index has increased from the month the final proposal was received. The Mill Shipping Index has changed from the Bidding Index by (73.9-64.2)/64.2=0.151 or increased by 15.1%. Since this represents a difference of more than 10%, the price can be adjusted, and will be adjusted by the amount greater than 10%. The Steel Price Adjustment is calculated as follows:

Price Adjustment=(MI/BI-1.10)*(QP)*Q
=(73.9/64.2-1.10)*$0.10/lb*(1,000,000 lb)
=$5,109.03 Since this represents a difference from the original quoted price of less than 20 percent, the full amount of the adjustment can be made.

Example 4:
Final proposal was received for a project on January 15,1998, and the certified quoted price for 500 tons (1 million pounds) of structural steel is $0.10 per pound. The material is shipped to the fabricator on Dedember 15, 1998. The Bureau of Labor Statistics – Producers Price Index – Shredded Carbon Steel Scrap for January 15, 1998 is 98.1 and for December 15, 1998 is 63.6. Therefore, the Bidding Index is 98.1 and the Mill Shipping Index is 63.6. The Mill Shipping Index has decreased from the month the final proposal was received. The Mill Shipping Index has changed from the Bidding Index by (63.6-98.1)/98.1= -0.352 or decreased by 35.2%. Since this represents a difference of more than 10%, the price can be adjusted, and will be adjusted by the amount greater than 10%. The Steel Price Adjustment is calculated as follows:

Price Adjustment=(MI/BI-0.90)*(QP)*Q
=(63.6/98.1-0.90)*$0.10/lb*(1,000,000 lb)
=-$25,168.20 Since this represents a difference from the original quoted price of more than 20 percent, the price adjustment is limited to 20% of the original quoted price or:

Price Adjustment=-0.20*QP*Q
=-0.20*$0.10/lb*(1,000,000 lb)
=-$20,000.00

Clause Revised by Amendment 0006

This page was intentionally left blank for duplex printing.

General Decision Number: PA030001 06/18/2004

General Decision Number: PA030001 06/18/2004

Superseded General Decision Number: PA020001

State: Pennsylvania

Construction Types: Building

Counties: Allegheny, Beaver, Butler, Fayette, Greene, Washington and Westmoreland Counties in Pennsylvania.

BUILDING ERECTION AND FOUNDATION EXCAVATION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) EXCLUDING SEWAGE AND TREATMENT PLANT PROJECTS

Modification Number	Publication Date
0	06/13/2003
1	11/21/2003
2	11/28/2003
3	12/05/2003
4	12/12/2003
5	01/16/2004
6	02/13/2004
7	02/20/2004
8	03/05/2004
9	03/12/2004
10	04/16/2004
11	06/18/2004

ASBE0002-001 08/01/2002

	Rates	Fringes
Asbestos Workers/Insulator Includes the application of all insulating materials, protective coverings, coatings and finishings to all types of mechanical systems	$ 28.62	11.91

---

* BOIL0154-001 06/01/2004

	Rates	Fringes
Boilermaker	$ 30.27	15.44

BRPA0009-023 12/01/2003

BEAVER COUNTY

	Rates	Fringes
Bricklayer	$ 23.03	10.12

BRPA0009-024 12/01/2003

WASHINGTON (Cross Creek, Hanover, Jefferson, Mt Pleasant, Nottingham, Peters, Robinson, Smith, Union Twps) COUNTY

	Rates	Fringes
Bricklayer	$ 25.40	9.72

---

* BRPA0009-026 12/01/2003

BEAVER COUNTY

	Rates	Fringes
Bricklayer	$ 23.03	10.10

BRPA0009-027 12/01/2003

FAYETTE (Jefferson & Washington Twps), GREENE (Except Cumberland, Dunkirk, Greene, Monongahelia Twps), WASHINGTON (Remainder), AND WESTMORELAND (Rostraver Twp) COUNTIES

	Rates	Fringes
Bricklayer	$ 24.52	9.52

BRPA0009-028 12/01/2003

	Rates	Fringes
Stonemason (ALLEGHENY AND WASHINGTON (Cross Creek, Hanover, Jefferson, Mt Pleasant, Nottingham, Peters, Robinson, Smith, and Union Twps) COUNTIES)	$ 25.40	9.72
Tile Setter (ALLEGHENY, BEAVER, GREENE, AND WASHINGTON COUNTIES)	$ 24.57	9.52

BRPA0009-029 12/01/2003

BUTLER COUNTY

	Rates	Fringes
Bricklayer	$ 23.03	10.10

---

* CARP0142-001 01/01/2004

ALLEGHENY, BEAVER, BUTLER, FAYETTE,GREENE, WASHINGTON AND WESTMORELAND COUNTIES

	Rates	Fringes
Carpenter/Lather	$ 24.34	8.64

CARP1759-001 06/01/2003

ALLEGHENY, BEAVER, BUTLER, FAYETTE, GREENE, WASHINGTON, AND WESTMORELAND COUNTIES

	Rates	Fringes
Soft Floor Layer	$ 23.72	8.74

CARP2235-001 06/01/2003

	Rates	Fringes
Millwright	$ 29.28	11.03

CARP2235-007 01/01/2004

	Rates	Fringes
Piledriverman	$ 25.22	8.98

ELEC0005-005 12/26/2003

BUTLER COUNTY

	Rates	Fringes

```
  Electrician.....................$ 28.56            12.94
----------------------------------------------------------------
ELEC0005-007 12/26/2003
ALLEGHENY, FAYETTE, GREENE, WASHINGTON, AND WESTMORELAND
COUNTIES
                                    Rates          Fringes
  Electrician.....................$ 28.56            12.94
----------------------------------------------------------------
ELEC0126-006 06/01/2003
ALLEGHENY, BEAVER, FAYETTE, GREENE, WASHINGTON, AND
WESTMORELAND COUNTIES
                                    Rates          Fringes
  Line Construction:
     Groundman....................$ 19.12             9.60
     Lineman......................$ 31.87             9.60
     Truck Driver.................$ 20.72             9.60
     Winch Truck Operator.........$ 22.31             9.60
----------------------------------------------------------------
ELEC0712-005 12/29/2003
BEAVER COUNTY
                                    Rates          Fringes
  Electrician.....................$ 23.70            18.34
----------------------------------------------------------------
ELEC1319-005 01/02/2000
BUTLER COUNTY
                                    Rates          Fringes
  Line Construction:
     Groundman....................$ 15.55          4.35+6%
     Lineman, Dynamite Man, and
        Heavy Equipment Operator..$ 24.74          4.35+6%
     Winch Truck Operator.........$ 17.54          4.35+6%
----------------------------------------------------------------
ELEV0006-001 01/01/2004
                                    Rates          Fringes
  Elevator Mechanic...............$ 31.31         10.865+A
  FOOTNOTE:   A. Employer contributes 8% of regular hourly rate
  as vacation pay credit for employees with more than 5 years
  of service, and 6% for 6 months to 5 years of service.
  Paid Holidays: New Year's Day; Memorial Day; Independence

  Day; Labor Day; Thanksgiving Day; The day after
  Thanksgiving Day; and Christmas Day
----------------------------------------------------------------
ENGI0066-001 06/01/2003
                                    Rates          Fringes
  Power equipment operators:
     GROUP 1.....................$ 24.115            11.78
     GROUP 2.....................$ 24.365            11.78
     GROUP 3.....................$ 24.615            11.78
     GROUP 4.....................$ 24.865            11.78
     GROUP 5.....................$ 21.43             11.78
     GROUP 6.....................$ 19.85             11.78
     GROUP 7.....................$ 19.95             11.78
     GROUP 8.....................$ 20.10             11.78
     GROUP 9.....................$ 20.85             11.78
POWER EQUIPMENT OPERATORS CLASSIFICATIONS
  GROUP 1 -  Asphalt Plant Operator, Athey Loader, Auger-truck
```

or tractor mount, Auto Grader (CMI or similar), Backhoe, Backhoe cage or similar type with 180 degree swing, Backhoe CAT 225 or similar type or smaller with 360 degree swing, Backhoe CAT 235 or similar type with 360 degree swing, Back-filling machine, Batch Plant when conveyors are used for direct feed, Batch plant, Bulldozer, Cablelayer, Cable-way, Caisson Drill, Central Mix Plant, Compactor with blade, Crane-overhead, Crane (hydraulic truck cranes 35 ton and under) Crane (hydraulic truck cranes 35 ton and over), Cranes (rough terrain & similar over 50 ton), Cranes - rough terrain & similar 50 ton and under, Cranes (excluding overhead) (Truck, Crawler or Pedestal type), Cranes Tower (Stationary) (Climbing type) (use of oiler to be discussed at pre-job, Cranes-Hy-draulic self-contained Wagon Crane (Under 50 ton requires no oiler), Crushing & Screening Plant, Derrick-Traveler (self propelled), Derrick (all types) (when assistance is needed it will be an oiler or apprentice, Derrick Boats, Dragline, Dredge, Drill-Davey or similar type, Drill-Core (truck or skid mounted), Drill-Self Propelled & Self contained, Drill-Well Horizontal, Elevator (New buildings), Excavating Equipment (all other), Forklift- Lull or Similar, Franki or Similar type pile driven); Gradall, (other than remote control), Gradall-remote control, Grader, Grader-Elevating, Greaser-Equipment (Head), Helicopter (when used for erection purposes), Heli-copter hoist operators (when used for erection purposes), Hi-Lift, Hoist (2 drums or more in one unit), Hoist Hod (2 cages up to 10 floors); Hoist (50 ft. or over) (stacks, stoves or furnaces, Hoist (slipform jobs), Hydraulic boom truck, Jumbo Operator, Kocal, Koehring Scooper, Locomotive, Metro chip Harvester (or similar type), Mix Mobile or similar type (with self-loading attachment), Mix Mobile or similar type, Mixer Paving, Mucking Machine (Tunnel), Multiple Bowl Machines, Paver Operator-Asphalt (spreader), Pile Driver (Sonic or Similar type); Pipe Bending, Post Driver-Guardrail (truck mounted or skid type), Pump crete-Mobile or similar type, Pumpcrete or similar type (not self propelled), Pumpcrete machine operator (stationary) Scoop (single bowl) (Self powered & tractor drawn), Shovels (all types), Slip form paver (CMI or similar), Spreader-concrete, asphalt and stone, Tire repairman (when assigned to job), Tower mobile (hoisting or lowering material), Tractors-boom mounted (all types with hydraulic backhoe attached), Trencher Tug Boat, Vermeer Saw, Welder (repairman), Whirley

GROUP 2 - Cranes (hydraulic truck cranes with jib); Cranes-rough terrain & similar 50 ton and under with jib; Cranes (boom or mast 100ft. or over up to and including 150ft.) (Truck, Crawler or Pedestal type); Cranes Mobile (any type 15 ton or over placed on any building structures); Hoist Hod (2 cages over 10 floors); Hoist-single cage with Chicago boom attached; engineer-Lead or Assistant.

GROUP 3 - Cranes (Boom or mast over 150 feet up to and including 200 feet) (Truck, Crawler or Pedestal type),

Engineer - Lead or assistant
GROUP 4 - Cranes (Boom or mast over 200 feet) (Truck, Crawler or Pedestal type)
GROUP 5 - Ballast Regulator, Boat - material or personnel carrying machine, Broom power (except push type), Compressor - single or with any one (1) of the following: Air Tugger - Air Pump - Gunite Machine - Sand Blasting Machine, Concrete belt placer, Conveyor 1 to 4 units (regardless of power used), Conveyor more than 4 units (when set up moved or operated), Crane (carry), Crushing and Screening Plants, Curb builder (self propelled), Forklifts (ridden or self propelled), Form Line Machine, Generator (over 5kw), Grout Pump, Heaters - up to and including 6, Hoist (monorail) (regardless of power used), Hoist drum (regardless of power used), Hoist - one drum (4 floors or more), Hoist roof (regardless of power used), Huck machine or similar type Jack motor hydraulic (single type), Mixer concrete (regardless of power used), Mixer mortar (over 10 cu.ft.), Mulching machine, Pavement Breaker (self-propelled or ridden), Pin Puller (powered), Pipe cleaning machine, Pipe dream, Plant (private or industrial air or steam valve), Pulverizer, Pump (regardless of power used), Roller Refrigeration plant, Ross carrier (or similar type), Saw (concrete), Seeding machine, Soil stabilizer (pump type), Spray cure machine (power driven), Spreader side delivery shoulder (attachment), Steam Jenny (or similar type), Stone crusher, Stone spreader (self-propelled), Syphon (steam or air), Tie tamper (multiple heads), Tractor (farm when used for landscaping), Tractors (when used for snaking and hauling), Truck (winch) (when hoisting and placing), Tub finisher (CMI or similar type), Tugger, Water blaster, Well point systems, Compressors (3 within a reasonable distance), Generators Electric (3 - over 5kw up to 20kw), Heater (up to and including 6), Mortar machine over 10 cu. ft. and single unit conveyor, Pumps (1 1/2" discharge or less) (within reasonable distance), Welding machine (300 Amp and over) (other than electrically driven) (1 to 6 units), Welding machines (under 300 Amp) (2 to 6 within reasonable distance) (other than electrically driven)
GROUP 6 - Brakeman, Deck hand, Helicopter signalman (if needed and not in conflict with other trades), Oiler, Compressor - (single 125 CFM and under), Elevator - (Alterations & Remodeling all buildings
GROUP 7 - Crane truck oiler and fireman
GROUP 8 - Oiler - truck crane 50 ton and up not including 100 ton
GROUP 9 - Oiler - truck crane 100 ton and over

IRON0003-002 06/01/2003
ALLEGHENY, BEAVER, BUTLER, FAYETTE, WASHINGTON, AND WESTMORELAND COUNTIES

	Rates	Fringes
Ironworker	$ 27.82	12.81
Rodman	$ 27.82	12.81

IRON0549-002 07/01/2003

GREENE COUNTY

	Rates	Fringes
Ironworker	$ 25.82	12.64

LABO0613-002 12/01/2002

	Rates	Fringes
Laborers:		
GROUP 1	$ 18.12	6.29
GROUP 2	$ 18.27	6.29
GROUP 3	$ 18.40	6.29
GROUP 4	$ 18.87	6.29

LABORERS CLASSIFICATIONS

GROUP 1: COMMON LABORER - Building laborer; Brick removal for alterations; Carryable pumps; West brick buggy or similar; Walk behind forklift or similar (non self-propelled); Stripper and mover of forms; Toolroom man; all material conveyors (regardless of power used, including starting and stopping); Pouring of mortar or aggregate into blocks of voids

GROUP 2: SKILLED LABORER - West brick buggy or similar (self propelled); Power wheelbarrows and buggies; walk behind forklift or similar (self-propelled); Drill runner; All operators of compacting equipment; Pipe layer; Burner; Jackhammer man - concrete buster; Vibrator operator; Clay spade and/or similar; Gunnite nozzleman; Blaster; Concrete saw operator; Hod carrier; Scaffold builder; Air track operator; Bell and Bottom Man on furnace and stacks; Grout machine feeder and pump operator; Gunnite machine operator or similar; Gunnite machine potman or similar; Mortar Mixer; Mortar mixer machine (regardless of power used, including starting and stopping); Wagon drill operator; Laser cleaner; Lancer

GROUP 3: Asbestos removal or abatement laborer

GROUP 4: Toxic or Hazardous waste handling laborer

LABO0952-004 07/01/2002

	Rates	Fringes
Landscaping		
GROUP 1	$ 16.13	5.62
GROUP 2	$ 16.55	5.62
GROUP 3	$ 16.85	5.62

LANDSCAPING CLASSIFICATIONS

GROUP 1: Landscape laborer to include general landscaping work and the driving of trucks for the distribution of materials on the job site but not to include trucks used to transport supplies to the job

GROUP 2: Skilled Landscape Laborer to plant all types of trees and shrubs without direct supervision.

GROUP 3 - Landscape tractor operator to operate small industrial rubber tire tractor equipped with front end loader and backhoe attachment or a skid loader with landscape attachments used for the sole purpose of landscape work including soil spreading, unloading and loading of materials and such other landscaping work but not for heavy and highway construction work

---

PAIN0057-003 06/01/2003

ALLEGHENY, FAYETTE, GREENE AND WASHINGTON COUNTIES

	Rates	Fringes
Painter		
Brush	$ 20.88	9.78

PAIN0057-004 06/01/2003
BEAVER, BUTLER, AND WESTMORELAND COUNTIES

	Rates	Fringes
Painters:		
Brush	$ 20.53	10.13
Spray	$ 23.23	10.13

PAIN0057-005 06/01/2003

	Rates	Fringes
Drywall Finisher	$ 20.34	11.08

PAIN0751-001 09/01/2003

	Rates	Fringes
Glazier	$ 23.95	14.40

PLAS0031-014 12/01/2002
ALLEGHENY, BEAVER, BUTLER, FAYETTE, GREENE, WASHINGTON, AND WESTMORELAND COUNTIES

	Rates	Fringes
Plasterer	$ 21.36	8.95

* PLAS0526-007 06/01/2004

	Rates	Fringes
Cement Mason	$ 21.88	9.53

PLUM0027-002 06/01/2003
ALLEGHENY, GREENE (except extreme Eastern portion), AND WASHINGTON (Area West of a North-South line drawn from East of McMurray to West of Fredericktown) COUNTIES

	Rates	Fringes
Plumber	$ 28.75	11.16

* PLUM0047-001 05/01/2004
BEAVER AND BUTLER COUNTIES

	Rates	Fringes
Plumber and Steamfitter	$ 26.87	11.91

* PLUM0354-001 06/01/2004
FAYETTE, GREENE, WASHINGTON (Area East of a North-South line drawn from East of McMurray to West of Fredericktown) AND WESTMORELAND COUNTIES

	Rates	Fringes
Plumber/Pipefitter	$ 24.22	13.45

PLUM0449-001 01/01/2004
ALLEGHENY AND WASHINGTON COUNTIES (Area West of a North-South line drawn from East of McMurray to West of Fredericktown)

	Rates	Fringes
Pipefitter	$ 26.93	12.98

ROOF0037-001 06/01/2003

	Rates	Fringes
Roofer	$ 22.34	8.05

SFPA0542-001 01/01/2004
ALLEGHENY COUNTY

	Rates	Fringes
Sprinkler Fitter	$ 27.96	11.35

---

* SFPA0669-002 04/01/2004
BEAVER, BUTLER, FAYETTE, GREENE, WASHINGTON, AND WESTMORELAND COUNTIES

	Rates	Fringes
Sprinkler Fitter	$ 26.40	12.70

SHEE0012-002 07/01/2003

	Rates	Fringes
Sheet metal worker	$ 27.46	12.94

TEAM0040-002 01/01/2004

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 20.85	37%+.05+A+B
GROUP 2	$ 21.00	37%+.05+A+B
GROUP 3	$ 21.56	37%+.05+A+B

FOOTNOTES:
A. Hazardous/toxic waste material/work level A & B receive additional $2.50 per hour above classification rate
B. Hazardous/toxic waste materials/Work level C & D receive $1.00 per hour above classification

TRUCK DRIVERS CLASSIFICATIONS
GROUP 1 - Single Axle (2 axles including steering axle); Includes partsman and warehoueman
GROUP 2 - Tandem - Tri-Axle - Semi-Tractor Trailer (combination) (3 axles or more including steering axle)
GROUP 3 - Specialty Vehicles; Heavy equipment whose capacity exceeds that for which state licenses are issued specifically refers to units in excess of eight (8) feet width (such as Euclids, Atley Wagon, Payloder, Tournawagons, and similar equipment when not self loaded); Tar and Asphalt Distributors Trucks, Heavy Duty Trailer, such as Low Boy, High Boy

---

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

==========

END OF GENERAL DECISION

This page was intentionally left blank for duplex printing.

General Decision Number: PA030004 06/18/2004

General Decision Number: PA030004 06/18/2004

Superseded General Decision Number: PA020004

State: Pennsylvania

Construction Types: Heavy and Highway

Counties: Allegheny, Armstrong, Beaver, Bedford, Blair, Butler, Cambria, Cameron, Centre, Clarion, Clearfield, Clinton, Crawford, Elk, Erie, Fayette, Forest, Franklin, Fulton, Greene, Huntingdon, Indiana, Jefferson, Lawrence, McKean, Mercer, Mifflin, Potter, Somerset, Venango, Warren, Washington and Westmoreland Counties in Pennsylvania.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS (excluding sewer grouting projects and excluding sewage and water treatment plant projects)

Modification Number	Publication Date
0	06/13/2003
1	11/21/2003
2	11/28/2003
3	12/05/2003
4	12/12/2003
5	12/19/2003
6	01/16/2004
7	01/23/2004
8	02/20/2004
9	03/05/2004
10	04/16/2004
11	04/30/2004
12	05/14/2004
13	06/18/2004

BOIL0013-005 08/30/2003
CENTRE, FRANKLIN, POTTER, CLINTON, FULTON, HUNTINDON AND MIFFLIN COUNTIES

	Rates	Fringes
Boilermaker	$ 33.38	15.69

---

* BOIL0154-004 06/01/2004
ALLEGHENY, ARMSTRONG, BEAVER, BEDFORD, BLAIR, BUTLER, CAMBRIA, CAMERON, CLARION, CLEARFIELD, CRAWFORD, ELK, FAYETTE, FOREST, GREENE, INDIANA, JEFFERSON, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON AND WESTMORELAND COUNTIES

	Rates	Fringes
Boilermaker	$ 30.27	15.44

BOIL0744-003 01/01/2004

ERIE COUNTY

	Rates	Fringes
Boilermaker	$ 29.14	16.17

BRPA0009-023 12/01/2003
BEAVER COUNTY

	Rates	Fringes
Bricklayer	$ 23.03	10.12

BRPA0009-024 12/01/2003
WASHINGTON (Cross Creek, Hanover, Jefferson, Mt Pleasant, Nottingham, Peters, Robinson, Smith, Union Twps) COUNTY

	Rates	Fringes
Bricklayer	$ 25.40	9.72

BRPA0009-025 12/01/2003
BUTLER, LAWRENCE, AND MERCER COUNTIES

	Rates	Fringes
Bricklayer	$ 23.03	10.10

BRPA0009-032 12/01/2003
FAYETTE (Jefferson & Washington Twps), GREENE (Except Cumberland, Dunkirk, Greene, Monongahelia Twps), INDIANA, AND WESTMORELAND (Rostraver Twp) COUNTIES

	Rates	Fringes
Bricklayer	$ 24.27	9.77

BRPA0009-033 12/01/2003
ARMSTRONG, CLARION (Brady, Madison, Perry, Tobe, Porter, Redbank Twps), FAYETTE (Except Jefferson & Washington Twps), GREENE (Cumberland, Dunkirk, Greene, Monongahelia Twps), INDIANA, AND WESTMORELAND (Except Rostrave Twp) COUNTIES

	Rates	Fringes
Bricklayer	$ 24.27	9.77

BRPA0009-034 11/01/2003
ERIE COUNTY

	Rates	Fringes
Bricklayer	$ 22.35	10.04

CARP2235-005 01/01/2004

	Rates	Fringes
Piledriverman		
Piledriverman (Welder)	$ 25.46	9.04
Piledriverman	$ 25.22	8.98

CARP2235-006 01/01/2004

	Rates	Fringes
Diver	$ 37.83	8.98
Tender	$ 25.22	8.98

CARP2274-001 01/01/2004

	Rates	Fringes
Carpenter (ALLEGHENY, ARMSTRONG, BEAVER, BUTLER, ERIE, FAYETTE, GREENE, LAWRENCE, MERCER, WASHINGTON,		

AND WESTMORELAND COUNTIES)

Carpenters (Welders)	$ 24.86	8.88
Carpenters	$ 24.34	8.70

Carpenter (BEDFORD, BLAIR, CAMBRIA, CAMERON, CENTRE, CLARION, CLINTON, CLEARFIELD, CRAWFORD, ELK, FOREST, FRANKLIN, FULTON, HUNTINGDON, INDIANA, JEFFERSON, MCKEAN, MIFFLIN, POTTER, SOMERSET, VENANGO, AND WARREN COUNTIES)

Carpenters (Welders)	$ 24.68	8.82
Carpenters	$ 24.16	8.63

ELEC0005-006 12/26/2003

ALLEGHENY, ARMSTRONG, BEDFORD, BLAIR, CAMBRIA, CAMERON, CENTRE (Remainder), CLARION, CLEARFIELD, ELK, FAYETTE, FULTON, GREENE, HUNTINGDON, INDIANA, JEFFERSON, MCKEAN, SOMERSET, WASHINGTON AND WESTMORELAND COUNTIES

	Rates	Fringes
Electrician	$ 28.56	12.94

ELEC0005-010 12/26/2003

BUTLER AND VENANGO COUNTIES

	Rates	Fringes
Electrician	$ 28.56	12.94

---

* ELEC0056-004 06/01/2004

ERIE, FOREST AND WARREN COUNTIES

	Rates	Fringes
Electrician	$ 23.65	12.82

---

* ELEC0126-005 05/30/2004

ALLEGHENY, ARMSTRONG, BEAVER, BEDFORD, BLAIR, CAMBRIA, CENTRE, CLARION, CLEARFIELD, FAYETTE, FULTON, GREENE, HUNTINGDON, INDIANA, JEFFERSON, SOMERSET, WASHINGTON AND WESTMORELAND

	Rates	Fringes
Line Construction:		
Lineman	$ 38.33	11.64

ELEC0126-007 06/01/2003

FRANKLIN AND MIFFLIN COUNTIES

	Rates	Fringes
Line Construction:		
Groundman	$ 16.66	8.79
Lineman	$ 27.77	8.79
Truck Drivers	$ 18.05	8.79
Winch Truck Operator	$ 19.44	8.79

ELEC0143-007 06/01/2003

FRANKLIN & MIFFLIN COUNTIES

	Rates	Fringes
Electrician	$ 24.01	9.90+1/2%

ELEC0712-003 12/29/2003

CRAWFORD, BEAVER, LAWRENCE AND MERCER COUNTIES

	Rates	Fringes
Electrician	$ 23.70	18.34

ELEC0812-008 12/01/2002
CLINTON COUNTY

	Rates	Fringes
Electrician	$ 22.38	10.11

ELEC0812-009 12/01/2002
POTTER COUNTY

	Rates	Fringes
Electrician	$ 23.40	10.14

ELEC0812-011 12/01/2002
CENTRE COUNTY (Burnside, Curtin, Liberty, Howard, Marion, Walker, Miles, Haines Townships)

	Rates	Fringes
Electrician	$ 23.40	10.14

ELEC1319-004 01/02/2000
BUTLER, CAMERON, CLINTON, CRAWFORD, ELK, ERIE, FOREST, LAWRENCE, MCKEAN, MERCER, VENANGO, WARREN AND POTTER COUNTIES

	Rates	Fringes
Line Construction:		
Groundman	$ 15.55	6%+4.35
Lineman, Dynamite Man, Heavy Equipment Operator	$ 24.74	6%+4.35
Truck Drivers	$ 17.29	6%+4.35
Winch Truck Operators	$ 17.54	6%+4.35

ENGI0066-016 01/01/2004

	Rates	Fringes
Power equipment operators: (ALLEGHENY, ARMSTRONG, BEAVER, BLAIR, BUTLER, CAMBRIA, CENTRE, CLARION, CLEARFIELD, CRAWFORD, ERIE, ELK, FAYETTE, GREENE, INDIANA, JEFFERSON, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON, AND WESTMORELAND COUNTIES)		
GROUP 1	$ 23.38	10.79
GROUP 2	$ 23.12	10.79
GROUP 3	$ 19.47	10.79
GROUP 4	$ 19.01	10.79
GROUP 5	$ 18.76	10.79
Power equipment operators: (BEDFORD, CAMERON, CLINTON, FOREST, FRANKLIN, FULTON, HUNTINGDON, MIFFLIN, AND POTTER COUNTIES)		
GROUP 1	$ 23.09	10.79
GROUP 2	$ 22.81	10.79
GROUP 3	$ 19.17	10.79
GROUP 4	$ 18.68	10.79
GROUP 5	$ 18.47	10.79

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1 - Asphalt Paving Machine (Spreader), Autograde (C.M.I. and similar); Backfiller, Backhoe - 360 degree Swing; Cableway; Caisson Drill (similar to Hugh Williams), Central Mix Plant; Cooling Plant; Concrete Paving Mixer, Concrete Pump (self- propelled); Cranes; Cranes (boom or mast over 101ft.$.25 per each additional 50 feet inclusive of jib), Cranes (Tower Stationary- Climbing Tower Crane); Derrick; Derrick Boat; Dozer (d-6 & over); Dragline; Dredge; Dredge Hydraulic; Elevating Grader; Franki Pile Machine; Gradall (remote control or otherwise),),Grader (power-fine grade); Helicopter; (1500 lb. or over lift),Helicopter (under 1500 lb. lift), Hllift (4 cy. and over); Hoist 2 Drums or more (in one unit); Hydraulic Boom Truck with pivotal cab (single motor-Pitman or similar); Kocal; Lead Mechanic, Locomotive (std. Gauge); Metro-chip Harvester or similar; Milling Machine (Roto Mill or similar); Mix Mobile; Mix Mobile (with Self Loading Attachment), Mucking Machine (tunnel); Pile Driver Machine; Pipe Extrusion Machine; Prespliter Drill (self contained); Refrigeration Plant (soil Stablization) Rough Terrain Crane (25 ton over),Rough Terrain Crane (under 25 ton), Scrapers; Shovel-Power; Slip form Paver (C.M.I. and similar); Trenching Machine (30,000 lb. and over), Trenching Machine (under 30,000 lb.), Tunnell Machine (Mark XXI Jarva or similar), Vermeer Saw, Whirley

GROUP 2: Asphalt plant operator; auger (tractor mtd.); auger (truck mtd.); Backhoe (rear pivotal swing) (180 swing); belt loader (euclid or similar); boring machine; cable placer or layer; compactor with blade, concrete batch plant (electronically synchronized); concrete belt placer (C.M.I. and similar); concrete finishing machine and spreader, concrete mixer (over 1 cy.) concrete pump (stationary); core drill (truck or skid mtd. - similar to penn drill), dozer (under D-6); Ditch Witch Saw, force feedloader; fork lift (lull or similar); grader - power; grease unit opertor (head); guard rail post driver (truck mounted) guard rail post driver (skid type); hilift (under 4 cy.) hydraulic boom truck (non-pivotal cab); job work boat (powered), jumbo operator; locomotive (narrow guage); mechanic minor equipment operator (accumulative four units); mucking machine; multi-head saw (groover); overhead crane; roller -power- asphalt; ross carrier; side boom or tractor mounted boom; shuttle buggy (asphalt), stone crusher (screening-washing plants); stone spreader (self propelled) truck mounted drill (davey or similar); welder and repairman; well point pump operator.

GROUP 3: Broom Finisher (C.M.I. or similar); Compactors/Rollers (static or vibratory (Self-propelled); Curb Builder; Minor Equipment Opertor (two or three units); Multi-head Tie Tamper; Pavement Breaker (self-propelled or ridden); Soil Stablizer Machine; Tire Repairman; Tractor (snaking and hauling); Well Driller and Horizontal: Winch or "A" Frame Truck (when hoisting and lowering).

GROUP 4: Ballast Regulator; Compressor; Concrete Mixer (1 cy. & under with skip); Concrete Saw (Ridden or selp-propelled); Conveyor; Elevator (Material hauling

only); Fork-lift (Ridden or self-propelled); Form Line Machine; Generator; Groute Pump; Heater (Machinical); Hoist (single Drum); Ladavator, Light Plant; Mulching Machine; Personnel Boat (Powered), Pulverizer, Pumps, Seeding Machine, spray Cure Machine (powered Driven); Subgrader; Tie Puller; Tugger; Welding Machine (gas or Diesel).
GROUP 5: Deck Hand; Farm Tractor; Fireman on Boiler; Mechanic's Tender, Oiler; Power Broom; Side Delivery Shoulder Spreader (attachment).

IRON0003-001 06/01/2003
ALLEGHENY, FAYETTE, WESTMORELAND, CAMBRIA, INDIANA, ARMSTRONG, BUTLER, BEAVER, CLARION, AND WASHINGTON COUNTIES

	Rates	Fringes
Ironworker	$ 27.82	12.81
Rodman (Heavy Only)	$ 21.29	9.06

IRON0207-002 06/01/2003
LAWRENCE, MERCER, AND VENANGO COUNTIES

	Rates	Fringes
Ironworker	$ 24.40	12.90

IRON0348-002 08/01/2003
CRAWFORD, ERIE, FOREST, AND WARREN COUNTIES

	Rates	Fringes
Ironworker	$ 22.17	13.35

IRON0404-008 01/01/2004
FRANKLIN (Remainder), HUNTINGDON (Remainder), AND MIFFLIN COUNTIES

	Rates	Fringes
Ironworker, Reinforcing	$ 21.17	12.95
Ironworker, Structural	$ 24.17	12.95

IRON0549-002 07/01/2003
GREENE COUNTY

	Rates	Fringes
Ironworker	$ 25.82	12.64

IRON0568-004 05/01/2003
BEDFORD, FRANKLIN (Southwest 1/3), FULTON, HUNTINGDON (Western 2/3), AND SOMERSET COUNTIES

	Rates	Fringes
Ironworkers:		
Sheeter, Bucker-Up	$ 24.51	7.97
Structural, Ornamental, Reinforcing, Machinery Mover, Rigger & Machinery Erector, Welder, Fence Erector	$ 24.26	7.97

IRON0772-001 10/01/2003
BLAIR, CAMERON, CENTRE, CLEARFIELD, CLINTON, ELK, JEFFERSON, MCKEAN AND POTTER COUNTIES

	Rates	Fringes
Ironworker	$ 23.77	13.43

LABO1058-001 01/01/2004

	Rates	Fringes
Laborer (BEDFORD, CAMERON, CENTRE, CLINTON, CRAWFORD, FOREST, FRANKLIN, FULTON, HUNTINGDON, JEFFERSON, MIFFLIN, AND POTTER COUNTIES)		
GROUP 1	$ 20.90	8.30
GROUP 2	$ 21.06	8.30
GROUP 3	$ 21.55	8.30
GROUP 4	$ 22.00	8.30
GROUP 5	$ 22.41	8.30
GROUP 6	$ 17.45	8.30
GROUP 7	$ 21.90	8.30
GROUP 8	$ 23.40	8.30
Laborers: (ALLEGHENY, ARMSTRONG, BEAVER, BLAIR, BUTLER, CAMBRIA, CLARION, CLEARFIELD, ELK, ERIE, FAYETTE, GREENE, INDIANA, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON, AND WESTMORELAND COUNTIES)		
GROUP 1	$ 21.00	8.30
GROUP 2	$ 21.16	8.30
GROUP 3	$ 21.55	8.30
GROUP 4	$ 22.00	8.30
GROUP 5	$ 22.41	8.30
GROUP 6	$ 17.45	8.30
GROUP 7	$ 22.00	8.30
GROUP 8	$ 23.50	8.30

LABORERS CLASSIFICATIONS

GROUP 1: Asphalt curb sealer; Asphalt tamper; Batcherman (weigh) Blaster,Boatman, Brakeman, Change house attendant, Coffer dam, Concrete curing pitman, Puddler, Drill Runner's helper (Includes Drill Mounted on Truck, Track, or similar and Davey Drill Spots, Clean up, helps to maintain), Electric Brush and or Grinder, Fence Construction (Including Fence Machine Operator) Form stripper and Mover, Gabion (Erectors and Placers) Hydro jet blaster nozzleman; Landscape laborer, Manually moved emulsion sprayer, Radio actuated traffic control operator Rip rap work, scaffolds and Runways, Sheeters and Shorers (includes lagging) structural concrete Top Surfacer, Walk Behind Street Sweeper, and Wood Chipper

GROUP 2: Air tool operator (all types); Asphalt, batch & concrete plant operator (manually operated) Burner, Caisson ; men (open air); Carryable pumps; Chain saw operator including attachments, Cribbing, (concrete or steel); Curb machine operator (asphalt or concrete walk behind); Diamond head Core Drller, Drill runner's helper (tunnel) Fork Lift, (walk behind), Form Setter (Road Forms Line man) Highway Slab reinforcement placers (including joint and Basket Setters) Hydraulic pipe pusher; Liner plates (Tile or Vitrified Clay) Mechanical compacting equipment operators,

Mechanical joint sealer, Dope pot and Tar Kettle, Mortar mixer (hand or machine) Muckers, Brakemen & all other Labor,(Includes installation of utility lines) Pipe Layers /Fusion /Heating Iron (Regardless of materials) Portable Single Unit Conveyor, Post Hole Auger, (2 or 4 cycle hand operated) Power wheelbarrows and buggies, Rail porter or similar; Sand blaster;Signal Man,Vibrator operator, Crown Screed Adjuster, All RAILROAD TRACK WORK TO INCLUDE THE FOLLOWING: adzing machine, ballast Router,Bolting Machine, Power Jacks, Rail Drills, Railroad Brakeman,Rail Saws, Spike Drivers (Manually or hand held tool) Spike Pullers Tamping Machine, Thermitweld

GROUP 3: Asphalt Luteman/Raker,Blacksmith, Blaster, Brick, stone and block pavers and block cutters (wood, belgian and asphalt); Cement mortar lining car pusher; Cement mortar mixer (pipe relining); Cement mortar pipe reliners; concrete saw operator (walk behind); Curb cutters and setters; Elevated roadway drainage construction; erector of overhead signs, Form setter (road forms-lead man); Grout machine operator; Gunite or dry pack gun (nozzle and machine man); Manhole or catch basin builder (Brick block concrete or any prefabrication) Miners and drillers (including lining, supporting and form workmen, setting of shields, miscellaneous equipment and jumbos); Multi-plate pipe (aligning and securing); Placing wire mesh on gunite projects; Wagon drill operators (air track or similar); Walk behind ditching machine (trencher or similar) GROUP 4: Reinforcing Steel Placer (Bending, aligning, and securing, Cadweld)

GROUP 5: High Burner,(Any burning not done from deck) Welder (Pipeline)

GROUP 6: Flagperson.

GROUP 7: Toxic/Hazardous Waste Removal Laborer Levels C and D

GROUP 8: Toxic/Hazardous Waste Removal Laborer Levels A and B

PAIN0021-019 05/01/2003
CLINTON COUNTY

	Rates	Fringes
Painters:		
Bridge	$ 22.30	9.00
Brush & Roller	$ 21.35	9.00
Spray	$ 22.35	9.00

PAIN0021-024 05/01/2003
FRANKLIN COUNTY

	Rates	Fringes
Painter		
Brush	$ 21.00	5.95

PAIN0057-014 06/01/2003
ALLEGHENY, FAYETTE, GREEN, WASHINGTON COUNTIES

	Rates	Fringes
Painters:		
Brush & Roller	$ 23.08	9.78
Spray	$ 23.58	9.78

PAIN0057-015 06/01/2003
ARMSTRONG, BEAVER, BEDFORD, BLAIR, BUTLER,CAMBRIA, CENTRE,
CLARION, CLEARFIELD, ELK, FULTON, HUNTINGTON, INDIANA,
JEFFERSON, LAWRENCE, MERCER, MIFFLIN, SOMERSET, VENANGO AND
WESTMORELAND COUNTIES

	Rates	Fringes
Painters:		
Brush and Roller	$ 22.73	10.13
Spray	$ 23.23	10.13

PAIN0057-022 06/01/2003

	Rates	Fringes
Painters:		
Bridges,Stacks,Towers	$ 18.01	9.08
Brush and Roller	$ 17.31	9.28
Spray and Sandblasting	$ 18.01	9.28
ERIE COUNTY		

PLAS0526-002 01/01/2004

	Rates	Fringes
Cement Mason	$ 23.25	9.79

PLUM0027-001 06/01/2003
ALLEGHENY, ARMSTRONG, GREENE (Except extreme Eastern portion)
AND WASHINGTON (Except extreme Eastern portion) COUNTIES

	Rates	Fringes
Plumbers and Pipefitters (Bridge Drain Pipe)	$ 28.75	11.16

---

* PLUM0047-005 05/01/2004
BEAVER, BUTLER, MCKEAN, MERCER, VENANGO, CLARION, LAWRENCE,
FOREST, WARREN, CRAWFORD, AND ERIE COUNTIES

	Rates	Fringes
Plumbers and Pipefitters (Bridge Drain Pipe)	$ 26.87	11.91

---

* PLUM0354-005 06/01/2004
BEDFORD, BLAIR, CAMBRIA, CAMERON, CLEARFIELD, ELK, FAYETTE,
GREENE (Extreme Eastern portion), HUNTINGDON, INDIANA,
JEFFERSON, SOMERSE, WASHINGTON (Extreme Eastern portion), AND
WESTMORELAND COUNTIES

	Rates	Fringes
Plumbers and Pipefitters (Bridge Drain Pipe)	$ 24.22	13.45

PLUM0520-007 05/01/2003
CENTRE, CLINTON, FRANKLIN, FULTON, MIFFLIN, AND POTTER COUNTIES

	Rates	Fringes
Plumbers and Pipefitters (Bridge Drain Pipe)	$ 25.31	11.89

TEAM0040-001 01/01/2004

	Rates	Fringes
Truck Driver (ALLEGHENY, ARMSTRONG, BEAVER, BLAIR, BUTLER, CAMBRIA, CENTRE, CLARFIELD, CRAWFORD, ERIE,		

FAYETTE, GREENE, INDIANA,
JEFFERSON, LAWRENCE, MCKEAN,
MERCER, SOMERSET, VENANGO,
WARREN, WASHINGTON, AND
WESTMORELAND)

GROUP 1	$ 20.85	37%+.05+A+B
GROUP 2	$ 21.00	37%+.05+A+B
GROUP 3	$ 21.56	37%+.05+A+B

Truck drivers: (BEDFORD,
CAMERON, CLAIRON, CLINTON,
ELK, FOREST, FRANKLIN,
FULTON, HUNTINGDON, MIFFLIN,
AND POTTER COUNTIES)

GROUP 1	$ 20.66	37%+.05+A+B
GROUP 2	$ 20.85	37%+.05+A+B
GROUP 3	$ 21.39	37%+.05+A+B

FOOTNOTES: A. Hazardous/toxic waste material/work level A & B receive additional $2.50 per hour above classification rate

B. Hazardous/toxic waste materials/Work level C & D receive $1.00 per hour above classification

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 - Single Axle (2 axles including steering axle); Includes partsman and warehoueman

GROUP 2 - Tandem - Tri-Axle - Semi-Tractor Trailer (combination) (3 axles or more including steering axle)

GROUP 3 - Specialty Vehicles; Heavy equipment whose capacity exceeds that for which state licenses are issued specifically refers to units in excess of eight (8) feet width (such as Euclids, Atley Wagon, Payloder, Tournawagons, and similar equipment when not self loaded); Tar and Asphalt Distributors Trucks, Heavy Duty Trailer, such as Low Boy, High Boy

---

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests

for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

==========

END OF GENERAL DECISION

This page was intentionally left blank for duplex printing.

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01270

MEASUREMENT AND PAYMENT

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the PRICE SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.1.1 Miscellaneous, Site and Administrative

Lump Sum price items in the PRICE SCHEDULE include:

0002 MOBILIZATION AND DEMOBILIZATION

a. Payment will be made for costs associated with mobilization and demobilization, as defined in Special Clause PAYMENT FOR MOBILIZATION AND DEMOBILIZATION.

b. Unit of measure: Lump Sum (LS).

0004 CONSTRUCTION PROJECT SCHEDULE

c. Payment for this item shall constitute full compensation for preparation and periodic update of a comprehensive project construction schedule as specified in Section 01320 PROJECT SCHEDULE. Payment shall also include all costs for the initial schedule; report preparations; monthly updates; and all other incidental costs to prepare, monitor and update the construction project schedule as specified.

d. Unit of measure: Lump Sum (LS).

1.1.2 Government Facilities

Lump Sum price items in the PRICE SCHEDULE include:

0005 RELOCATE GOVERNMENT TRAILER

0006 FURNISH AND SET UP GOVERNMENT CONSTRUCTION OFFICE

0007 CONCRETE TESTING LAB

a. Payment for these items shall constitute full compensation for all labor, equipment, material and supply costs for performing the work as

shown on the contract drawings and specified in Section 01526 GOVERNMENT FACILITIES. Payment will not be made until the item of work has been satisfactorily completed and accepted, including furnishing and installing equipment as applicable. No separate payment will be made for temporary removal of the chain link fence for installation of the Government office.

b. "CONCRETE TESTING LAB" will include the costs of constructing both the concrete laboratory and curing room buildings.

c. Unit of measure: Lump Sum (LS).

1.1.3 Temporary Construction Facilities

Lump Sum price items in the PRICE SCHEDULE include:

0009 TEMPORARY CONSTRUCTION FACILITIES

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs for completing this item of work as specified in Section 01525 TEMPORARY CONSTRUCTION FACILITIES.

b. Unit of measure: Lump Sum (LS).

1.1.4 Field Demonstrations

Lump Sum price item in the PRICE SCHEDULE include:

0033 FIELD DEMONSTRATIONS

a. Payment for this item shall constitute full compensation for demonstrations of various concrete placements as specified in Section 03015 CONCRETE: FIELD DEMONSTRATIONS, including demonstration drilled shafts, and demonstration river wall tremie foundation placement, and shall include costs of all component materials and construction and testing requirements.. No additional payment will be made for correcting any part of or replacing any deficient items, and payment will only be made after completion of successful demonstrations which are found to be acceptable by the Government.

b. Unit of measure: Lump Sum (LS).

1.1.5 Access Tubes, Crosshole Sonic Logging

Lump Sum price item in the PRICE SCHEDULE include:

0041 ACCESS TUBES, CROSSHOLE SONIC LOGGING, FOUNDATION DRILLED SHAFTS

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to furnish and install access tubes for Crosshole Sonic Testing as shown and as specified in SECTION 03820 CONCRETE: DRILLED SHAFTS, and shall also include all costs of removal of excess tubes and backfilling the holes with concrete as required.

b. Unit of measure: Lump Sum (LS).

1.1.6 Dewatering

Lump Sum price items in the PRICE SCHEDULE include:

0054 COFFERBOX DEWATERING

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs for the initial unwatering and continuous dewatering of the area, as shown on the contract drawings and specified in Section 02175 DEWATERING. Cofferbox dewatering shall include costs of dewatering all cofferboxes.

b. Payment for this item shall also include costs for all advanced planning and engineering; and all other incidental costs in connection with these aspects of the work under this contract.

c. Unit of measure: Lump Sum (LS).

1.1.7 Exploratory Pile Driving

Lump Sum price items in the PRICE SCHEDULE include:

0049 EXPLORATORY PILE DRIVING

a. Payment for these items shall constitute full compensation for all labor, equipment, material and supply costs for the required exploratory pile driving tests, as shown on the contract drawings and specified in Section 02013 EXPLORATORY PILE DRIVING. Payment will include completion of all test piles including furnishing test pile and test sheets. Payment shall also include all costs required for all advanced planning and engineering; report preparation; and all other incidental costs to complete the exploratory pile driving as shown and specified.

b. Unit of measure: Lump Sum (LS).

1.1.8 Cofferbox Piling

Lump sum price item listed in the PRICE SCHEDULE include:

0052 FURNISH, INSTALL AND REMOVE COFFERBOX PILING

a. Payment for this item shall constitute full compensation for all labor, equipment, materials and supplies for completing this item of work as shown and as specified. Payments shall include costs for furnishing z-piling, king piles, connectors and fabricated piles, and any special connectors; walers and pipe posts, internal and external struts; and connection to non-cofferbox walls (except that jet grout columns are paid for elsewhere); costs of guide templates; removal of obstructions; pile removal and redriving; cutoff and removal of cofferbox walls as shown; salvage costs for temporary items; and all other incidental costs in connection with this aspect of the work under this contract. Payment for this item shall also include costs for shop and field fabrications; testing of materials and products incorporated into the work; all advanced planning and engineering; and all other incidental costs in connection with this aspect of the work under this contract. The Contractor shall anticipate that 10% of the quantity of piles will hit obstructions, and that this cost shall be included in this item. The Contractor shall anticipate that the final tip elevations of the piling will be based on information gathered from surveys and field measurements and the results of the exploratory drilling and pile driving tests.

b. Unit of measure: Lump Sum (LS).

1.1.9 Stub Wall Modifications

Lump Sum price items in the PRICE SCHEDULE include:

0055 MODIFICATIONS TO EXISTING STUB WALL

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to complete this item of work, as shown and as specified, except that sediment removal shall be paid for separately . This item shall include all costs to modify the stub wall as shown, including filling the culvert and ports with tremie concrete and filling the gallery with standard flowable concrete, and all other modifications shown, and in accordance with Section 02260 STUB WALL MODIFICATIONS.

b. Unit of measure: Lump Sum (LS).

1.1.10 Precast Concrete Items

Lump Sum price items listed in the PRICE SCHEDULE include:

0059 PRECAST CONCRETE EMPTYING CULVERTS

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to fabricate, deliver and install the precast concrete items as shown on the contract drawings and specified, including, all reinforced precast concrete; steel bars and dowels integral with the items; all miscellaneous embedded items integrally cast directly into the items; and joint materials. Payment shall include the costs of furnishing and installing the structural support bracing systems required to erect the items, and for modifying the drilled shafts to support the bracing. These payments shall also include the costs of fabrication and installation of the tremie closure plates and tremie bulkheads, as well as the grout brackets and steel alignmnet frames for the precast concrete culverts. These payments shall also include all costs required for testing of materials and products incorporated into the work; temporary scaffolding and supports; all advanced planning and engineering; and all other incidental costs to complete these items of work.

b. Payment for the precast emptying culverts shall constitute full compensation for all labor, equipment, material and supply costs to fabricate, deliver and install these items, and shall include test on land prior to final installation.

c. Unit of measure: Lump Sum (LS).

1.1.11 Steel Fabrications

Lump Sum price items in the PRICE SCHEDULE include:

0056 ALTERNATING TREAD STAIRS

0057 MITER GATE GUDGEON EMBEDDED ANCHORAGES

0058 FLOATING MOORING BITT ANCHORAGES

0063 ACCESS HATCHES

0071 FABRICATION AND INSTALLATION COSTS FOR EMPTYING VALVES AND

EMPTYING BULKHEADS

a. Payment for these items shall constitute full compensation for all labor, equipment, material and supply costs to fabricate, deliver and install and test these items as shown on the contract drawings and specified, including, all metalwork fabrication, shop assembly, delivery and field erection. These payments shall also include all costs required for testing of materials and products incorporated into the work; required shop and field tests; painting; temporary scaffolds and supports; all advanced planning and engineering; and all other incidental costs to furnish and install the items, as shown on the contract drawings and specified.

b. Payment for the miter gate embedded anchorages shall include all costs of prestressing the anchors during installation between concrete lifts.

c. Materials costs for furnishing the emptying valves and emptying bulkheads will be paid for separately. Payment for emptying valves and bulkheads will also include full compensation for the fabrication, delivery, installation, and testing of the valves and bulkheads and appurtenant items including valves, bulkheads, lifting beam, frames and guides, bonnets, and valve shafts, and all other items associated with the valves and bulkheads, including fabrication and installation of the culvert liner system, including culvert and dewatering pump access pipes and ladders and shall also include the removal of the valves leaves after acceptance, and delivery and off-loading of the valves to the point of storage and designing and constructing a cribbing structure to support the valve leaves.

d. Unit of measure: Lump Sum (LS).

1.1.12 Signs

Lump Sum price items in the PRICE SCHEDULE include:

0088 SECURITY SIGNS, GOVERNMENT FURNISHED DISPOSAL SITE

a. Payment for signs shall constitute full compensation for all labor, equipment, material and supply costs to complete this item of work as shown and specified, including fabrication and installation.

b. Unit of measure: Lump Sum (LS).

1.1.13 Compressed Air and Service Water System

Lump Sum price items in the PRICE SCHEDULE include:

0072 COMPRESSED AIR AND SERVICE WATER LINES

a. Payment for the new compressed air and service water lines shall constitute full compensation for all labor, equipment, material and supply costs to furnish and install the lines as shown and as specified in Section 15480 PIPING SYSTEMS, and all other incidental costs in connection therewith.

b. Unit of measure: Lump Sum (LS).

1.1.14 Electrical Work

Lump Sum price items in the PRICE SCHEDULE include:

0073 ELECTRICAL WORK

a. Payment for electrical work shall include furnishing and installing the conduit, de-icing system and other electrical equipment as shown and as specified in Section 16415 ELECTRICAL WORK.

b. Unit of measure: Lump Sum (LS).

1.1.15 Government Furnished Disposal Site, Site Development

Lump Sum price items in the PRICE SCHEDULE include:

0076 OFF-LOADING DOCK IMPROVEMENTS, GOVERNMENT FURNISHED DISPOSAL SITE

0080 SEDIMENT BASIN NO. 1, GOVERNMENT FURNISHED DISPOSAL SITE

0081 CLEANING OF SEDIMENT BASIN NO. 1, GOVERNMENT FURNISHED DISPOSAL SITE

a. Payment for improving the existing off-loading dock shall constitute full compensation for all labor, equipment, material and supply costs to design and construct any needed improvements to the existing off-loading dock facility as shown on the drawings and as specified in Section 02145 CONSTRUCTION OF DISPOSAL SITE.

b. Payment for constructing the sediment basin No. 1 shall constitute full compensation for all labor, equipment, material and supply costs to construct and maintain the sediment basin, including excavation and filling, geotextile material, liner and liner sand, skimmer and riser system, reno mattress, 12" CMP outfall, and all other costs in connection with it's construction as shown and as specified.

c. Payment for sediment basin cleaning shall constitute full compensation for all labor, equipment, material and supply costs to clean the sediment basin as specified, including removal and disposal of the material, and any other costs in connection with this item of work.

d. Unit of measure: Lump Sum (LS).

1.1.16 Left Bank Batch Plant Area, Site Development

Lump Sum price items in the PRICE SCHEDULE include:

0097 SITE CLEANUP, CLEARING AND GRUBBING, LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to perform site cleanup activities and clearing and grubbing activities prior to beginning work at the site, except for those items of work which are paid for separately.

b. Unit of measure: Lump Sum (LS).

0098 CONCRETE FOUNDATION SLABS DEMOLITION AND PLACEMENT, AND EXISTING DEBRIS DISPOSAL, LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to demolish and remove the feature as indicated and specified to the extent shown, and to protect adjacent features to remain. Removal and disposal of debris from the left bank batch plant area shall also include demolition of existing concrete slabs and foundations and incorporating the resulting rubble into the general fill for the site as specified in Section 02040 DISPOSAL OF MATERIALS.

b. Unit of measure: Lump Sum (LS).

0101 ROCK FILTER OUTLETS AND ASSOCIATED 18-INCH HIGH FILTER FABRIC FENCE, LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to furnish and install the rock filter outlets and filter fabric fence as shown and specified.

b. Unit of measure: Lump Sum (LS).

0102 DIRT-BAG PUMPED SILT CONTROL SYSTEM, LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to develop, furnish, maintain and remove the dirt-bag pumped silt control system as shown and as specified.

b. Unit of measure: Lump Sum (LS).

0118 TURF REINFORCEMENT MAT, LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs in connection with completing this item of work as shown and specified, excluding the amount required for overlaps.

b. Unit of measure: Lump Sum (LS).

0119 SOIL-FILLED CELLULAR/GRID CONFINEMENT SYSTEM, LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to complete this item of work, including furnishing, placing and installing the cellular/grid confinement system as shown and as specified.

b. Unit of measure: Lump Sum (LS).

0127 MODIFICATIONS TO EXISTING GROUNDWATER MONITORING WELLS, CBP-1 AND CBP-2, LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to complete this item of work, including constructing the monitoring wells at the left bank batch plant area as shown and as specified.

b. Unit of measure: Lump Sum (LS).

0135 SEDIMENTATION BASINS NOS. 1 & 2, LEFT BANK BATCH PLANT AREA

a. Payment for these items shall constitute full compensation for all

labor, equipment, material and supply costs to construct and maintain the sedimentation basins as shown and specified.

b. Unit of measure: Lump Sum (LS).

0136 CLEANING OF SEDIMENT BASIN NO. 1, LEFT BANK BATCH PLANT AREA

0137 CLEANING OF SEDIMENT BASIN NO. 2, LEFT BANK BATCH PLANT AREA

a. Payment for these items shall constitute full compensation for all labor, equipment, material and supply costs to periodically clean the sedimentation basins and dispose of the accumulated sediment as shown and specified.

b. Unit of measure: Lump Sum (LS).

0138 PRECAST CONCRETE BLOCK WALL BETWEEN SEDIMENTATION BASIN NO. 1 AND NO. 2, LEFT BANK BATCH PLANT AREA

0139 OUTLET STRUCTURE FROM SEDIMENTATION BASIN NO. 2 TO pH TREATMENT SYSTEM, LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to furnish and install ~~the outlet structures~~these items as shown and as specified. Payment for the the outlet structure from sedimentation basin 2 shall also include the piping and valves from this tank.

b. Unit of measure: Lump Sum (LS).

0140 OIL/CONTAINMENT BOOM (60-FT LONG), LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to furnish an oil/containment boom as shown and specified.

b. Unit of measure: Lump Sum (LS).

0143 CONCRETE BATCH PLANT, LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to furnish, construct, outfit and maintain the concrete batch plant as shown and as specified, except for those items which are paid for separately.

b. Unit of measure: Lump Sum (LS).

0144 SHEET PILE BARRIER, LEFT BANK BATCH PLANT AREA

0145 BULKHEAD STRUCTURE INSTALLATION, LEFT BANK BATCH PLANT AREA

a. Payment for these items shall constitute full compensation for all labor, equipment, material and supply costs to design and install these items as shown and as specified in Section 01526 GOVERNMENT FACILITIES, and shall also include all costs for conducting any subsurface exploration, excavation or pre-excavation, and all other incidental costs to construct these items.

b. The costs for the bulkhead structure shall also include all costs to dredge the area as determined by the Contractor to be necessary for navigation between the Left Bank area and Charleroi Locks and Dam area.

c. Unit of measure: Lump Sum (LS).

0146 PH MONITORING AND CONTROL SYSTEM, LEFT BANK BATCH PLANT AREA

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to complete this item of work, including furnishing, installing, operating and maintaining a pH monitoring and control system; which shall include; disposal and replenishment of any consumable materials or chemicals; testing and analysis of influent and effluent as specified, and the reporting of test results.

b. Unit of measure: Lump Sum (LS).

1.1.17 Miscellaneous Metals

Unit price item listed in the PRICE SCHEDULE include:

0160 MISCELLANEOUS METALS

a. Payment for this item shall constitute full compensation for all costs necessary to complete this items of work, including fabricating, delivering, and installation, complete as shown on the contract drawings, including anchorage, welding, and painting, and all other costs associated with this items.

b. Miscellaneous metal includes all metalwork, regardless of material type, for which payment is not specifically stated to be made elsewhere, and shall include, but is not limited to: electrical hand hole cover; precast beam supports at monolith R-*; wall quoin anchors; monorail hoist beam supports; automatic gate latches in the miter gate monoliths; and all other metalwork not specifically stated to be made elsewhere. Miscellaneous metal shall also include all anchor bolts, and other connection hardware, for which payment is not specifically stated to be made elsewhere, and which are necessary to install items on top of lock walls.

c. Measurement of corner castings will be by the number of corner castings actually furnished and installed. No separate measurement will be made for anchorages.

d. Unit of Measure: Linear Feet (LF) and Each (EA).

1.2 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this contract on which the contract progress payments will be based are listed in the PRICE SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.

1.2.1 Administrative Costs

Unit price items in the PRICE SCHEDULE include:

0003 MONTHLY PROGRESS IMAGES

0147 ENVIRONMENTAL COMPLIANCE MEASUREMENTS, SAMPLING, TESTING AND REPORTING DURING BATCH PLANT OPERATION, LEFT BANK BATCH PLANT AREA

0148 ENVIRONMENTAL CONTROL REPRESENTATIVE (ECR) FOR ENVIRONMENTAL COMPLIANCE MONITORING AND EQUIPMENT OPERATION AND MAINTENANCE, LEFT BANK BATCH PLANT AREA AND GOVERNMENT FURNISHED DISPOSAL SITE

0161 ENVIRONMENTAL COMPLIANCE MEASUREMENTS, SAMPLING, TESTING AND REPORTING GOVERNMENT FURNISHED DISPOSAL SITE

a. Payment for monthly progress images shall constitute full compensation for all labor, equipment, material and supply costs for furnishing monthly digital progress images, as specified in Section 01380 PROGRESS PHOTOGRAPHS.

b. Payment for environmental compliance measurements, sampling, testing and reporting shall constitute full compensation for all labor, equipment, material and supply costs for performing the specified actions within the established deadlines.

c. Measurement for environmental control representative shall be the number of months this individual is working and actually performing the required duties specified in Section 01451 CONTRACTOR QUALITY CONTROL in a manner satisfactory to the Contracting Officer.

d. Unit of measure: Months (MO).

1.2.2 Concrete Testing Lab

Unit price items listed in the PRICE SCHEDULE include:

0008 OPERATE AND MAINTAIN CONCRETE TESTING LAB

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to operate and maintain the concrete testing lab, including maintenance and repair of all equipment and utilities.

b. Unit of measure: Months (MO).

1.2.3 Dredging and Underwater Excavation

Unit price items in the PRICE SCHEDULE include:

0010 DREDGING, LOCK AND APPURTENANCES

0087 DREDGING AT DOCK, GOVERNMENT FURNISHED DISPOSAL SITE

a. Payment for these items shall constitute full compensation for all labor, equipment, material and supply costs for performing the work including: transporting the materials to the disposal site and off-loading the material at the off-loading ramp at the Government furnished disposal site; performing measurements for payment; and all other incidental costs in connection with these aspects of the work under this contract.

Payment for for hauling and depositing the materials at the designated areas at the disposal site will be paid for separately.

b. The unit of measurement for these items of work shall be cubic yards. All measurement for payment will be based on information gathered from surveys (soundings) made at the project site prior to the commencement of excavation operations and again following the completion of excavation. Areas sounded more than 30 days prior to excavation shall be re-sounded if requested by the Government. The Contractor shall notify the Contracting Officer at least 2 days before sounding is made. No measurement will be made for removal of any materials beyond that indicated on the contract drawings and tolerances described on the plans and in the specifications. The Contractor shall sound the riverbed over the area to be excavated by a method and with equipment acceptable to the Contracting Officer. Any areas not conforming with the specified tolerances shall be corrected and resounded, at the Contractor's expense. The Contractor shall perform additional soundings as necessary during the progress of the work to verify depths. All sounding data shall be furnished to the Contracting Officer promptly after the information has been obtained and compiled. Initial soundings shall constitute the original cross sections from which all measurements will be based to calculate the quantity of excavation accomplished, without regard to any changes in the surface that may occur during the performance of the work. The second set of soundings shall constitute the final cross-sections from which measurement will be made, and shall be used to verify that the specified bottom elevations and slopes have been achieved. However, no measurement for payment will be made for any material over-dredged beyond that permitted by the allowable tolerances for the specified bottom elevation or specified side slopes. Unless otherwise specified and/or approved, quantities shall be calculated in cubic yards by the average end area method based on the initial and final soundings.

c. The Contractor is responsible for any additional dredging or excavation required to bring the area within the tolerances specified or shown prior to beginning any work upon which the excavation depends at no additional cost to the Government, and no additional measurement or payment will be made for such additional dredging or excavation.

d. Unit of measure: Cubic Yards (CD).

1.2.4 H-Piles for River Wall Stabilization

Unit price items listed in the PRICE SCHEDULE include:

0011 DRILLING HOLES IN CONCRETE FOR H-PILES, RIVERWALL STABILIZATION

0012 FURNISH AND INSTALL H-PILES, RIVERWALL STABILIZATION

a. Payment for drilling holes in concrete for the H-piles shall constitute full compensation for all labor, equipment, material and supply costs to drill the holes through the reinforced concrete cap in the diaphragm support cells, as shown on the contract drawings. Payment shall also include costs for guide templates; disposal of cored material; performing measurements for payment; all advanced planning and engineering; and all other incidental costs in connection with these aspects of the work under this contract.

b. Payment for furnishing and installing the H-piles shall constitute full compensation for all labor, equipment, material and supply costs for the steel H-piles, as shown on the contract drawings and specified in Section 02456 STEEL H-PILES. Payment shall include test pile and production piles. Payment for this item shall also include costs for pile driving tests; pile

driving points; shop and field fabrications of cover plates and beveled plates; backfilling around the H-piles in the diaphragm support cell concrete cap with tremie concrete; performing measurements for payment; testing of materials and products incorporated into the work; all advanced planning and engineering; and all other incidental costs in connection with these aspects of the work under this contract.

c. All measurements shall be made in the presence of the Contracting Officer's Authorized Representative (COAR). The Contracting Officer shall approve all methods and procedures for quantity surveys.

d. The unit of measurement for concrete drilling will be based on information gathered from surveys and field measurements. Measurements shall be the actual linear feet drilled through the diaphragm cell concrete cap and accepted by the Contracting Officer..

e. The unit of measurement for steel H-piles will be based on information gathered from surveys and field measurements. Measurements shall be the actual linear feet of H-Piles installed, and accepted by the Contracting Officer. The Contracting Officer shall approve all methods and procedures for quantity surveys. No separate measurement or payment will be made for pile cut-offs or splices. No separate measurement or payment will be made for backfilling around the H-piles with tremie concrete

f. Unit of measure: Linear Feet (LF).

1.2.5 Rock Anchors

Unit price items listed in the PRICE SCHEDULE include:

0013 DRILLING HOLES IN ROCK FOR ROCK ANCHORS, RIVERWALL STABILIZATION

0014 DRILLING HOLES IN CONCRETE FOR ROCK ANCHORS, RIVERWALL STABILIZATION

0015 DRILLING AND CASING HOLES IN EARTH FOR ROCK ANCHORS, RIVERWALL STABILIZATION

0016 ROCK ANCHORS, RIVERWALL STABILIZATION

0017 PERFORMANCE TESTS, ROCK ANCHORS, RIVERWALL STABILIZATION

0018 PROOF TESTS, ROCK ANCHORS, RIVERWALL STABILIZATION

0019 WATERTIGHTNESS TESTING, ROCK ANCHORS, RIVERWALL STABILIZATION

0020 PREGROUTING HOLES, ROCK ANCHORS, RIVERWALL STABILIZATION

0021 REDRILLING GROUTED HOLES, ROCK ANCHORS, RIVERWALL STABILIZATION

a. Payment for drilling will be made per linear foot for drilling in rock or concrete, regardless of the method used.

b. Drilling and casing holes in earth will be measured for payment to the nearest foot, based upon the linear feet of casing installed in accordance with the specifications.

c. Payment for pre-grouting rock anchor holes which fail the water-tightness test shall be made per actual cubic feet of cement grout

that is actually injected into the anchor hole as specified.

d. Payment for redrilling will be made per actual linear feet hole actually drilled in grout from the specified pre-grout packer location to the bottom of the hole.

e. Payment for water-tightness tests of the prestressed anchor holes will be made per each test performed, including all costs in connection with performing the water-tightness tests as specified.

f. Payment for installation of production rock anchors will be made per linear foot of drill hole for each anchor and shall constitute full compensation for all costs in connection with fabricating, furnishing, and installing the rock anchors, including grouting, and stressing, and all other costs in connection therewith not covered elsewhere as shown on the drawings and as specified.

g. All measurements shall be made in the presence of the Contracting Officer's Authorized Representative (COAR).

h. Drilling holes through concrete and rock will be measured for payment in accordance with the actual number of linear feet drilled, except that length of hole over-drilled to compensate for failure to extract cuttings or length of hole drilled but rejected because of alignment failure will not be included for measurement.

i. Drilling and casing holes in earth for rock anchors will be measured for payment to the nearest foot, based upon the linear feet casing installed in accordance with the specifications.

j. Measurement of rock anchors will be made by the linear foot of hole drilled for the rock anchors as specified.

k. Performance Tests will be measured based upon the number of tests performed on anchors which are accepted in accordance with the specifications.

l. Proof Tests will be measured based upon the number of tests performed on anchors which are accepted in accordance with the specifications.

m. Watertightness Testing will be measured for payment based upon the number of watertightness tests actually performed at the direction of the Contracting Officer and in accordance with the specifications or as otherwise required.

n. Pregrouting Holes will be measured for payment based upon the cubic feet of cement grout that were actually injected into the anchor hole as specified.

o. Redrilling holes through pre-grouted holes will be measured by the number of linear feet of hole acceptably redrilled from the packer location to the required bottom of hole.

p. Final installation of the rock anchors will require the construction of a localized dewatering box or boxes as specified in Section 02490 RIVER WALL INCLINED ROCK ANCHORS. No separate payment will be made for the dewatering box(es) and all such costs shall be included in the contract price for "ROCK ANCHORS, RIVERWALL STABILIZATION".

q. Units of measure: linear feet/cubic feet/each.

1.2.6 Concrete Materials

Unit price items listed in the PRICE SCHEDULE include:

0022 PORTLAND CEMENT

a. Payment will be made at the contract price per ton, which price will include the cost of required unloading, hauling, handling, and storage at the site, of all portland cement used in the work, except for that used in precast items, which will be included in cost of the precast items.

b. The quantity of portland cement to be paid for will be the number of tons of portland cement used unless specifically excepted, wasted, or used for the convenience of the Contractor. The quantity to be paid for will be determined by multiplying the actual (within a tolerance of ± 1% from the mix design weight) batch weight of portland cement in each type of concrete used by the number of batches of concrete of the types placed within the pay lines of the structure, and dividing by 2,000.

c. Unit of measure: Tons (TN).

0023 POZZOLAN

a. Payment will be made at the contract price per ton which price will include the cost of required unloading, hauling, handling, and storage at the site of all pozzolan used in the work, except for that used in precast items, which will be included in cost of the precast items.

b. The quantity of pozzolan to be paid for will be the number of tons of pozzolan used unless specifically excepted, wasted, or used for the convenience of the Contractor. The quantity to be paid for will be determined by multiplying the actual (within a cumulative weight tolerance of ± 1% from the mix design weight if cement and pozzolan are batched cumulatively or ± 1% if weighed separately) batch weight of pozzolan in each type of concrete used by the number of batches of concrete of the types placed within the pay lines of the structure, and dividing by 2,000

c. Unit of measure: Tons (TN).

0024 GROUND GRANULATED BLAST FURNACE SLAG

a. Payment will be made at the contract price per ton, which price will include the cost of required unloading, hauling, handling, and storage at the site, of all ground granulated blast furnace slag (GGBF) used in the work, except for that used in precast items, which will be included in cost of the precast items.

b. The quantity of GGBF to be paid for will be the number of tons of ground granulated blast furnace slag (GGBF) used unless specifically excepted, wasted, or used for the convenience of the Contractor. The quantity to be paid for will be determined by multiplying the actual (within a tolerance of ± 1% from the mix design weight) batch weight of GGBF in each type of concrete used by the number of batches of concrete of the types placed within the pay lines of the structure, and dividing by 2,000.

c. Unit of measure: Tons (TN).

0025 SILICA FUME

a. Payment will be made at the contract price per ton, which price will include the cost of required unloading, hauling, handling, and storage at the site, of all silica fume used in the work, except for that used in precast items, which will be included in cost of the precast items.

b. The quantity of silica fume to be paid for will be the number of tons of silica fume used unless specifically excepted, wasted, or used for the convenience of the Contractor.

c. Unit of measure: Tons (TN).

0026 ANTI-WASHOUT MIXTURE

a. Payment will be made at the contract price per gallon, which price will include the cost of required unloading, hauling, handling, and storage at the site, of all anti-washout mixture used in the work, except for that used in precast items, which will be included in cost of the precast items.

b. The quantity of anti-washout mixture to be paid for will be the number of gallons of anti-washout mixture used unless specifically excepted, wasted, or used for the convenience of the Contractor.

c. Unit of measure: Gallons (GL).

0163 LIMESTONE POWDER

a. Payment will be made at the contract price per ton, which price will include the cost of required unloading, hauling, handling, and storage at the site, of all limestone powder used in the work, except for that used in precast items, which will be included in cost of the precast items.

b. The quantity of silica fume to be paid for will be the number of tons of limestone powder used unless specifically excepted, wasted, or used for the convenience of the Contractor. The quantity to be paid for will be determined by multiplying the actual (within a tolerance of + 1% from the mix design weight) batch weight of limestone powder in each type of concrete used by the number of batches of concrete of the types placed within the pay lines of the structure, and dividing by 2,000.

c. Unit of measure: Tons (TN).

1.2.7 Concrete Placement

Unit price items listed in the PRICE SCHEDULE include:

0027 TREMIE CONCRETE

0028 MASS CONCRETE, LOCK WALL MONOLITHS

0029 CAST IN PLACE STRUCTURAL CONCRETE, LOCK WALL MONOLITHS

0042 CONCRETE, FOUNDATION DRILLED SHAFTS

0114 PLAIN CONCRETE CURB, INSIDE EDGE OF ACCESS RAMP, LEFT BANK BATCH PLANT AREA

0115 CONCRETE PAVEMENT, ACCESS RAMP AND LANDING AREA, LEFT BANK BATCH PLANT AREA

0143 OPEN GRATE TRENCH, LEFT BANK BATCH PLANT AREA

0144 CONCRETE SLABS, BATCH PLANT BIN AREA AND TRUCK TIRE WASH AREA, LEFT BANK BATCH PLANT AREA

a. Payment for these items will be made at the respective contract prices per cubic yard, which prices shall include the cost of all labor, materials, and the use of all equipment and tools required to complete the concrete work; except the cement, pozzolan, ground granulated blast furnace slag, silica fume, anti-washout mixture, reinforcement, and embedded parts that are specified to be paid for separately.

b. Pay lines for concrete structures are the neat lines of the structures as shown on the drawings. Measurement of concrete shall be made on the basis of the actual volume of concrete within the pay lines of the structures as indicated on the drawings. Measurement of concrete placed against the sides of any excavation without the use of intervening forms shall be made only within the pay lines of the structure, and within the tolerances specified. No measurement will be made of concrete placed outside the tolerances specified or for the excavation unless otherwise approved by the Contracting Officer. No deduction shall be made for rounded or beveled edges or space occupied by metal work, reinforcing steel, electrical conduits or other items, nor for voids or embedded items that are either less than 5 cubic feet in volume or 1 square foot in cross section.

c. Payment for tremie concrete and cast in place structural concrete will not include costs of filling the stub wall culvert and ports with tremie concrete or filling the gallery with standard flowable concrete. These costs shall be included in the bid item for "MODIFICATIONS TO EXISTING STUB WALL".

d. Payment for the open grate trench will also include costs of constructing the concrete trench and furnishing and installing the trench grating.

e. Measurement for the open grate trench will be made by the linear feet of trench constructed and accepted.

f. Unit of measure: Cubic Yards (CD) and Linear Feet (LF).

1.2.8 Reinforcing Steel

Unit price items listed in the PRICE SCHEDULE include:

0032 FABRICATION AND INSTALLATION COSTS FOR REINFORCING STEEL AND DOWELS, LOCK WALLS AND APPURTENANCES

0044 FABRICATION AND INSTALLATION COSTS FOR REINFORCING STEEL, FOUNDATION DRILLED SHAFTS

a. Payment for fabricating and installing reinforcing steel and dowels shall constitute full compensation for fabricating and installing the reinforcing as shown and specified. Materials costs for furnishing these items will be paid for separately. Payment shall include all labor,

equipment, materials and supplies to complete these items of work, including drilling and grouting holes for dowels as indicated. Payment will not include the amount of steel reinforcing used in precast concrete items.

b. Concrete reinforcing and dowels will be measured for payment by the pound in place. The measured lengths will be converted to weights for the size of bars listed by the use of the nominal weights per lineal foot specified in the respective material specifications. Steel in laps indicated on the drawings or required by the Contracting Officer will be paid for at the contract unit price. No payment will be made for the additional steel in laps which are authorized for the convenience of the Contractor.

c. Unit of measure: Pounds (LB).

1.2.9 Excavation and Grading

Unit price items listed in the PRICE SCHEDULE include:

0075 COAL FINE REMOVAL, GOVERNMENT FURNISHED DISPOSAL SITE

0082 HAUL ROAD EXCAVATION, GOVERNMENT FURNISHED DISPOSAL SITE

0099 SITE EARTHWORK, LEFT BANK BATCH PLANT AREA

a. Payment for these items shall constitute full compensation for all costs in connection with completing these items of work.
Payment for the coal fine removal shall include all advanced planning and engineering, and all costs in connection with removal, and disposal or processing of this material at a permitted facility as specified.

b. These items shall be measured by the cubic yard within the limits shown on the drawings, or as otherwise specified. Measurement shall be made by taking cross-sections before and after excavation or grading is performed and calculating the volume by the average-end-area method. Cross sections shall be taken before and after excavation at the same stations as the sections shown on the contract drawings or as may be additionally required by the Contracting Officer, and shall be performed in the presence of the Contracting Officer or his Authorized Representative, unless otherwise waived. Volume computations shall be performed by the Contractor, and copies of all cross section data and computations shall be submitted to the Contracting Officer.

c. Unit of Measure: Cubic Yards (CD).

1.2.10 Temporary Disposal Stockpile

Unit price items in the PRICE SCHEDULE include:

0091 TEMPORARY DISPOSAL STOCKPILE

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs for performing the work including: transporting and depositing the materials from the off-loading ramp to the designated disposal area; control of effluents from the Contractor's operations; performing measurements for payment; and all other incidental costs in connection with these aspects of the work under this contract.

This item includes the material delivered to the off-loading ramp which

will not be used in the construction of confinement berm and embankments.

b. This item shall be measured by the cubic yard within the limits shown on the drawings, or as otherwise specified. The Contracting Officer shall determine the frequency of surveying and approve all methods of measurement. Measurement shall be made by taking cross-sections before and after placement and compaction is performed and calculating the volume by the average-end-area method. Cross sections shall be taken before and after placement at the same stations as the sections shown on the contract drawings or as may be additionally required by the Contracting Officer, and shall be performed in the presence of the Contracting Officer or his Authorized Representative, unless otherwise waived. Volume computations shall be performed by the Contractor, and copies of all cross section data and computations shall be submitted to the Contracting Officer.

c. Unit of measure: Cubic Yards (CD).

1.2.11 Rock, Stone and Riprap

Unit price items listed in the PRICE SCHEDULE include:

0103 OUTFALL 002, ROCK FILTER, AND RIPRAP EROSION PROTECTION, LEFT BANK BATCH PLANT AREA

0104 TRAPEZOIDAL CHANNEL, R-3 RIPRAP LINING, BULKHEAD STRUCTURE AREA, LEFT BANK BATCH PLANT AREA

a. Payment for these items shall constitute full compensation for all costs in connection with completing these items of work including furnishing and placing the specified material to the lines and grades shown, and as specified.

b. Rock lined channels and gabion mattresses shall be measured by the linear feet of stone placed as shown and as specified. Rock filter shall be measured for payment by the number of such structures placed as shown and as specified.

c. Units of Measure: Cubic Yards (CD), Linear Feet (LF), Each (EA) and Tons (TN).

1.2.12 Waterstops

Unit price items listed in the PRICE SCHEDULE include:

0030 PVC WATERSTOPS

0031 COPPER WATERSTOPS

a. Payment for waterstops shall constitute full compensation for all labor, equipment, material and supply costs to furnish and install waterstops as shown and as specified.

b. Waterstops will be measured for payment by the linear foot in place. No allowance will be made for laps.

c. Unit of measure: Linear Feet (LF)

1.2.13 Drilled Shafts

Unit price items listed in the PRICE SCHEDULE include:

0034 FABRICATION AND INSTALLATION COSTS FOR PERMANENT CASING, 54-INCH DIAMETER FOUNDATION DRILLED SHAFTS (48-INCH ROCK SOCKET)

0035 FABRICATION AND INSTALLATION COSTS FOR PERMANENT CASING, 78-INCH DIAMETER FOUNDATION DRILLED SHAFTS (72-INCH ROCK SOCKET)

0036 SOIL EXCAVATION, 54-INCH DIAMETER FOUNDATION DRILLED SHAFTS

0037 SOIL EXCAVATION, 78-INCH DIAMETER FOUNDATION DRILLED SHAFTS (72-INCH ROCK SOCKET)

0038 ROCK EXCAVATION, 54-INCH DIAMETER FOUNDATION DRILLED SHAFTS (48-INCH ROCK SOCKET)

0039 ROCK EXCAVATION, 78-INCH DIAMETER FOUNDATION DRILLED SHAFTS (72-INCH ROCK SOCKET)

0040 CROSSHOLE SONIC LOGGING (CSL), FOUNDATION DRILLED SHAFTS

0043 CORING OF FOUNDATION DRILLED SHAFTS, VERIFICATION OF CROSSHOLE SONIC LOGGING RESULTS

a. Payment for the above items will be made for costs associated with completion of the drilled shafts, including all costs of equipment,labor, and supplies to complete the required work as indicated on the drawings. No separate payment will be made for accessories and payment shall be included in the contract unit price for the items of work to which the accessories are incidental. Payment for items measured by each shall include all costs associated with that item as installed or completed.

b. Measurements shall be based on the results of prerequisite exploratory borings.

c. Measurements for soil excavation will be to the nearest linear foot, based on the length actually drilled through overburden to the top of rock. Measurements will be made from the top surface of the riverbed to the point at which drilling in rock begins. Top of rock shall be established from the results of the exploratory borings (See Section 02012 EXPLORATORY DRILLING).

d. Measurements for rock excavation will be to the nearest linear foot, based on the length actually drilled through rock to the final tip elevation. Top of rock and final tip elevations shall be established from the results of the exploratory borings (See Section 02012 EXPLORATORY DRILLING).

e. Materials costs for furnishing permanent casing will be paid for separately. Measurements for permanent steel casing shall be to the nearest linear foot, based on the actual length of permanent casing in-place from the tip elevation to the final permanent cutoff elevation. No measurement will be made for casing above the cutoff elevation. No separate payment will be made for cut-off or splicing of permanent steel casings. Lengths of casing shall be ordered based on the results of the exploratory borings (See Section 02012 EXPLORATORY DRILLING).

f. Measurements for crosshole sonic logging (CSL) shall be the number of shafts on which crosshole sonic logging has been performed.

g. Coring of foundation drilled shafts to verify the results of crosshole sonic logging shall include all costs of coring and backfilling the holes with concrete as required.

h. Units of measure: Linear Feet (LF) and Each (EA).

1.2.14 Exploratory Programs

Unit price items listed in the PRICE SCHEDULE include:

0045 EXPLORATORY DRILLING, SOIL DRILLING WITHOUT SAMPLING

0046 EXPLORATORY DRILLING, SOIL DRILLING WITH SAMPLING

0047 EXPLORATORY DRILLING, ROCK DRILLING, WITH CORING

0048 EXPLORATORY DRILLING, SEALING OF EXPLORATORY HOLES WITH CEMENT GROUT

a. Payment for the above items will be made for costs associated with mobilization and demobilization of all necessary drilling equipment, floating plant, labor equipment and materials, and for performing the drilling and sampling as specified. No separate payment will be made for mobilizing the drilling equipment from water access, which costs are considered incidental. Payment will be made only for the drilling of exploratory holes that are included on the contract drawings, or are directed by the Contracting Officer to be so drilled. Payment will not be made for any hole for which satisfactory records (and samples), as determined by the Contracting Officer, are not furnished.

b. All measurements shall be made in the presence of the Contracting Officer's Authorized Representative (COAR). The Contractor shall preserve all exploratory holes in good condition until final measurements are made and until the records and samples have been examined and accepted.

Soil drilling without sampling will be measured to the nearest linear foot, based on the linear feet of holes that were actually drilled through overburden in accordance with the specifications. Measurements will be made from the "original ground surface" to the point at which sampling of the boring begins. The "original ground surface" shall be interpreted as the river bottom for exploratory borings made in the river.

Soil drilling with sampling will be measured for payment to the nearest linear foot, based on the linear feet of holes that were actually drilled through the overburden in accordance with the specifications. Measurement will be made from the elevation at which drive sampling is started to the elevation at which drive sampling is completed.

Rock drilling with coring will be measured for payment to the nearest linear foot, based on the linear feet of holes that were actually cored through rock in accordance with the specifications. Measurement will be made from the elevation at which rock coring is started to the elevation at which rock coring is completed.

Sealing of exploratory holes will be measured for payment to the nearest linear foot, based on the linear feet of holes that are sealed in

accordance with the specifications. Measurement will be made from the elevation of the top of the hole to the elevation at which rock drilling was completed.

c. Unit of measure: Linear Feet (LF).

1.2.15 Non-Cofferbox Sheet Piling, H-Piles and Appurtenant Items

Unit price items listed in the PRICE SCHEDULE include:

0050 FABRICATION AND INSTALLATION COSTS FOR SHEET PILE, NON-COFFERBOXES

0051 FABRICATION AND INSTALLATION COSTS FOR H-PILES, NON-COFFERBOXES

a. Payment for the above items shall constitute full compensation for all labor, equipment, and supplies for completing the items of work as shown and as specified. Materials costs for furnishing these items will be paid for separately. Payments shall include costs for guide templates; removal of obstructions; pile removal and redriving; performing measurements for payment; and all other incidental costs in connection with these aspects of the work under this contract. Payment for these items shall also include costs for shop and field fabrications; performing measurements for payment; testing of materials and products incorporated into the work; all advanced planning and engineering; and all other incidental costs in connection with these aspects of the work under this contract. The Contractor shall anticipate that 10% of the quantity of piles will hit obstructions, and that this cost shall be included in the cost of piling.

b. The actual quantity of sheet piling, and fabricated piling will be based on information gathered from surveys and field measurements and the results of the exploratory drilling and pile driving tests.

c. Payment for the H-piles at the non-cofferboxes shall also include the fabrication costs of attaching the sheet piling interlocks to the H-piles.

d. Measurements shall be the actual linear feet of piling installed IN THE PERMANENT WORK, within the specified tolerances, and accepted by the Contracting Officer. No separate measurement or payment will be made for pile cutoffs or splices, or extra lengths provided for the convenience of the Contractor. The Contracting Officer shall approve all methods and procedures for quantity surveys.

e. Unit of Measure: Linear Feet (LF).

1.2.16 Excavation Inside Cofferboxes

Unit price item listed in the PRICE SCHEDULE include:

0053 UNDERWATER ALLUVIUM EXCAVATION INSIDE COFFERBOXES

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs excavate the alluvium overburden from inside the cofferboxes, including: excavation and transporting the materials to the disposal site and off-loading the material at the off-loading ramp at the Government furnished disposal site and all other incidental costs in connection with this item of work under this contract. It is noted that the Contractor may have to use a combination of methods to

thoroughly remove all materials to the limits shown.

Payment for for hauling and depositing the materials at the designated areas at the disposal site will be paid for separately.

b. Measurement for this item will be based on the excavation limits shown on the drawings. Measurement will be made from the point of pre-excavation (initial dredging), within the specified tolerance of El. 699.0, to the top of rock, and will be verified by soundings or other methods approved by the Contracting Officer. No additional payment will be made for any adjustments to the Contractor's excavation operations to meet the requirements of the drawings and specifications. No payment will be made until the area excavated is accepted by the Contracting Officer.

c. Unit of measure: Cubic Yards (CD).

1.2.17 Corner Protection, Wall Armor and Corner Castings

Unit price items listed in the PRICE SCHEDULE include:

0060 CORNER PROTECTION

0061 WALL ARMOR AND MONOLITH JOINT PROTECTION

0062 CORNER CASTINGS

a. Payment for these items shall constitute full compensation for all costs necessary to complete these items of work, including fabricating, delivering, and installation, complete as shown on the contract drawings, including anchorage, welding, and painting, and all other costs associated with these items.

b. Measurement of corner protection and wall armor and monolith joint protection will be by the linear feet of corner protection, wall armor and monolith joint protection furnished and installed. No separate measurement will be made for anchorages or splices.

c. Measurement of corner castings will be by the number of corner castings actually furnished and installed. No separate measurement will be made for anchorages.

d. Unit of Measure: Linear Feet (LF) and Each (EA).

1.2.18 Grating, Planking and Cover Plates

Unit price items listed in the PRICE SCHEDULE include:

0064 GRATING

0065 ALUMINUM PLANKING

0066 EQUIPMENT ACCESS AND EMPTYING VALVE ACCESS COVERS

0067 GATE ANCHORAGE RECESS COVER

0068 ALUMINUM RABBET ANGLES

Payment for these items shall constitute full compensation for all costs necessary to complete these items of work as shown and as specified,

including furnishing and installing the items , and all support beams, hardware, rubber, and anchorages.

b. Measurement of the rabbet angles will be by the linear foot installed. Measurement of all other items will be by the square foot installed and accepted.

c. Unit of measure: Square Feet (SF) and Linear Feet (LF).

1.2.19 Check Posts and Line Hooks

Unit price items listed in the PRICE SCHEDULE include:

0069 CHECK POSTS

0070 LINE HOOKS AND GUARDS

a. Payment for these items shall constitute full compensation for all costs necessary to complete these items of work as shown and as specified.

Payment for installing the Government furnished check post assemblies shall include receiving and delivering the posts from the Government's PEWARS facility, and installing the check post assemblies; furnishing and installing anchorages; painting; and cement grout fill, complete, as shown on the contract drawings and as specified.

b. Measurement of these items will be by the number of each type installed and accepted.

c. Unit of Measure: Each (EA).

1.2.20 Rock Construction Entrances

Unit price items listed in the PRICE SCHEDULE include:

0074 ROCK CONSTRUCTION ENTRANCE, GOVERNMENT FURNISHED DISPOSAL SITE

0096 ROCK CONSTRUCTION ENTRANCE, LEFT BANK BATCH PLANT AREA

a. Payment for rock construction entrances shall constitute full compensation for all costs necessary to complete these items of work as shown and as specified, including construction and maintenance of the rock construction entrances.

b. Measurement for rock construction entrances shall be the number of them installed.

Unit of measure: Each (EA).

1.2.21 Silt Fences and Fabric Fences

Unit price items listed in the PRICE SCHEDULE include:

0077 SILT FENCE, GOVERNMENT FURNISHED DISPOSAL SITE

0078 SUPER SILT FENCE, GOVERNMENT FURNISHED DISPOSAL SITE

0093 FILTER FABRIC FENCE, 18-INCH HIGH, LEFT BANK BATCH PLANT AREA

0094 FILTER FABRIC FENCE, 30-INCH HIGH, LEFT BANK BATCH PLANT AREA

0095 SUPER SILT FENCE, LEFT BANK BATCH PLANT AREA

a. Payment for these items shall constitute full compensation for providing all plant, labor, material, and equipment and performing all operations necessary to perform this work as shown and as specified, including the inspection and maintenance of these items. Payment for super silt fence shall also include all costs in connection with furnishing the chainlink fabric and posts as shown and as specified.

b. Measurement will be made by the linear foot of material installed and accepted.

c. Unit of Measure: Linear Feet (LF).

1.2.22 Filling, Backfillling, Embankments and Berms

Unit price items listed in the PRICE SCHEDULE include:

0083 CONFINEMENT BERM, GOVERNMENT FURNISHED DISPOSAL SITE

0084 HAUL ROAD EMBANKMENTS, FILL, GOVERNMENT FURNISHED DISPOSAL SITE

0100 GRANULAR FILL MATERIAL, LEFT BANK BATCH PLANT AREA

a. Payment for these items shall constitute full compensation for all costs in connection with completing these items of work including furnishing and placing the specified material, spreading, grading and compaction.

The costs for the confinement berm and embankments at the Government furnished disposal site will include taking the material that has been delivered to the off-loading area and using it in the construction of these features. The costs will not include transport of material to the off-loading ramp, which is paid for under separate items.

b. These items shall be measured by the cubic yard within the limits shown on the drawings, or as otherwise specified. Measurement shall be made by taking cross-sections before and after placement and compaction is performed and calculating the volume by the average-end-area method. Cross sections shall be taken before and after placement at the same stations as the sections shown on the contract drawings or as may be additionally required by the Contracting Officer, and shall be performed in the presence of the Contracting Officer or his Authorized Representative, unless otherwise waived. Volume computations shall be performed by the Contractor, and copies of all cross section data and computations shall be submitted to the Contracting Officer.

c. Unit of Measure: Cubic Yards (CD).

1.2.23 Aggregate Surfaces

Unit price items listed in the PRICE SCHEDULE include:

0085 8-INCH AGGREGATE SURFACING, GOVERNMENT FURNISHED DISPOSAL SITE

0134 GRAVEL ACCESS ROAD, LEFT BANK BATCH PLANT AREA

a. Payment for these items shall constitute full compensation for all labor, equipment, material and supply costs to construct these items as shown and as specified in Sections 02145 CONSTRUCTION OF DISPOSAL SITE and 02720 AGGREGATE SUBBASE AND BASE COURSES. The payment shall constitute full compensation for all labor, equipment, materials and supplies for furnishing and placing crushed aggregate material, including compaction; shall include any required field and laboratory testing; shall include performing measurements for payment and maintenance of the aggregate surfacing; and all other incidental costs in connection with these aspects of the work under this contract.

b. Measurement shall be made on the basis of square yards of material furnished and placed as specified and as shown on the drawings.

c. Unit of measure: Square Yards (SY).

1.2.24 Guiderail

Unit price items listed in the PRICE SCHEDULE include:

0086 GUIDERAIL, GOVERNMENT FURNISHED DISPOSAL SITE

0120 GUIDERAIL, PADOT TYPE 2-SC, LEFT BANK BATCH PLANT AREA

a. Payment for guiderail shall constitute full compensation for all costs necessary to complete this item of work as shown and as specified.

b. Measurement for guiderail shall be the actual actual length of guiderail installed and accepted, including terminal ends.

Measurement for terminal ends shall be the number of terminal ends installed.

Unit of measure: Linear Feet (LF) and Each (EA).

1.2.25 Storm Drainage Pipes

Unit price items listed in the PRICE SCHEDULE include:

0089 15-INCH RCP CULVERT, GOVERNMENT FURNISHED DISPOSAL SITE

0090 18-INCH RCP CULVERT, GOVERNMENT FURNISHED DISPOSAL SITE

0106 24-INCH OUTFALL 001 PIPE & FITTINGS, REINFORCED CONCRETE PIPE AND BACKFILL, LEFT BANK BATCH PLANT AREA

0108 GATE VALVE AND REDUCER COUPLING, LEFT BANK BATCH PLANT AREA

0109 24-INCH, SDR 21 HDPE PIPE FROM VALVE STATION MANHOLE TO INLET NO. 1, LEFT BANK BATCH PLANT AREA

0112 24-INCH PE, SMOOTH INTERIOR, STORM SEWER PIPE FROM INLET NO. 1 THROUGH NO. 4, BETWEEN INLET NO. 2 AND NO. 5 AND BETWEEN MANHOLE NO. 1 AND NO. 2, LEFT BANK BATCH PLANT AREA

a. Payment for these items shall constitute full compensation for furnishing all materials, equipment, plant, and tools; and for labor and other incidentals necessary to complete the work as shown and as specified, including furnishing and placing the item and testing for leaks. Excavation

will be paid for separately.

b. Measurement for the gate valve and reducer coupling will be by the number installed. Measurement for all other items listed above will be by the linear foot installed and accepted.

c. Unit of measure: Linear Feet (LF) and Each (EA)

1.2.26 Manholes and Inlets

Unit price items listed in the PRICE SCHEDULE include:

0105 OUTFALL 001, MANHOLE, 48-INCH DIAMETER PRECAST REINFORCED CONCRETE, LEFT BANK BATCH PLANT AREA

0107 VALVE STATION MANHOLE, 60-INCH DIAMETER PRECAST REINFORCED CONCRETE, LEFT BANK BATCH PLANT AREA

0110 INLETS NO. 1, 2 AND 5, LEFT BANK BATCH PLANT AREA

0111 INLETS NOS. 3 AND 4, PADOT TYPE M, LEFT BANK BATCH PLANT AREA

0113 MANHOLES NOS. 1 & 2, 48-INCH DIAMETER PRECAST REINFORCED CONCRETE, LEFT BANK BATCH PLANT AREA

a. Payment for these items shall constitute full compensation for furnishing all materials, equipment, plant, and tools; and for labor and other incidentals necessary to complete the work as shown and as specified, including furnishing and placing the item.

b. Measurement for these items will be by the number of structures installed.

c. Unit of Measure: Each (EA).

1.2.27 Chain Link Fencing

Unit price items listed in the PRICE SCHEDULE include:

0121 CHAIN LINK FENCING, 6-FT HIGH GENERAL SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA

0122 CHAIN LINK FENCING, 8-FT HIGH HIGH SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA

0123 MAIN ACCESS GATE, 31-FT MIN OPENING, 6-FT HIGH, GENERAL SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA

0124 SLIDING ACCESS GATE, 19-FT WIDE, 8-FT HIGH, HIGH SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA

0125 SWINGING ACCESS GATE, 4'-0" WIDE, 6-FT HIGH, GENERAL SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA

0126 SWINGING ACCESS GATE, 4'-0" WIDE, 8-FT HIGH, HIGH SECURITY SYSTEM, LEFT BANK BATCH PLANT AREA

a. Payment for new chain link fence shall constitute full compensation for

furnishing all materials, equipment, plant, and tools; and for labor and other incidentals necessary to complete the work as shown and as specified.

b. Measurement for new chain link fence will be by the linear foot of fence installed and accepted

Measurement for gates shall be the number of each type and size gate furnished and installed..

c. Unit of measure: Linear Feet (LF) and Each (EA)

1.2.28 Seeding and Vegetation

Lump Sum price items in the PRICE SCHEDULE include:

0079 GRASS LINED CHANNELS, GOVERNMENT FURNISHED DISPOSAL SITE

0092 TEMPORARY SEEDING, GOVERNMENT FURNISHED DISPOSAL SITE

0116 TOPSOIL, LEFT BANK BATCH PLANT AREA

0117 SEEDING, LEFT BANK BATCH PLANT AREA

Payment for seeding operations shall constitute full compensation for all labor, equipment, material and supply costs to provide a satisfactory stand of turf over the disturbed areas and areas indicated to be seeded, including seeding and mulching and other incidental work.

Payment for the grass lined channels at the Government furnished disposal site will also include excavation of the channels to the lines and grades shown.

Measurement for the grass lined channels at the Government furnished disposal site will be made by the linear feet of channels actually constructed, and approved.

Measurement for all seeding operations will be made by the acre of area that contains a satisfactory stand of vegetation.

Measurement of topsoil will be made by the ton of material delivered and used on site.

b. Units of measure: Linear Feet (LF), Each (EA), Acre (AC), and Ton (TN).

1.2.29 Bituminous Pavement

Unit price items listed in the PRICE SCHEDULE include:

0128 BITUMINOUS CONCRETE BASE COURSE (BCBC) , LEFT BANK BATCH PLANT AREA

0129 BITUMINOUS WEARING COURSE, LEFT BANK BATCH PLANT AREA

0130 BITUMINOUS BINDER COURSE, LEFT BANK BATCH PLANT AREA

0131 TRAPEZOIDAL CHANNEL, PAVED LINING, LEFT BANK BATCH PLANT AREA

0132 ASPHALT DIVERSION BERM, LEFT BANK BATCH PLANT AREA

0133 ASPHALT WEDGE CURB, ID-2 WEARING, LEFT BANK BATCH PLANT AREA

a. Payment for these items bituminous concrete base course, binder course and bituminous wearing course shall constitute full compensation for furnishing all materials, equipment, plant, and tools; and for labor and other incidentals necessary to complete the work required as specified, including joint treatment at the interfaces of new paving with existing paving or structures.

b. Measurement for these items bituminous concrete base, binder and wearing courses will be by the square yard of bituminous pavement material in place.

c. Measurement for curbing and channel will be by the linear feet of material in place.

d. Measurement of asphalt berms will be by the number of such berms constructed.

e. Unit of Measure: Square Yards (SY), Linear Feet (LF) and Each (EA).

1.2.30 Jet Grout Columns

1.2.30.1 Jet Grouting

Unit price item in the PRICE SCHEDULE include:

0149 JET GROUT COLUMNS, COFFERBOX CLOSURES

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs, for drilling through alluvium and one-foot into rock to perform jet grouting; performing the jet grouting; and all other costs not included in other price items, for constructing the jet grout columns as specified in Section 02270 JET GROUTING. These costs will include the cost of all materials for producing the grout including cement, aggregates, and admixtures.

b. Payment for this item shall also include costs for performing measurements for payment; all advanced planning and engineering; and all other incidental costs in connection with these aspects of the work under this contract.

c. The unit of measurement for jet grouting will be based on information gathered from field measurements. Measurements shall be the actual linear feet successfully drilled, grouted and accepted by the Contracting Officer, as measured along the axis of the hole.

d. Unit of measure: Linear Feet (LF).

1.2.30.2 Jet Grout Sampling and Testing

0150 TEST CORE SAMPLES, JET GROUT WALLS

a. Payment for this item shall constitute full compensation for all labor, equipment, material and supply costs to obtain test core samples of the soilcrete as specified in Section 02270 JET GROUTING.

b. Payment for this item shall also include costs for guide templates; drilling to obtain test core samples; in-place permeability testing;

strength testing; backfilling the holes as required; performing measurements for payment; all advanced planning and engineering; and all other incidental costs in connection with these aspects of the work under this contract.

c. The unit of measurement for obtaining test core samples will be based on measurements of the actual test core sample recovered. Measurements shall be the actual linear feet of test core sample recovered.

d. Unit of measure: Linear Feet (LF).

1.2.31 Materials Costs for Selected Steel Items

0151 STEEL MATERIALS COSTS FOR REINFORCING STEEL AND DOWELS, LOCK WALLS AND APPURTENANCES

0152 STEEL MATERIALS COSTS FOR PERMANENT CASING, 54-INCH DIAMETER FOUNDATION DRILLED SHAFTS (48-INCH ROCK SOCKET)

0153 STEEL MATERIALS COSTS FOR PERMANENT CASING, 78-INCH DIAMETER FOUNDATION DRILLED SHAFTS (72-INCH ROCK SOCKET)

0155 STEEL MATERIALS COSTS FOR REINFORCING STEEL, FOUNDATION DRILLED SHAFTS

0156 STEEL MATERIALS COSTS FOR SHEET PILE, NON-COFFERBOXES

0157 STEEL MATERIALS COSTS FOR H-PILES, NON-COFFERBOXES

0159 STEEL MATERIALS COSTS FOR EMPTYING VALVES AND EMPTYING BULKHEADS

a. Payment for these items shall include ONLY the costs of steel materials used in the manufacture of these items. Payment for fabrication and installation, as well as measurements for payment will be made separately. Measurement and payment for these items will only be made for steel materials incorporated into the permanent work, within the specified tolerances, and no separate measurement or payment will be made for non-steel items, cut-offs, splices, extra materials ordered for the convenience of the Contractor, welds, painting, galvanizing or other coatings, and no separate deduction will be made for holes.

b. Payment for reinforcing steel will not include the amount of steel reinforcing used in precast concrete items. Concrete reinforcing and dowels will be measured for payment by the pound in place. The measured lengths will be converted to weights for the size of bars listed by the use of the nominal weights per lineal foot specified in the respective material specifications. Steel in laps indicated on the drawings or required by the Contracting Officer will be paid for at the contract unit price. No payment will be made for the additional steel in laps which are authorized for the convenience of the Contractor.

c. Measurements for permanent steel casing shall be based on the actual amount of permanent casing in-place from the tip elevation to the final permanent cutoff elevation, converted to pounds. No measurement will be made for casing above the cutoff elevation. No separate payment will be made for cut-off or splicing of permanent steel casings. Lengths of casing shall be ordered based on the results of the exploratory borings (See Section 02012 EXPLORATORY DRILLING).

c. Payment for the H-piles at the non-cofferboxes shall also include the materials costs of attaching the sheet piling interlocks to the H-piles.

d. The actual quantity of sheet piling, H-piles and fabricated piling will be based on information gathered from surveys and field measurements and the results of the exploratory drilling and pile driving tests.

e. Payment for the steel materials costs for the emptying valves and emptying bulkheads shall include only the costs of steel materials included in the fabrication of the valves and bulkheads and appurtenant items including valves, bulkheads, lifting beam, liners, frames, bonnets, and valve shafts, and all other items associated with the valves and bulkheads.

f. Unit of measure: Pounds (LB).

1.2.32 Sediment Removal, Stub Wall Modifications

Unit price items listed in the PRICE SCHEDULE include:

0162AA SEDIMENT REMOVAL, STUB WALL MODIFICATIONS, 0 TO 300 CUBIC YARDS

0162AB SEDIMENT REMOVAL, STUB WALL MODIFICATIONS, 301 TO 500 CUBIC YARDS

0162AC SEDIMENT REMOVAL, STUB WALL MODIFICATIONS, ALL OVER 500 CUBIC YARDS

a. Payment for these items shall constitute full compensation for all labor, equipment, material and supply costs to remove sediment from the stub wall prior to infilling with concrete in accordance with Section 02260 STUB WALL MODIFICATIONS. Payment will be made in accordance with Contract Clause 52.211-5001 VARIATIONS IN ESTIMATED QUANTITIES, SUBDIVIDED ITEMS.

b. Measurement for this item will be based on the the depth No payment will be made until the area excavated is accepted by the Contracting Officer.

All measurement for payment will be based on information gathered from surveys (probings or soundings) of sediment depth prior to removal operations and again following the completion of sediment removal. Initial surveys shall constitute the original cross sections from which all measurements will be based to calculate the quantity of sediment removal accomplished. The second set of surveys shall constitute the final cross-sections from which measurement will be made, and shall be used to verify that the specified tolerance has been met. Unless otherwise specified and/or approved, quantities shall be calculated in cubic yards by the average end area method based on the initial and final surveys.

c. Unit of measure: Cubic Yards (CD).

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 03 - CONCRETE

SECTION 03052

CONCRETE: PRODUCTION AND TRANSPORT

-- End of Section Table of Contents --

SECTION 03052

CONCRETE: PRODUCTION AND TRANSPORT

PART 1 GENERAL

1.1 SUMMARY

This section addresses the basic requirements for concrete production including requirements for batch plants and truck mixed concrete.

1.2 REFERENCES

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

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 136	(2001) Sieve Analysis of Fine and Coarse Aggregates
ASTM C 172	(1999) Sampling Freshly Mixed Concrete
ASTM C 31/C 31M	(2003) Making and Curing Concrete Test Specimens in the Field
ASTM E 11	(2001) Wire Cloth and Sieves for Testing Purposes

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

NIST HB 44	(1997) NIST Handbook 44: Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices

NATIONAL READY-MIXED CONCRETE ASSOCIATION (NRMCA)

NRMCA CPMB 100	(1996) Concrete Plant Standards
NRMCA TMMB-01	(1992) Truck Mixer Agitator and Front Discharge Concrete Carrier Standards of the Truck Mixer Manufacturers Bureau

PRECAST/PRESTRESSED CONCRETE INSTITUTE (PCI)

PCI MNL-116	(1999) Quality Control for Plants and Production of Precast Prestressed Concrete Products

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE CRD-C 143	(1962) Specifications for Meters for Automatic Indication of Moisture in Fine Aggregate

COE CRD-C 55	(1992) Test Method for Within-Batch Uniformity of Freshly Mixed Concrete
COE CRD-C 61	(1989a) Determining the Resistance of Freshly Mixed Concrete to Washing Out in Water
ER 1110-1-261	(1999) Quality Assurance of Laboratory Testing Procedures

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. 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-01 Preconstruction Submittals

Conveying Equipment; G ED.

The methods and description of the equipment proposed for transporting, handling, and depositing the concrete shall be submitted for review 60 days before concrete placement begins. The data submitted shall include site drawings or sketches with locations of equipment and placement site.

SD-02 Shop Drawings

Batch Plant Layout; G ED.

The Contractor shall prepare and submit for approval complete drawings that show the layout of the batch plant and details of equipment, including all ancillary or auxiliary equipment and storage and equipment enclosures. These drawings shall be fully coordinated with the proposed site layout drawings as specified in Sections 01525 TEMPORARY CONSTRUCTION FACILITIES and 01526 GOVERNMENT FACILITIES. These drawings shall be submitted along with the Concrete Production Plan.

Mixers; G ED.

The make, type, capacity, and number of the concrete mixers proposed for use shall be submitted 60 days prior to installation for review by the Contracting Officer for conformance with the requirements of paragraph "Mixers".

SD-03 Product Data

Batch Plant; G ED.

Details and data on the concrete plant shall be submitted within 30 days prior to ordering the plant, for review by the Contracting Officer for conformance with the requirements of this Section of the Specifications..

Spare Parts

Spare parts data shall be submitted to the Contracting Officer, after approval of batch plant equipment and plans, and within 30 days prior to

delivery of the equipment. The data shall include a complete list of parts and supplies, including lubricants and fluids, current unit prices, sources of supply, and a list of the parts recommended by the manufacturer to be replaced on a regular schedule for the first 48 months of productive operation of the equipment at the rated capacities and for longer term usage.

SD-07 Certificates

Qualifications; G RE.

Written documentation for Contractor Quality Control personnel.

SD-10 Operation and Maintenance Data

Operating and Maintenance Manuals.

In addition to the requirements of Section 01781 OPERATION AND MAINTENANCE MANUALS, the Contractor shall incorporate the following into the operation and maintenance manual for the "BATCH PLANT EQUIPMENT". Data shall include, but not be limited to, the following:

The contractor shall provide complete documentation for the setup, operation, inspection and maintenance of the batch plant equipment, and shall include the manufacturer's names, model numbers, service manuals, parts lists, and complete descriptions of all equipment and their basic operating features, accompanied by listings of the step-by-step procedures required for equipment setup startup, operation, routine operation and maintenance procedures, possible breakdowns and repairs, troubleshooting guides, and equipment layout and simplified wiring and control diagrams of the equipment. In addition, the Contractor shall provide detailed procedures for the preparation, shutdown and long-term storage of the equipment, including recommended maintenance procedures and parts replacement prior to shutdown.

1.4 QUALIFICATIONS

Contractor Quality Control personnel assigned to concrete construction shall be American Concrete Institute (ACI) Certified Workmen in one of the following grades:

Concrete Field Testing Technician, Grade I
Concrete Laboratory Testing Technician, Grade I or II
Concrete Construction Special Inspector

The foreman or lead journeyman of the flatwork finishing crew shall have similar qualification for ACI Concrete Flatwork Technician/Finisher or equal, with written documentation.

1.5 MIXTURE PROPORTIONS

Concrete mixture proportions shall be in accordance with Section 03051 CONCRETE: MIXTURE PROPORTIONING.

PART 2 PRODUCTS

2.1 Materials for Concrete

Materials to be used for the production of concrete shall conform to

Section 03050 CONCRETE: MATERIALS.

2.2 ON-SITE BATCH PLANT ENCLOSURES

2.2.1 Batch Plant Enclosure

The batch plant shall be enclosed as provided by the plant manufacturer. The enclosure shall consist of durable, weather-proof panels. The enclosure shall protect the plant from weather and shall facilitate dust collection and heating in cold weather.

2.2.2 Admixture Storage

Admixtures shall be maintained in a building or other permanent enclosure. The building enclosure shall be a pre-engineered, pre-fabricated building of steel construction, designed and manufactured by a company regularly engaged in the design and manufacture of pre-engineered, pre-fabricated buildings. The building shall be insulated and provided with heating, and ventilation suitable for year-round operation of the building. The enclosure shall prevent the admixtures from freezing, and maintain temperatures that will prevent excessive heat. The enclosure shall provide at least one man entrance, and a bay door with a minimum height of 12 feet. The dimension of the building shall be a minimum of 40 feet by 30 feet. The height of the enclosure shall be adequate for installation and maintenance of admixture storage containers, including all pumps and piping required to deliver the admixtures to the batch plant. Piping for delivering the admixtures to the batch plant shall be protected and adequately heated to prevent freezing.

2.2.3 Maintenance And Supply Enclosure

The Contractor shall furnish and construct an enclosed building for the storage of spare batch plant parts and equipment, and for the performance of maintenance and repair activities. The building enclosure shall be a pre-engineered, pre-fabricated building of steel construction, designed and manufactured by a company regularly engaged in the design and manufacture of pre-engineered, pre-fabricated buildings. The building shall be insulated and provided with heating, ventilating and air conditioning equipment suitable for year-round operation of the building. The building may be integral with the admixture enclosure The Contractor shall be responsible for determining the size, layout and location of the building within the fenced in area at the left bank batch plant site, as well as the interior layout of the building, including lighting, furniture, shelving, equipment and means of ingress/egress. The size of the building shall be adequate for storing all required spare parts and spare equipment and shall be of suitable size to perform the maintenance or repair activities on the batch plant equipment.

2.3 ON-SITE BATCH PLANT COMMUNICATIONS

A common communication system shall be provided between the control room, testing room, sampling locations, QC/QA laboratory and any location critical to the operation of the plant.

PART 3 EXECUTION

3.1 CONCRETE PRODUCTION

3.1.1 General

Methods and equipment used in the production of concrete shall be subject to approval. The batch plant and other components shall not be ordered until the plant and components have been approved. After approval of the plant and components, any modification to the plant or equipment shall be approved by the Contracting Officer. At the completion of the contract, batch plant and associated enclosures shall become the property of the Government. The contractor shall be responsible for assuring that the plant and equipment are maintained and in good working order, and shall be responsible for preparing and putting the plant in a shutdown/storage mode. Concrete shall be batched and mixed on site using an automatic or semi-automatic central mixed concrete batch plant. The batching, mixing, conveying and placing system shall have a capacity of at least 150 cubic yards per hour. Truck mixers for transporting, agitators, and nonagitating transporting units shall comply with NRMCA TMMB-01. Concrete shall be batched and mixed on site and shall conform to the following subparagraphs.

3.1.2 On-Site Batch Plant

The batch plant shall be placed at the location shown. The batch plant shall have a dual-drum configuration and shall conform to the requirements of NRMCA CPMB 100 and as specified. Each drum shall have a minimum batch capacity of 10 cubic yards.

3.1.2.1 Bins, Silos and Containers

Separate bins, compartments, and silos shall be provided for each size or classification of aggregate and for each of the cementitious materials. The compartments shall be of ample size and so constructed that the various materials will be maintained separately under all working conditions. All aggregate and powder constituent in-plant bins shall be adequately iszed to maintain a concrete production rate of 150 CY/hr. All compartments containing bulk cement, pozzolan, ground granulated blast-furnace slag, silica fume or limestone powder shall be separated from each other by a free-draining air space. All filling ports and containers shall be clearly marked with a permanent sign stating the contents. In addition to in-plant cementitious material storage bins, five (5) vertical silos shall be provided for additional secondary storage of portland cement, fly ash, GGBFS, limestone powder and silica fume. The silos may be individual silos or may be compartmental provided the compartments are divided by free draining air space. The secondary silos may be outside the batch plant enclosure. The combined storage capacity of in-plant bins and secondary storage for each material shall be adequate for the plant capacity, except that the minimum combined capacity of the in-plant bins and secondary storage shall be 1000 barrels for each of three of the (3) ~~silos~~constituents, and 500 barrels mninimum combined capacity of in-plant bins and secondary storage for each of the other two (2) ~~silos~~constituents. In addition, the capacities of all storage biins and silos shall be adequate to supply the concrete at the minimum rate of 150 CY/hr without interruption to a placement. Any transfer from the secondary silo to the in-plant bins, and any large placement that require restocking during the placement shall be accomplished without undue disruption to concrete production. The plant shall be configured so that additional material can be restocked during a placement without interruption, or the storage silo capacities shall be

large enough so that the placements can be accomplished in a continuous and uninterrupted manner. For the purposes of sizing storage bins and silos, the following unit weights shall be used:

Cement 94 pcf
Fly Ash 47 pcf
GGBFS 84 pcf
Limestone Powder 76 pcf
Silica Fume 40 pcf

All in-plant bins and secondary storage silos shall include high and low level indicator lights at the bin or silo. Each secondary storage silo shall be equipped with a filling blower dedicated to the individual silo.

3.1.2.2 Batching Equipment

Batching equipment shall be designed to produce large volumes of concrete and shall be capable of producing the wide variety of concrete types required for this project. The batching controls shall be semiautomatic or automatic, as defined in NRMCA CPMB 100. A semiautomatic batching system shall be provided with interlocks such that the discharge device cannot be actuated until the indicated material is within the applicable tolerance. The batching system shall be equipped with accurate recorder or recorders that meet the requirements of NRMCA CPMB 100. The plant shall be arranged so as to facilitate the inspection of all operations at all times. The plant operator shall be capable of visually monitoring all physical batching, mixing and discharge operations from the control room. Suitable facilities shall be provided for obtaining representative samples of aggregates from the feed into the batch plant after the aggregates are rescreened, and for sampling and calibrating the dispensing of cementitious material, water, and admixtures.

a. Batchers - Each aggregate shall be weighed in separate weigh batchers with individual scales. Aggregate shall not be weighed in the same batcher with cementitious material. Bulk cement and/or other cementitious materials shall each be weighed on a separate scale and weigh batcher designated for cementitious material only. If both portland cement and other cementitious material are used, they may be batched cumulatively, provided that the portland cement is batched first, except that silica fume shall always be weighed and batched separately. Water may be measured by weight or volume. Water shall not be weighed or measured cumulatively with another ingredient. Ice shall be measured separately by weight. ~~Admixtures~~Chemical and mineral admixtures shall be batched separately and shall be batched by weight or by volume in accordance with the manufacturer's recommendations. The weight or volume of all concrete constituents shall be automatically recorded.

b. Water Batcher - A suitable water-measuring and batching device shall be provided that will be capable of measuring and batching the mixing water within the specified tolerances for each batch. The mechanism for delivering water to the mixers shall be free from leakage when the valves are closed. The filling and discharge valves for the water batcher shall be so interlocked that the discharge valve cannot be opened before the filling valve is fully closed. Piping for water shall be free from leaks and shall be properly valved to prevent backflow or siphoning. When a water meter is used, a suitable strainer shall be provided ahead of the metering device. The water and ice batcher shall be capable of ready adjustment to compensate for

aggregate moisture content. Use of slump meters or motor amperage meters for controlling the amount of water batched will not be permitted.

c. Admixture Dispensers - A separate batcher or dispenser shall be provided for each admixture. Each plant shall be equipped with the necessary calibration devices that will permit convenient checking of the accuracy of the dispensed volume of the particular admixture. The batching or dispensing devices shall be capable of repetitively controlling the batching of the admixtures to the accuracy specified. Piping for liquid admixtures shall be free from leaks and properly valved to prevent backflow or siphoning. The dispensing system shall include a device or devices that will detect and indicate the presence or absence of the admixture or provide a convenient means of visually observing the admixture in the process of being batched or discharged. Each system shall be capable of ready adjustment to permit varying the quantity of admixture to be batched. Each dispenser shall be interlocked with the batching and discharge operations so that each admixture is added separately to the batch in solution in a separate portion of the mixing water or in fine aggregate in a manner to ensure uniform distribution of the admixtures throughout the batch during the required mixing period. Admixtures shall be furnished as a liquid of suitable concentration for easy control of dispensing. Storage and handling of admixtures shall be in accordance with the manufacturer's recommendations. Admixture storage vats shall contain paddle-type agitators or a suitable circulation system, and the entire admixture system shall be adequately protected from extreme temperatures and conditions by a temperature controlled enclosure.

d. Moisture Control - The plant shall be capable of ready adjustment to compensate for the varying moisture content of the aggregates and to change the weights of the materials being batched. A microwave moisture meter complying with the provisions of COE CRD-C 143, including optional requirements, shall be provided for measurement of moisture for each fine aggregate used. The sensing element shall be arranged so that the measurement is made as close to the batcher discharge gate of the aggregate batcher as practical. The accuracy of the meter will be tested in accordance with Section 03050 CONCRETE: MATERIALS, Paragraph "Moisture Content."

e. Scales - Adequate facilities shall be provided for the accurate measurement and control of each of the materials entering each batch of concrete. The weighing equipment and controls shall conform to the applicable requirements of CPMB Concrete Plant Standard and of NIST HB 44, except that the accuracy shall be within 0.2 percent of the scale capacity. The Contractor shall provide standard test weights and any other auxiliary equipment required for checking the operating performance of each scale or other measuring devices. Tests shall be made at the frequency required in paragraph TESTING AND INSPECTIONS, in the presence of a Government inspector. Each weighing unit shall include a visible indicator that shall indicate the scale load at all stages of the weighing operation and shall show the scale in balance at zero load. The weighing equipment shall be arranged so that the concrete plant operator can conveniently observe the indicators.

f. Operation and Accuracy - The weighing operation of each material shall start automatically when actuated by one or more starter switches and shall end when the designated amount of each material has been reached. These requirements can be met by providing a semiautomatic or

automatic batching system as defined by NRMCA CPMB 100. There shall be equipment to permit the selection of twenty (20) preset mixes each by the movement of not more than two switches or other control devices. ~~Cumulative weighing will not be permitted except that cementitious materials may be batched cumulatively with other cementitious materials, provided the cement is batched first, and aggregates may be weighed cumulatively provided the smallest aggregate is batched first. Cementitious materials and aggregates shall not be cumulatively weighed together or with any other material..~~ The weigh batchers shall be so constructed and arranged that the sequence and timing of batcher discharge gates can be controlled to produce a ribboning and mixing of the aggregates, water, admixtures, and cementitious materials as the materials pass through the charging hopper into the mixer. The plant shall include provisions to facilitate the inspection of all operations at all times.

g. Interlocks - Batchers and mixers shall be interlocked so that:

(1) The charging device of each batcher cannot be actuated until all scales have returned to zero balance within ±0.2 percent of the scale capacity and each volumetric device has reset to start or has signaled empty.

(2) The charging device of each batcher cannot be actuated if the discharge device is open.

(3) The discharge device of each batcher cannot be actuated if the charging device is open.

(4) The discharge device of each batcher cannot be actuated until the indicated material is within the allowable tolerances.

(5) One admixture is batched automatically with the water.

(6) Each additional admixture is batched automatically with a separate portion of the water or with the fine aggregate.

(7) The mixers cannot be discharged until the required mixing time has elapsed.

h. Recorder - An accurate recorder or recorders shall be provided and shall conform to the following detailed requirements:

(1) The recorder shall provide digital readout to the concrete batch plant operator for visual verification of quantities being batched. The recorder shall show the actual weight or volume being batched, the design weight or volume, and the percent accuracy of the actual-to-design quantities for each constituent, and shall indicate aggregate moistures.

(2) The batch ticket shall provide the actual weight or volume batched, the design weight or volume, and the percent accuracy of the actual-to-design quantities for each constituent. The batch ticket shall also document the concrete mix number, the batch time, aggregate moisture contents, and any adjustments to the water and/or ice quantities.

(3) The batch tickets shall be secured and under the control of the batch plant operator until they are turned over to the

Government.

(4) The batch ticket shall show time and day of the batching operation.

(5) The original batch ticket shall become the property of the Government.

(6) The recorder shall be placed in a position convenient for observation by the concrete plant operator and the Government inspector.

(7) The recorded weights or volumes when compared to the weights or volumes actually batched shall be accurate within the paragraph entitled "Batching Tolerances".

i. Batch Counters - The plant shall include devices for automatically counting the total number of batches of all concrete batched and the number of batches of each preset mixture.

j. Washing Plant - All coarse aggregates shall be washed immediately prior to entering the rescreening plant. The rewashing plant shall contain adequate water nozzles and vibrating screens to remove foreign materials and coatings from aggregate particles. Water used for washing shall meet the requirements of Section 03050 CONCRETE MATERIALS, paragraph WATER.

k. Rescreening Plant - A rescreening plant shall be located, arranged, and operated in a manner that all coarse aggregate will be routed through the plant and that its operation will ensure delivery to the mixers of coarse aggregate free from excessive variation and conforming to Section 03050 CONCRETE MATERIALS, paragraphs "Aggregate Gradation" and "Moisture Content". Coarse aggregate may be rescreened and delivered to the batch plant bins one size aggregate at a time or with two or more adjacent sizes at a time. Rescreening of nonadjacent sizes is not permitted. All material passing the bottom screen of the smallest size of coarse aggregate being screened shall be wasted. All oversized material shall be diverted away from the rescreening bins and wasted. Oversized material from one size aggregate shall not be deposited in the bin of any other size.

l. Dust Collection System - Dust produced from handling and batching materials shall be collected by a dust collection system or bag house. Material collected shall be disposed of in accordance with Section 02040 DISPOSAL OF MATERIALS. Routing of material or otherwise disposing of the material in the concrete is not permitted. The collection system shall be adequately sized for the production capacity of the batch plant.

m. Trial Operation - In coordination with the first trial batching operation required under Section 03051 CONCRETE: MIXTURE PROPORTIONING, a test of the batching and mixing plant shall be made in the presence of the Contracting Officer to check operational adequacy. All concrete produced in these tests shall be wasted or used for purposes other than inclusion in structures covered by this specification. All deficiencies found in plant operation shall be corrected prior to the start of concrete placing operations. No separate payment will be made to the Contractor for labor or materials required by provisions of this paragraph. The Contractor shall notify the Contracting Officer of the

trial operation not less than 7 days prior to the start of the trial operation.

n. Protection - The weighing, indicating, recording, and control equipment shall be protected against exposure to dust, moisture, and vibration so that there is no interference with proper operation of the equipment.

3.1.2.3 Batching Tolerances

(A) Tolerances with Weighing Equipment

MATERIAL	PERCENT OF REQUIRED WEIGHT
Cementitious materials	0 to plus 2
Aggregate	plus or minus 2
Water/Ice	plus or minus 1
Chemical admixture	0 to plus 6

(B) Tolerances with Volumetric Equipment

For volumetric batching equipment used for water and admixtures, the following tolerances shall apply to the required volume of material being batched:

MATERIAL	PERCENT OF REQUIRED MATERIAL
Water:	plus or minus 1 percent
Chemical admixtures:	0 to plus 6 percent

3.1.2.4 Heating and Cooling Plants

A separate heating system and cooling system shall be provided to control and maintain the concrete placement temperature. Each plant may control any one or combination of the concrete constituents, except that cementitious material shall not be heated, and admixtures shall not be heated or cooled. The heating system shall be capable of rapidly heating large volumes of water and for producing steam. The cooling system shall be capable of chilling water and producing ice. An ice system shall be provided to replace a portion of the mixing water, however an adequate amount of water shall be delivered to the mixer to allow delivery and disbursal of the admixtures. The ice system shall produce ice at the plant and shall be capable of automatically delivery of the ice to a weigh hopper dedicated to ice.Ice trailers are not permitted, ice must be produced at an on-site ice plant. Any ice that is batched shall be melted and blended in the concrete before the concrete is released from the mixer. Heating of the aggregate shall be controlled so that the absorbed moisture is not driven out of the aggregate. The heating and cooling systems shall be adequately sized for project temperature conditions, including the extreme range of water temperature if Monongahela River water is used.

3.1.2.5 Laboratory Areas

A room or enclosure shall be provided in the plant for testing fresh concrete and for fabricating and initial curing of concrete test specimens in accordance with ASTM C 31/C 31M. The room or enclosure shall be protected from the weather, and shall provide adequate working space to

perform the required testing. The size, arrangement, and location of this room shall be subject to approval. The Contractor shall provide electricity, air conditioning, heat, and water as required for use in the laboratory area. Section 01526 GOVERNMENT FACILITIES presents requirements for a separate building within the Government's field offices which shall be equipped for the primary concrete testing laboratory. The laboratory shall be under the control of the Government, but shall be used for Contractor Quality Control and Government Quality Assurance

3.1.2.6 Plant Layout Drawings

Drawings showing the layout of the plant shall be submitted by the Contractor for review and approval by the Contracting Officer. The drawings shall show the locations of the principal components of the construction plant; offices; shop and storage building; and storage areas and yards which the Contractor proposes to construct at the site of the work and elsewhere. The Contractor shall also furnish for review drawings showing the general features of his aggregate processing plant; aggregate transporting; storage and reclaiming facilities; aggregate washing plant; coarse aggregate rescreening plant; concrete batching and mixing plant; concrete conveying and placing plant; heating plant; and the cooling plant. The drawing shall appropriately show the capacity of each major feature of the plant including the rated capacity of the aggregate production plant in tons (2000 lb) per hour of fine and coarse aggregates; rated capacity of the aggregate transporting, storage and reclaiming facilities; volume of aggregate storage; capacity of cementitious material storage; rated capacity of the concrete batching and mixing plant in cubic yards per hour; rated capacity of the concrete transporting and placing plant in cubic yards per hour; and when used rated capacity of plant for precooling of concrete. The drawing shall also show the location, storage container design and capacity, and enclosure for the admixtures and silica fume.

All batch plant layout drawings shall be approved by the Contracting Officer before any equipment is ordered.

Drawings showing any changes in plant made during design and erection or after the plant is in operation shall be submitted for review and approval of the Contracting Officer.

3.1.3 Off-Site Production Facilities

The plant shall provide a batch ticket in accordance with paragraph "Recorder" for each batch of concrete used for the project. Concrete shall be central-mixed or truck-mixed.

3.1.3.1 Precast Concrete Plant

The capacity shall be adequate to produce the required precast units without cold joints or construction joints that are not shown on the drawings. Plants used to fabricate prestressed precast units shall be certified by the Precast/Prestressed Concrete Institute (PCI) in accordance with the PCI Plant Certification Program and PCI MNL-116, and shall be certified for the group and category represented by the element being fabricated. Plants used to fabricate conventionally reinforced precast units shall be certified by PCI or by the National Precast Concrete Association (NPCA). Materials used at off-site production facilities to produce precast concrete shall be approved in accordance with Section 03050 CONCRETE MATERIALS. The materials may be those approved for project site

concrete production, or different materials may be submitted for approval and use at off-site production facilities. Washing of coarse aggregate may be waived at the discretion of the Contracting Officer if the contractor can demonstrate that aggregate delivered to the mixer does not contain fines in excess of the aggregate quality requirements or contain deleterious coatings.

3.1.3.2 Ready-Mix Concrete Plant

Ready-Mix concrete requirements and requirements for Ready-Mix plants are specified in Section 03315.

3.1.4 Mixers

Mixers shall be stationary mixers. Mixers shall be capable of combining the materials into a uniform mixture and of discharging this mixture without segregation. The mixers shall not be charged in excess of the capacity recommended by the manufacturer. Excessive over-mixing requiring introduction of additional water will not be permitted. The mixers shall be operated at the drum or mixing blade speed designated by the manufacturer. The mixers shall be maintained in satisfactory operating condition, and the mixer drums shall be kept free of hardened concrete. Mixer blades shall be inspected every 30 days, and shall be examined for worn, broken or missing components. If inspection of the mixer blades shows excessive wear, broken or missing components, concrete operations shall cease until such necessary repairs are made. Mixer blades or paddles shall be replaced when worn down more than 10 percent of their depth when compared with the manufacturer's dimension for new blades. Should any mixer at any time produce unsatisfactory results, its use shall be promptly discontinued until it is repaired or replaced. Shutdown of the mixer for inspection, repair or replacement shall be at the expense of the Contractor, and no additional cost or time extension will be granted.

3.1.4.1 Stationary Mixers

Concrete plant mixers shall be drum-type tilting mixers capable of producing the various types of concrete required, and shall be provided with an acceptable device to lock the discharge mechanism until the required mixing time has elapsed. Mixer drums shall be fitted with a liner as recommended by the manufacturer. The minimum capacity of each mixer shall be adequate to contain a 10 cubic yard batch of concrete.

a. Minimum Stationary Mixer Uniformity Requirements.

Prior to the start of production, mixer uniformity tests shall be conducted on a minimum of two types of concrete, and the mixtures to be tested shall be directed by the Contracting Officer. The uniformity tests shall be used to establish the required mix time. The Contractor may elect to perform additional testing in order to optimize mixing time. All tests shall be performed in the presence of the Contracting Officer, or his Authorized Representative. The size of the batch, the mixing time, the charging sequence, and other factors identified by the contractor shall be adjusted to provide concrete that meets the uniformity limits specified herein. All testing shall be performed in accordance with COE CRD-C 55. When regular testing is performed, the concrete shall meet the limits of any five of the six uniformity requirements, except tremie concrete shall meet washout loss uniformity. When abbreviated testing is performed, the concrete shall meet only those requirements listed for abbreviated testing. The initial mixer evaluation test shall be a regular test and shall be performed prior to the

start of concrete placement. The concrete proportions used for the evaluation shall contain the largest size aggregate on the project and shall be as directed. Regular testing shall consist of performing all six tests on three batches of concrete. The range for regular testing shall be the average of the ranges of the three batches. Abbreviated testing shall consist of performing the three required tests on a single batch of concrete. The range for abbreviated testing shall be the range for one batch. If more than one mixer is used and all are identical in terms of make, type, capacity, condition, speed of rotation, etc., the results of tests on one of the mixers shall apply to the others, subject to approval. Mixer evaluations shall be performed by the Contractor in accordance with paragraph "Mixer Uniformity". Tests shall be performed in the presence of the Government. The Contractor shall provide labor and equipment as directed to assist the Government in performing any evaluation made by the Government.

PARAMETER	REGULAR TESTS ALLOWABLE MAXIMUM RANGE FOR AVERAGE OF 3 BATCHES	ABBREVIATED TESTS ALLOWABLE MAXIMUM RANGE FOR 1 BATCH
Unit weight of air-free mortar, lb/cu ft	2.0	2.0
Air content, percent	1.0	---
Slump, inches	1.0	---
Coarse aggregate, percent	6.0	6.0
Compressive strength at 7 days, percent	10.0	10.0
Water content, percent	1.5	---
Washout Loss, percent	2.0	---

Note: Washout loss shall be tested in accordance with COE CRD-C 61.

3.1.5 Sampling Facilities

3.1.5.1 Concrete

The Contractor shall provide suitable facilities and labor for obtaining representative samples of concrete in accordance with ASTM C 172 for Contractor Quality Control (QC) and Government Quality Assurance (QA) testing. A mechanized sampler capable of retrieving a minimum sample size of 18 cu. ft. shall be provided, and shall be capable of retrieving the concrete from the mixer or wet hopper at the mixer discharge, and withdrawing into the testing room.

3.1.5.2 Coarse Aggregate

Suitable facilities shall be provided for readily obtaining representative samples of coarse aggregate for test purposes immediately prior to the material entering the mixer. The facilities shall include automatic equipment capable of obtaining, sieving, and weighing samples of the coarse aggregate containing a minimum of 500 pounds. Samples shall be obtained after rescreening. The aggregate can be sampled at any point between the rescreener and the mixer, therefore this can be before or after the

aggregate storage bins.

The equipment shall be capable of running a complete sieving, of any required sample, without the necessity of intermittent loading. To accomplish this, adequate areas of individual sieves and controlled feeding of samples shall be provided. The assembly shall be designed to permit selection, screening, and weighing of any individual sample without impacting production. The equipment shall be designed by a company engaged in the design and manufacture of aggregate sieving devices. The Contractor shall have complete responsibility for providing equipment that will accomplish the desired purpose. Sieves shall meet the applicable requirements of ASTM E 11, except for the frame size requirements. The equipment shall be arranged so that all controls will be enclosed and operable from a single position commanding a view of the screen device and the scale or scales. Communication shall be provided from the batch plant operation to this control area. The Contractor shall be responsible for charging of the assembly as directed, disposal of waste material, and proper service and maintenance of the assembly. Each sieve shall be provided with individual controls for frequency and angle. The contractor shall run correlation tests with equipment as used for ASTM C 136 before concrete placement begins and at least every 60 days while concrete is being placed. The correlation test will determine the optimum angle, volume of feed, and the frequency for each sieve.

3.1.5.3 Fine Aggregate

Suitable facilities shall be provided for readily obtaining representative samples of fine aggregate for test purposes immediately prior to the material entering the mixer. Access shall be provided so that a cross-section of fine aggregate may be removed from the feed belt supplying the bin from which fine aggregate is batched. Access for sand sampling shall include a platform and lockout switch to assure technician safety while the sample is obtained.

3.1.6 Transporting Equipment

Transporting equipment shall be designed, operated, and maintained so that it does not cause or permit segregation or loss of material. Aluminum pipe or equipment shall not be used for conveying or placing concrete.

3.1.6.1 Buckets

The interior hopper slope shall be not less than 70 degrees from the horizontal, the minimum dimension of the clear gate opening shall be at least 5 times the nominal maximum-size aggregate, and the area of the gate opening shall not be less than 3 square feet. The maximum dimension of the gate opening shall not be greater than twice the minimum dimension. The buckets shall be designed for use with mass concrete and aggregate sized up to 4-inches. The bucket gates shall be essentially grout tight when closed and may be manually, pneumatically, or hydraulically operated except that buckets larger than 2 cubic yards shall not be manually operated. The design of the bucket shall provide means for positive regulation of the amount and rate of deposit of concrete in each dumping position.

3.1.6.2 Transfer Hoppers

Transfer hoppers shall be capable of receiving concrete directly from delivery vehicles and shall have conical-shaped discharge features. The transfer hopper shall be equipped with a hydraulically operated gate and

with a means of external vibration to effect complete discharge. Transfer hoppers shall be shaded and protected from wind and precipitation.

3.1.6.3 Trucks

Truck mixers or agitators used for transporting central-mixed concrete shall conform to the applicable requirements of NRMCA TMMB-01. Truck mixers shall not be used to transport concrete with larger than 1-1/2 inch nominal maximum-size aggregate. Nonagitating trucks shall be used only for transporting central-mixed concrete over a smooth road when the hauling time is less than 15 minutes and the slump is less than 3 inches. Bodies of nonagitating trucks shall be smooth, watertight, metal containers specifically designed to transport concrete, shaped with rounded corners to minimize segregation, and equipped with gates that will permit positive control of the discharge of the concrete.

3.1.6.4 Chutes

When concrete can be placed directly from a truck mixer, agitator, or nonagitating truck, the chutes supplied by the truck manufacturer as standard equipment may be used. A discharge deflector shall be used when required by the Contracting Officer. Separate chutes and other similar equipment shall not be permitted for conveying concrete except when specifically approved and in no case shall slump be increased to accommodate their use.

3.1.6.5 Belt Conveyors

Belt conveyors shall be designed and operated to assure a uniform flow of concrete from mixer or delivery truck to final place of deposit without segregation of ingredients or loss of mortar and shall be provided with positive means, such as discharge baffle or hopper, for preventing segregation of the concrete or loss of mortar at the transfer point(s) and the point of placing. The idler spacing shall not exceed 36 inches.Belt speed shall be a minimum of 300 feet per minute and a maximum of 750 feet per minute. Belts used to convey material between the batch plant components, including belts receiving concrete from a wet hopper, shall be adequately sized, but shall not be less than 48 inches wide. Belts used to convey concrete from the batch plant to any point leading to the point of placement shall be designed for flowable concrete and stiffer concrete containing up to 4-inch aggregate. The belts shall be adequately sized per the manufacturer's recommendations, but shall not have a cross-sectional width less than 16 inches. The NMSA required in mixture proportions furnished by the Government will not be changed to accommodate the belt width. If concrete is to be placed through installed horizontal or sloping reinforcing bars, the conveyor shall discharge concrete into a pipe or elephant truck that is long enough to extend through the reinforcing bars.

3.1.6.6 Pumps

The pumping equipment shall be piston or squeeze-pressure type; pneumatic placing equipment shall not be used, unless otherwise approved. The pipeline shall be rigid-steel pipe or heavy-duty flexible hose. Aluminum pipe shall not be used. The inside diameter of the pipe shall be at least 3 times the nominal maximum size of the coarse aggregate in the concrete to be pumped but not less than 4 inches.

3.1.6.7 Tremie Pipes

A funnel-shaped hopper of sufficient volume, but not less than 2 cubic yards, shall be required at the top of all tremie pipes. The hopper shall be of a size capable of receiving and passing the concrete into the pipe at the capacity rate of the batching, mixing and conveying equipment. The tremie pipe shall be as shown and/or specified elsewhere, or if not shown or specified, shall be of sufficiently large to permit the free flow of concrete. Tremie pipe shall be a minimum internal diameter of 10-inches. Tremie pipe shall be made of steel and have watertight joints. Hoisting equipment for lifting and lowering pipes and tools for connecting the pipe sections shall be continuously available and on hand. Each section of tremie pipe shall have threaded connections or shall have gasketed fittings. For pipe connections that are coupled and not threaded, the coupling alone will not be considered watertight. Additional seals shall be provided around the coupling to assure a watertight connection. A plate and gasket or other suitable watertight cap shall be secured to the bottom of pipes to prevent contact of the concrete or grout with water until the start of the placement. Before concrete is placed in the tremie pipe, the pipe with the end plate secured shall be lowered and put in contact with the bottom of the placement. The pipe and hopper shall be fully charged, then the pipe shall be raised 6-inches to initiate flow of concrete. Additional concrete shall be ready at the point of placement to allow a continuous flow of concrete down the pipe.

3.2 SPARE EQUIPMENT, SUPPLIES AND SERVICES

3.2.1 Spare Parts, Equipment and Supplies

The Contractor shall be responsible for furnishing and maintaining an adequate supply of spare parts and equipment to ensure that replacement of parts or equipment will not interfere with concrete production. As specified in paragraph "SUBMITTALS", the Contractor shall be responsible for furnishing a listing of spare parts, equipment and supplies that are recommended by the manufacturer for replacement within the first 48 months of production at the rated capacities of the equipment, and for longer term usage. The Contractor shall also furnish the spare parts, equipment, and supplies recommended by the manufacturer for the first 12 months of operation, and shall maintain the inventory of spare parts recommended by the manufacturer throughout the life of the Contract. In addition, the Contractor shall furnish at least one replacement electric motor of each type used in the batch plant.

3.2.1.1 Additional Spare Parts

In addition to maintaining the spare parts required above, at the completion of the contract, the Contractor shall be responsible for furnishing the recommended spare parts for an additional 12 months beyond the completion of the contract, for future use by the Government.

3.2.2 Plant Maintenance

The Contractor shall furnish at least two specialized operators responsible for inspection, maintenance and repair of the batch plant equipment. These technicians shall be on-site full time during periods of concrete production. The technicians shall be factory trained in the inspection, maintenance and repair of the manufacturer's equipment, and shall have at least five years meaningful experience inspecting, maintaining and repairing concrete batch plant equipment. When necessary, the Contractor

shall be responsible for furnishing additional technicians to ensure that maintenance and repair of the batch plant equipment does not interfere with concrete production. If required to maintain warranty on the batch plant equipment, the technicians shall be factory certified in the repair or adjustment of the equipment. It is noted for the Contractor's information that conditions of the equipment warranty may require only factory authorized personnel or repair organizations to perform repair of the equipment. The Contractor shall ensure that the terms of the equipment warrant(Y)(ies) are not voided during the warranty period.

3.3 TRANSPORTING CONCRETE AT PROJECT SITE

Concrete shall be transported to the placing site by truck mixers, agitators or nonagitating transporting equipment conforming to NRMCA TMMB-01, or by approved pumping equipment or conveyors. The method used to transport concrete shall be adequate to achieve the required concrete production capacity. Concrete for all placements, especially tremie and flowable concretes shall use a transport system that provides a continuous and uninterrupted flow of concrete.

3.4 CONVEYING CONCRETE ON SITE

Concrete shall be conveyed from mixer and transporting unit to the point of placement as rapidly as possible and within the time interval specified by methods which will prevent segregation or loss of ingredients. Conveying equipment shall be cleaned before each placement. Methods and equipment for conveying and depositing the concrete into the form shall be subject to approval. The capacity of the transporting system shall be sufficient to supply concrete at a rate to prevent cold joints forming during placement, and as required in paragraph "Concrete Production". The concrete shall not be dropped vertically more than 3 feet for tremie and flowable concrete and grout, and 5 feet for all other concrete, except where suitable equipment is provided to prevent segregation and where specifically authorized. A properly designed and sized elephant trunk and rigid drop chute bottom section which will prevent free-fall within the elephant trunk and rigid drop chute shall be used . If concrete is to be placed through installed horizontal or sloping reinforcing bars, the concrete shall discharge into a pipe or elephant trunk that is long enough to extend through the reinforcing bars to within 5 feet of the placing surface. In no case will concrete be discharged to free fall through the reinforcing bars. The contractor is hereby alerted to project conditions and site restrictions that may affect concrete conveyance. Concrete conveyance shall not interfere with lock operation or navigation, and locking of concrete will not be permitted. Navigation between the batch plant and point of placement must consider flow conditions and gate operations required as part of the dam operation and during various steps in the construction sequence. Piers or supports for conveying equipment are not permitted upstream of the dam due to hydraulic and hydrologic issues. Piers and supports for a conveyance system may be feasible downstream of the dam, however the supports shall not be located in the restricted area downstream of the dam and they shall not interfere with river traffic or the operation of the lock and dam or otherwise alter the existing lock features or interfere with the design of the new wall. A conveyance system will be permitted to be supported from the dam piers provided the design does not interfere with gate operations and does not structurally damage or alter the dam piers.

3.4.1 Transporting by Bucket

Buckets shall have indicating and signaling devices for the control of identification of types or classes of concrete as they are mixed and discharged into buckets for transfer to the forms. Each type or class of concrete shall be visually identified by placing a colored tag or marker on a bucket as it leaves the mixing plant so that the concrete may be positively identified in the forms and placed in the structure in the desired position.

3.4.2 Transfer Hoppers

Concrete may be charged into nonagitating hoppers for transfer to other conveying devices. Concrete shall not be held in nonagitating transfer hoppers more than 30 minutes.

3.4.3 Transporting by Belt Conveyor

Methods and equipment for transporting the concrete by belt conveyor into the form shall be subject to approval. Enclosures over the conveyor shall be provided. The enclosures shall provide adequate protection from precipitation, sun and wind. Transfer points shall be provided with catch boxes that capture any spillage and wash water from cleaning the belts.

3.4.4 Transporting by Pump

Concrete may be conveyed by positive-displacement pump when approved. Pump placement will be approved only for areas where placement by bucket or conveyor is difficult or impractical. The nominal maximum-size coarse aggregate will not be reduced or mixture proportions changed to accommodate a pump except as specifically determined appropriate. The distance and height to be pumped shall not exceed limits recommended by the pump manufacturer. Any grout or material used to prime the pump and/or pump line shall be wasted outside the forms and placement. The concrete shall be supplied to the pump continuously. When pumping is completed, concrete remaining in the pipeline shall be ejected without contamination of concrete in place. After each operation the equipment shall be thoroughly cleaned and flushing water shall be wasted outside the forms and placement.

3.5 TESTING AND INSPECTIONS

The Contractor shall perform the inspection and tests described below and, based upon the results of these inspections and tests, shall take the action required and shall submit specified reports. When, in the opinion of the Contracting Officer, the concreting operation is out of control, concrete placement shall cease and the operation shall be corrected. The laboratory performing the tests shall be onsite and shall be certified by the Government in accordance with ER 1110-1-261. Materials may be subjected to check testing by the Government from samples obtained at the manufacturer, at transfer points, or at the project site. The Government will inspect the laboratory, equipment, and test procedures prior to start of concreting operations and at least once per year thereafter for conformance. No additional payment or time extension will be granted for performing any tests or correcting any deficiencies.

3.5.1 Scales, Batching and Recording

a. Weighing Accuracy - The accuracy of the scales shall be checked by test weights at least once a month for conformance with the applicable

requirements of paragraph "Batching Equipment". Such tests shall also be made as directed whenever there are variations in properties of the fresh concrete that could result from batching errors. In addition, annual tests shall be made of the scales by an independent testing firm using calibrated weights.

b. Batching and Recording Accuracy - Once a week the accuracy of each batching and recording device shall be checked during a weighing operation by noting and recording the required weight, recorded weight, and the actual weight batched. At the same time, the Contractor shall test and ensure that the devices for dispensing admixtures are operating properly and accurately.

c. Scales Corrective Action - When either the weighing accuracy or batching accuracy does not comply with specification requirements, the plant shall not be operated until necessary adjustments or repairs have been made. Discrepancies in recording accuracies shall be corrected immediately.

3.5.2 Batch-Plant Control

The measurement of concrete materials including cementitious materials, each size of aggregate, water, and admixtures shall be continuously controlled. The aggregate weights and amount of added water shall be adjusted as necessary to compensate for free moisture in the aggregates. The amount of air-entraining agent shall be adjusted to control air content within specified limits. Water reducing admixtures shall be adjusted to control the slump and slump flow within specified limits.

3.5.3 Mixer Uniformity

a. Mixer blades and paddles shall be inspected for wear every 30 days. When 10 percent or more of the blade or paddle is worn in any dimension, the blades or paddles shall be replaced before any concrete production continues. The Contractor shall be responsible for ensuring that mixer blades or paddles are replaced in a timely fashion, and no additional time extension will be granted for such work.

b. Stationary Mixers. Prior to the start of concrete placing and once every 3 months when concrete is being placed or once for every 75,000 cubic yards of concrete placed, whichever results in the longest time interval. Uniformity of concrete mixing shall be determined in accordance with COE CRD-C 55, and as specified in paragraph "Stationary Mixer Uniformity Requirements".

The initial and every fourth set of tests shall be regular tests performed on three batches of concrete, for a minimum of two concrete type selected by the Contracting Officer. Intermediate uniformity tests shall be abbreviated tests performed on a single batch of concrete. If the mixer fails the abbreviated test, a regular test shall be immediately performed. Whenever adjustments in a mixer or increased mixing time are required because of failure of a uniformity test, the mixer shall be reevaluated by a regular test after the adjustments have been completed. If the Contractor proposes to reduce a mixing time, a regular test shall be performed to evaluate the proposed time. Additional testing shall be performed when directed when there is visible evidence of possible improper mixer performance. Results of all uniformity

tests shall be reported in writing.

c. Mixer Uniformity Corrective Action. When a mixer fails to meet mixer uniformity requirements, either the mixing time shall be increased, batching sequence changed, batch size reduced, or adjustments shall be made to the mixer until compliance is achieved.

3.5.4 Reports

All results of tests or inspections conducted shall be reported informally as they are completed and in writing daily. A weekly report shall be prepared for the updating of control charts covering the entire period from the start of the construction season through the current week. During periods of cold-weather protection, reports of pertinent temperatures shall be made daily. These requirements do not relieve the Contractor of the obligation to report certain failures immediately as required in preceding paragraphs. Such reports of failures and the action taken shall be confirmed in writing in the routine reports. The Contracting Officer has the right to examine all contractor quality control records.

3.6 TURN OVER OF BATCH PLANT EQUIPMENT

At the completion of the contract, the Government will take ownership of all batch plant equipment and facilities, except those items such as Contractor's field trailer, etc that have been provided by the Contractor for his own use. After completion of all work, and before final payment is made to Contractor, and after approval of the Contracting Officer, the Contractor shall turn over all batch plant equipment and facilities to the Government. Prior to the Government taking ownership of these items, the Contractor shall be responsible for inspection of the batch plant facilities and repair or replacement of equipment or other features as directed by the Contracting Officer at no additional cost to the Government. Payment for such additional work shall be included in the bid item to which the work pertains. The Contractor shall schedule a Pre-Final inspection of all batch plant facilities with the Contracting Officer and his authorized representatives, and a punch list of items to be corrected will be developed. The Contractor shall ensure that any items noted on the Pre-Final inspection shall be corrected in a timely manner. After the deficiencies have been corrected, the Contracting Officer will schedule a final inspection of the batch plant equipment and facilities to ensure that the deficiencies have been corrected. In general, damage of any sort to the equipment and facilities will be evaluated, including the proper operation of the equipment and facilities as well as the overall cosmetic appearance of the equipment (e.g. rusting and paint deficiencies). Inspection shall also include assurance that all equipment has been shutdown and prepared for long term storage as recommended by the equipment manufacturer. Specific items to be inspected shall include, but are not limited to, the following:

a. ALL batch plant machinery and other batch plant operating equipment and enclosures provided by the Contractor, including but not limited to, batchers, mixers, dispensers, moisture control equipment, scales, batching recorders, washing plant, rescreening plant, dust collection system, and all other batch plant equipment to be provided under this Section of the Specifications, except equipment used to transport he concrete to the forms (e.g. trucks or conveyors).

b. Heating plant and cooling plant.

c. Water well.

d. Bins and silos.

e. Sampling facilities.

f. All on-site batch plant enclosures, including batch plant enclosure, admixture storage, and maintenance and storage enclosure.

g. On-site batch plant communications system.

3.6.1 Coordination With Turn Over of Other Equipment

The Contractor shall coordinate turn over of the equipment and facilities with the turn over of other equipment and facilities under this Contract, including the following:

a. Concrete lab and all equipment as specified in Section 01526 GOVERNMENT FACILITIES.

b. All electrical, water and sewage utilities as specified in Section 01526 GOVERNMENT FACILITIES

c. All water treatment facilities and equipment specified in Sections 02770 CONCRETE BATCH PLANT SEDIMENTATION BASINS, 02775 CONCRETE BATCH PLANT TREATMENT STRUCTURE and 11200 WATER TREATMENT UNITS, AND OPERATION, MONITORING & REPORTING.

d. All other facilities constructed for the Government as specified in Section 01526 GOVERNMENT FACILITIES.

-- End of Section --

This page was intentionally left blank for duplex printing.