U.S. Army Corps of Engineers
Kansas City District

Specifications for Operable Unit 2 - Building Demolition 75% Completion Phase

Cornell-Dubilier Electronics Superfund Site
South Plainfield, NJ

USACE Contract No. W912DQ-06-D-0006
Task Order No. 0001

June 2006

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CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE
OPERABLE UNIT 2 - BUILDINGS DEMOLITION
PROJECT TABLE OF CONTENTS

BID SCHEDULES

DOCUMENTS 00 - INTRODUCTORY, BIDDING, AND CONTRACT REQUIREMENTS

00102 LIST OF DRAWINGS

DIVISION 01 - GENERAL REQUIREMENTS

01110 SUMMARY OF WORK
01140 WORK RESTRICTIONS
01270A MEASUREMENT AND PAYMENT
01312A QUALITY CONTROL SYSTEM (QCS)
01320 PROJECT SCHEDULE
01330 SUBMITTAL PROCEDURES
01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST)
01356A STORM WATER POLLUTION PREVENTION MEASURES
01420 SOURCES FOR REFERENCE PUBLICATIONS
01450A CHEMICAL DATA QUALITY CONTROL
01451A CONTRACTOR QUALITY CONTROL
01500A TEMPORARY CONSTRUCTION FACILITIES
01550 SURVEYING
01700 REMEDIAL PACKAGE CLOSEOUT AND RECORD DOCUMENTS

DIVISION 02 - SITE CONSTRUCTION

02212 HANDLING AND DISPOSAL OF DRUMMED AND HAZARDOUS MATERIALS
02220 DEMOLITION
02310 EXCAVATION
02320 BACKFILL AND COMPACTION
02350 TRANSPORTATION AND DISPOSAL
02373 GEOTEXTILE
02650 STORAGE TANK REMOVAL
02742 HOT MIX BITUMINOUS PAVEMENT
02821A FENCING

DIVISION 03 - Not Used

DIVISION 04 - Not Used

DIVISION 05 - Not Used

DIVISION 06 - Not Used

DIVISION 07 - Not Used

DIVISION 08 - Not Used

DIVISION 09 - Not Used

DIVISION 10 - Not Used

DIVISION 11 - Not Used

DIVISION 12 - Not Used

DIVISION 13 - SPECIAL CONSTRUCTION

13280A	ASBESTOS HAZARD CONTROL ACTIVITIES
13281A	LEAD BASED PAINT AWARENESS
13284	REMOVAL AND DISPOSAL OF POLYCHLORINATED BIPHENYLS (PCBs)
13285	REMOVAL AND DISPOSAL OF PCB CONTAMINATED SOILS AND CONCRETE
13286	HANDLING OF LIGHTING BALLASTS AND LAMPS CONTAINING PCBs AND MERCURY

DIVISION 14 - Not Used

DIVISION 15 - Not Used

DIVISION 16 - Not Used

-- End of Project Table of Contents --

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
Cluster 1					
0001	Work Plans	L.S.	1		
0002	General Conditions	L.S.	1		
0003	Asbestos Abatement	L.S.	1		
0004	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0005	Below-Grade Structure Demolition And Off-Site Disposal	Tons	500		
0006	**Special Waste**				
0006A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0006B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$5,000	$5,000
0006C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$5,000	$5,000
0006D	Removal and Disposal of Buried Metal Debris	Tons	5		
0006E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		
0006F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5		
0006G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	50		
0007	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0007A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	40		
0007B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	40		
0007C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	40		
0007D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	40		
0007E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	40		
0008	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0008A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	125		
0008B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	125		
0008C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	125		
0008D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	125		
0008E	Excavation, Handling/Stockpiling,	Tons	125		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)				
0009	On-Site Reuse of Uncontaminated Excavated Soil	Tons	1,900		
0010	Security	Weeks	24		
0011	Perimeter Air Monitoring	Weeks	24		
0012	General Utility Management	Allowance	1	$25,000	$25,000
0013	Geophysical Survey Scan Around Buildings	LS	1		
0014	Utility Test Pits	Ea	4		
0015	Warning Signs	Ea	26		
0016	Controlled Low Strength Material	C.Y.	50		
0017	Dense Graded Aggregate	Tons	7,700		
0018	Bituminous Surface Coarse	S.Y.	8,600		
0019	Geotextile	S.F	77,600		
0020	Fencing	L.F.	1,300		
0021	Gates	L.S.	1		
0022	Additional Asbestos Abatement	Allowance	1	$25,000	$25,000
0023	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 1			
Cluster 2					
0024	Work Plans	L.S.	1		
0025	General Conditions	L.S.	1		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0026	Asbestos Abatement	L.S.	1		
0027	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0028	Below-Grade Structure Demolition And Off-Site Disposal	Tons	650		
0029	**Special Waste**				
0029A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0029B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$5,000	$5,000
0029C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$5,000	$5,000
0029D	Removal and Disposal of Buried Metal Debris	Tons	5		
0029E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		
0029F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5		
0029G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10		
0030	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				
0030A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	45		
0030B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal	Tons	45		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	of TSCA Waste < 500 ppm				
0030C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	45		
0030D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	45		
0030E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	45		
0031	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0031A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	165		
0031B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	165		
0031C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	165		
0031D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	165		
0031E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	165		
0032	On-Site Reuse of Uncontaminated Excavated Soil	Tons	2,500		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0033	Security	Weeks	24		
0034	Perimeter Air Monitoring	Weeks	24		
0035	General Utility Management	Allowance	1	$25,000	$25,000
0036	Geophysical Survey Scan Around Buildings	LS	1		
0037	Utility Test Pits	Ea	4		
0038	Warning Signs	Ea	24		
0039	Controlled Low Strength Material	C.Y.	50		
0040	Dense Graded Aggregate	Tons	11,600		
0041	Bituminous Surface Coarse	S.Y.	12,200		
0042	Geotextile	S.F	91,200		
0043	Fencing	L.F.	1,200		
0044	Gates	L.S.	1		
0045	Additional Asbestos Abatement	Allowance	1	$32,000	$32,000
0046	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 2			

Cluster 3

0047	Work Plans	L.S.	1		
0048	General Conditions	L.S.	1		
0049	Asbestos Abatement	L.S.	1		
0050	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0051	Below-Grade Structure Demolition	Tons	450		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	And Off-Site Disposal				
0052	**Special Waste**				
0052A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0052B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$5,000	$5,000
0052C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$5,000	$5,000
0052D	Removal and Disposal of Buried Metal Debris	Tons	5		
0052E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		
0052F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5		
0052G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10		
0053	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				
0053A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	30		
0053B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	30		
0053C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal	Tons	30		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	of RCRA Waste (Failing TCLP)				
0053D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	30		
0053E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	30		
0054	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0054A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	110		
0054B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	110		
0054C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	110		
0054D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	110		
0054E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	110		
0055	On-Site Reuse of Uncontaminated Excavated Soil	Tons	1,600		
0056	Security	Weeks	24		
0057	Perimeter Air Monitoring	Weeks	24		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0058	General Utility Management	Allowance	1	$25,000	$25,000
0059	Geophysical Survey Scan Around Buildings	LS	1		
0060	Utility Test Pits	Ea	4		
0061	Warning Signs	Ea	20		
0062	Controlled Low Strength Material	C.Y.	50		
0063	Dense Graded Aggregate	Tons	5,800		
0064	Bituminous Surface Coarse	S.Y.	6,500		
0065	Geotextile	S.F	58,300		
0066	Fencing	L.F.	1,000		
0067	Gates	L.S.	1		
0068	Additional Asbestos Abatement	Allowance	1	$16,000	$16,000
0069	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 3			

Cluster 4

0070	Work Plans	L.S.	1		
0071	General Conditions	L.S.	1		
0072	Asbestos Abatement	L.S.	1		
0073	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0074	Below-Grade Structure Demolition And Off-Site Disposal	Tons	275		
0075	**Special Waste**				

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0075A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0075B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$5,000	$5,000
0075C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$5,000	$5,000
0075D	Removal and Disposal of Buried Metal Debris	Tons	5		
0075E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		
0075F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5		
0075G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10		
0076	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				
0076A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	20		
0076B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	20		
0076C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	20		
0076D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal	Tons	20		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)				
0076E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	20		
0077	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0077A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	60		
0077B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	60		
0077C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	60		
0077D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	60		
0077E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	60		
0078	On-Site Reuse of Uncontaminated Excavated Soil	Tons	850		
0079	Security	Weeks	8		
0080	Perimeter Air Monitoring	Weeks	8		
0081	General Utility Management	Allowance	1	$25,000	$25,000
0082	Geophysical Survey Scan Around	LS	1		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	Buildings				
0083	Utility Test Pits	Ea	4		
0084	Warning Signs	Ea	15		
0085	Controlled Low Strength Material	C.Y.	50		
0086	Dense Graded Aggregate	Tons	1,400		
0087	Bituminous Surface Coarse	S.Y.	2,200		
0088	Geotextile	S.F	19,500		
0089	Fencing	L.F.	750		
0090	Gates	L.S.	1		
0091	Additional Asbestos Abatement	Allowance	1	$20,000	$20,000
0092	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 4			
Cluster 5					
0093	Work Plans	L.S.	1		
0094	General Conditions	L.S.	1		
0095	Asbestos Abatement	L.S.	1		
0096	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0097	Below-Grade Structure Demolition And Off-Site Disposal	Tons	550		
0098	**Special Waste**				
0098A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0098B	Removal and Disposal of Trash	Allowance	1	$5,000	$5,000

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	and Debris From Buildings				
0098C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$5,000	$5,000
0098D	Removal and Disposal of Buried Metal Debris	Tons	5		
0098E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		
0098F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5		
0098G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10		
0099	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				
0099A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	40		
0099B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	40		
0099C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	40		
0099D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	40		
0099E	Demolition, Handling/Stockpiling,	Tons	40		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)				
0100	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0100A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	130		
0100B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	130		
0100C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	130		
0100D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	130		
0100E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	130		
0101	On-Site Reuse of Uncontaminated Excavated Soil	Tons	2,000		
0102	Security	Weeks	24		
0103	Perimeter Air Monitoring	Weeks	24		
0104	General Utility Management	Allowance	1	$25,000	$25,000
0105	Geophysical Survey Scan Around Buildings	LS	1		
0106	Utility Test Pits	Ea	4		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0107	Warning Signs	Ea	21		
0108	Controlled Low Strength Material	C.Y.	50		
0109	Dense Graded Aggregate	Tons	6,700		
0110	Bituminous Surface Coarse	S.Y.	7,100		
0111	Geotextile	S.F	62,250		
0112	Fencing	L.F.	1,050		
0113	Gates	L.S.	1		
0114	Additional Asbestos Abatement	Allowance	1	$21,000	$21,000
0115	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 5			
Cluster 6					
0116	Work Plans	L.S.	1		
0117	General Conditions	L.S.	1		
0118	Asbestos Abatement	L.S.	1		
0119	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0120	Below-Grade Structure Demolition And Off-Site Disposal	Tons	200		
0121	**Special Waste**				
0121A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0121B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$5,000	$5,000
0121C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$5,000	$5,000

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0121D	Removal and Disposal of Buried Metal Debris	Tons	5		
0121E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		
0121F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5		
0121G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10		
0122	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				
0122A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	20		
0122B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	20		
0122C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	20		
0122D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	20		
0122E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	20		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0123	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0123A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	40		
0123B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	40		
0123C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	40		
0123D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	40		
0123E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	40		
0124	On-Site Reuse of Uncontaminated Excavated Soil	Tons	600		
0125	Security	Weeks	8		
0126	Perimeter Air Monitoring	Weeks	8		
0127	General Utility Management	Allowance	1	$25,000	$25,000
0128	Geophysical Survey Scan Around Buildings	LS	1		
0129	Utility Test Pits	Ea	4		
0130	Warning Signs	Ea	13		
0131	Controlled Low Strength Material	C.Y.	50		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0132	Dense Graded Aggregate	Tons	850		
0133	Bituminous Surface Coarse	S.Y.	1,400		
0134	Geotextile	S.F	12,300		
0135	Fencing	L.F.	650		
0136	Gates	L.S.	1		
0137	Additional Asbestos Abatement	Allowance	1	$4,000	$4,000
0138	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 6			
Cluster 7					
0139	Work Plans	L.S.	1		
0140	General Conditions	L.S.	1		
0141	Asbestos Abatement	L.S.	1		
0142	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0143	Below-Grade Structure Demolition And Off-Site Disposal	Tons	500		
0144	**Special Waste**				
0144A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0144B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$2,000	$2,000
0144C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$2,000	$2,000
0144D	Removal and Disposal of Buried Metal Debris	Tons	5		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0144E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		
0144F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5		
0144G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10		
0145	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				
0145A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	40		
0145B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	40		
0145C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	40		
0145D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	40		
0145E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	40		
0146	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0146A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	85		
0146B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	85		
0146C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	85		
0146D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	85		
0146E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	85		
0147	On-Site Reuse of Uncontaminated Excavated Soil	Tons	1,300		
0148	Security	Weeks	8		
0149	Perimeter Air Monitoring	Weeks	8		
0150	General Utility Management	Allowance	1	$25,000	$25,000
0151	Geophysical Survey Scan Around Buildings	LS	1		
0152	Utility Test Pits	Ea	4		
0153	Warning Signs	Ea	15		
0154	Controlled Low Strength Material	C.Y.	50		
0155	Dense Graded Aggregate	Tons	2,100		
0156	Bituminous Surface Coarse	S.Y.	3,300		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0157	Geotextile	S.F	29,600		
0158	Fencing	L.F.	750		
0159	Gates	L.S.	1		
0160	Additional Asbestos Abatement	Allowance	1	$6,500	$6,500
0161	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 7			
Cluster 8					
0162	Work Plans	L.S.	1		
0163	General Conditions	L.S.	1		
0164	Asbestos Abatement	L.S.	1		
0165	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0166	Below-Grade Structure Demolition And Off-Site Disposal	Tons	2,450		
0167	**Special Waste**				
0167A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0167B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$5,000	$5,000
0167C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$5,000	$5,000
0167D	Removal and Disposal of Buried Metal Debris	Tons	5		
0167E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0167F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5		
0167G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10		
0168	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				
0168A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	155		
0168B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	155		
0168C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	155		
0168D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	155		
0168E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	155		
0169	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0169A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal	Tons	210		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	of TSCA Waste > 500 ppm				
0169B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	210		
0169C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	210		
0169D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	210		
0169E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	210		
0170	On-Site Reuse of Uncontaminated Excavated Soil	Tons	3,100		
0171	Security	Weeks	16		
0172	Perimeter Air Monitoring	Weeks	16		
0173	General Utility Management	Allowance	1	$25,000	$25,000
0174	Geophysical Survey Scan Around Buildings	LS	1		
0175	Utility Test Pits	Ea	4		
0176	Warning Signs	Ea	14		
0177	Controlled Low Strength Material	C.Y.	50		
0178	Dense Graded Aggregate	Tons	9,200		
0179	Bituminous Surface Coarse	S.Y.	2,700		
0180	Geotextile	S.F	24,000		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0181	Fencing	L.F.	700		
0182	Gates	L.S.	1		
0183	Additional Asbestos Abatement	Allowance	1	$5,000	$5,000
0184	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 8			
Cluster 9					
0185	Work Plans	L.S.	1		
0186	General Conditions	L.S.	1		
0187	Asbestos Abatement	L.S.	1		
0188	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0189	Below-Grade Structure Demolition And Off-Site Disposal	Tons	100		
0190	**Special Waste**				
0190A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0190B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$2,000	$2,000
0190C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$2,000	$2,000
0190D	Removal and Disposal of Buried Metal Debris	Tons	5		
0190E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		
0190F	Removal and Disposal of Underground Storage Tanks	Ea	5		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	and Contents (5,000 gallons or less)				
0190G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10		
0191	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				
0191A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	10		
0191B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	10		
0191C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	10		
0191D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	10		
0191E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	10		
0192	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0192A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	15		
0192B	Excavation, Handling/Stockpiling,	Tons	15		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	Sampling and Off-Site Disposal of TSCA Waste < 500 ppm				
0192C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	15		
0192D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	15		
0192E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	15		
0193	On-Site Reuse of Uncontaminated Excavated Soil	Tons	225		
0194	Security	Weeks	4		
0195	Perimeter Air Monitoring	Weeks	4		
0196	General Utility Management	Allowance	1	$25,000	$25,000
0197	Geophysical Survey Scan Around Buildings	LS	1		
0198	Utility Test Pits	Ea	4		
0199	Warning Signs	Ea	6		
0200	Controlled Low Strength Material	C.Y.	100		
0201	Dense Graded Aggregate	Tons	300		
0202	Bituminous Surface Coarse	S.Y.	500		
0203	Geotextile	S.F	4,500		
0204	Fencing	L.F.	300		
0205	Gates	L.S.	1		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0206	Additional Asbestos Abatement	Allowance	1	$2,000	$2,000
0207	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 9			
Cluster 10					
0208	Work Plans	L.S.	1		
0209	General Conditions	L.S.	1		
0210	Asbestos Abatement	L.S.	1		
0211	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0212	Below-Grade Structure Demolition And Off-Site Disposal	Tons	25		
0213	**Special Waste**				
0213A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0213B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$2,000	$2,000
0213C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$2,000	$2,000
0213D	Removal and Disposal of Buried Metal Debris	Tons	5		
0213E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		
0213F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0213G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10		
0214	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				
0214A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	2		
0214B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	2		
0214C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	2		
0214D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	2		
0214E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	2		
0215	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0215A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	15		
0215B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	15		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0215C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	15		
0215D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	15		
0215E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	15		
0216	On-Site Reuse of Uncontaminated Excavated Soil	Tons	225		
0217	Security	Weeks	4		
0218	Perimeter Air Monitoring	Weeks	4		
0219	General Utility Management	Allowance	1	$25,000	$25,000
0220	Geophysical Survey Scan Around Buildings	LS	1		
0221	Utility Test Pits	Ea	4		
0222	Warning Signs	Ea	4		
0223	Controlled Low Strength Material	C.Y.	50		
0224	Dense Graded Aggregate	Tons	30		
0225	Bituminous Surface Coarse	S.Y.	250		
0226	Geotextile	S.F	2,200		
0227	Fencing	L.F.	200		
0228	Gates	L.S.	1		
0229	Additional Asbestos Abatement	Allowance	1	$2,000	$2,000

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0230	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 10			
Cluster 11					
0231	Work Plans	L.S.	1		
0232	General Conditions	L.S.	1		
0233	Asbestos Abatement	L.S.	1		
0234	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1		
0235	Below-Grade Structure Demolition And Off-Site Disposal	Tons	150		
0236	**Special Waste**				
0236A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1		
0236B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$5,000	$5,000
0236C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$5,000	$5,000
0236D	Removal and Disposal of Buried Metal Debris	Tons	5		
0236E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20		
0236F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5		
0236G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0237	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				
0237A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	10		
0237B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	10		
0237C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	10		
0237D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	10		
0237E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	10		
0238	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0238A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	30		
0238B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	30		
0238C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	30		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0238D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	30		
0238E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	30		
0239	On-Site Reuse of Uncontaminated Excavated Soil	Tons	400		
0240	Security	Weeks	8		
0241	Perimeter Air Monitoring	Weeks	8		
0242	General Utility Management	Allowance	1	$25,000	$25,000
0243	Geophysical Survey Scan Around Buildings	LS	1		
0244	Utility Test Pits	Ea	4		
0245	Warning Signs	Ea	9		
0246	Controlled Low Strength Material	C.Y.	50		
0247	Dense Graded Aggregate	Tons	700		
0248	Bituminous Surface Coarse	S.Y.	1,100		
0249	Geotextile	S.F	9,600		
0250	Fencing	L.F.	450		
0251	Gates	L.S.	1		
0252	Additional Asbestos Abatement	Allowance	1	$2,500	$2,500
0253	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
		Subtotal Cluster 11			_____
Cluster 12					
0254	Work Plans	L.S.	1	____	_____
0255	General Conditions	L.S.	1	____	_____
0256	Asbestos Abatement	L.S.	1	____	_____
0257	Above Grade Structure Demolition And Off-Site Disposal	L.S.	1	____	_____
0258	Below-Grade Structure Demolition And Off-Site Disposal	Tons	35	____	_____
0259	**Special Waste**				
0259A	Removal and Disposal of Special Wastes as Shown on Drawings	L.S.	1	____	_____
0259B	Removal and Disposal of Trash and Debris From Buildings	Allowance	1	$2,000	$2,000
0259C	Removal and Disposal of Furnishings From Buildings	Allowance	1	$2,000	$2,000
0259D	Removal and Disposal of Buried Metal Debris	Tons	5	____	_____
0259E	Removal and Disposal of Buried Uncontaminated Concrete Debris	Tons	20	____	_____
0259F	Removal and Disposal of Underground Storage Tanks and Contents (5,000 gallons or less)	Ea	5	____	_____
0259G	Removal and Disposal of Contaminated Wood Flooring Blocks	Tons	10	____	_____
0260	**Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB Contaminated Concrete**				

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
0260A	Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	2		
0260B	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	2		
0260C	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	2		
0260D	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA > 500ppm)	Tons	2		
0260E	Demolition, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	2		
0261	**Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Soil**				
0261A	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste > 500 ppm	Tons	15		
0261B	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of TSCA Waste < 500 ppm	Tons	15		
0261C	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of RCRA Waste (Failing TCLP)	Tons	15		
0261D	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA	Tons	15		

Bid Schedules

Item	Description	Unit	Estimated Quantity	Unit Cost	Total
	and RCRA (TSCA > 500ppm)				
0261E	Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Mixed Waste – Both TSCA and RCRA (TSCA < 500ppm)	Tons	15		
0262	On-Site Reuse of Uncontaminated Excavated Soil	Tons	175		
0263	Security	Weeks	4		
0264	Perimeter Air Monitoring	Weeks	4		
0265	Tank Closure	Allowance	1	$25,000	$25,000
0266	Geophysical Survey Scan Around Buildings	LS	1		
0267	Utility Test Pits	Ea	4		
0268	Warning Signs	Ea	4		
0269	Controlled Low Strength Material	C.Y.	50		
0270	Dense Graded Aggregate	Tons	175		
0271	Bituminous Surface Coarse	S.Y.	225		
0272	Geotextile	S.F	1,900		
0273	Fencing	L.F.	200		
0274	Gates	L.S.	1		
0275	Additional Asbestos Abatement	Allowance	1	$2,000	$2,000
0276	Water Handling, Temporary Storage, and Off-Site Disposal	LS	1		
		Subtotal Cluster 12			

DOCUMENT 00102

LIST OF DRAWINGS

PART 1 GENERAL

1.1 SUMMARY

This document lists the drawings for the project pursuant to contract clause "DFARS 252.236-7001, Contract Drawings, Maps and Specifications."

1.2 CONTRACT DRAWINGS

Contract drawings are as follows:

DRAWING NO.	REVISION NO.	TITLE
G-01	-	Cover Sheet
G-02	-	Index of Drawings,Legend,Abbreviations
G-03	-	Site Plan/Cluster Designations
G-04	-	Cluster 1-BLDG'S 1,1A,1B,1C,1D,6 Plan And Elevations
G-05	-	Cluster 1-BLDG'S 1,1A,1B Miscellaneous Waste
G-06	-	Cluster 1-BLDG'S 1,1D,6 Miscellaneous Waste
G-07	-	Cluster 1-BLDG'S 1,1A,1B,1C,1D,6 Photographs
G-08	-	Cluster 2-BLDG'S 2,2A,3/4,4A Plan And Elevations
G-09	-	Cluster 2-BLDG'S 2,2A,3/4 Miscellaneous Waste
G-10	-	Cluster 2-BLDG 4A Miscellaneous Waste
G-11	-	Cluster 2-BLDG'S 2,2A,3/4,4A Photographs
G-12	-	Cluster 3-BLDG'S 5,5A Plan And Elevations
G-13	-	Cluster 3-BLDG'S 5,5A Miscellaneous Waste
G-14	-	Cluster 3-BLDG'S 5,5A Photographs
G-15	-	Cluster 4-BLDG 8 Plan And Elevations
G-16	-	Cluster 4-BLDG 8 Miscellaneous Waste
G-17	-	Cluster 4-BLDG 8 Photographs
G-18	-	Cluster 5-BLDG'S 9,9A,9B,9C,17 Plan And Elevations
G-19	-	Cluster 5-BLDG'S 9,9A Miscellaneous Waste
G-20	-	Cluster 5-BLDG'S 9B,9C,17 Miscellaneous Waste
G-21	-	Cluster 5-BLDG'S 9,9A,9B,9C,17 Photographs
G-22	-	Cluster 6-BLDG's 10,10A Plan And Elevations
G-23	-	Cluster 6-BLDG's 10,10A Miscellaneous Waste
G-24	-	Cluster 6-BLDG's 10,10A Photographs
G-25	-	Cluster 7-BLDG's 11,12 Plan And Elevations
G-26	-	Cluster 7-BLDG's 11,12 Miscellaneous Waste
G-27	-	Cluster 7-BLDG's 11,12 Photographs
G-28	-	Cluster 8-BLDG 13 Plan And Elevations
G-29	-	Cluster 8-BLDG 13 Miscellaneous Waste
G-30	-	Cluster 8-BLDG'S 15,16,18 Plan And Elevations
G-31	-	Cluster 8-BLDG'S 15,16,18 Miscellaneous Waste
G-32	-	Cluster 8-BLDG'S 13,15,16,18 Photographs
G-33	-	Cluster 9-BLDG 7 Plan And Elevations
G-34	-	Cluster 9-BLDG 7 Miscellaneous Waste
G-35	-	Cluster 9-BLDG 7 Photographs
G-36	-	Cluster 10-Water Tower Plan And Elevations

DRAWING NO.	REVISION NO.	TITLE
G-37	-	Cluster 10-Water Tower Miscellaneous Waste
G-38	-	Cluster 10-Water Tower Photographs
G-39	-	Cluster 11-BLDG 14 Plan And Elevations
G-40	-	Cluster 11-BLDG 14 Plan Miscellaneous Waste
G-41	-	Cluster 11-BLDG 14 Photographs
G-42	-	Cluster 12-Oil Tank Plan And Elevations
G-43	-	Cluster 12-Oil Tank Miscellaneous Waste
G-44	-	Cluster 12-Oil Tank Photographs
G-45	-	Site Utility Plan
G-46	-	Site Details 1
G-47	-	Site Details 2

1.3 SUPPLEMENTARY DRAWINGS

These supplementary drawings may not be a part of the contract but are included with the drawings for information.

1.3.1 Reference Drawing

The following reference drawing is available from the Contracting Officer intended only to show site conditions in December 1956. Drawing is the property of the Government and shall not be used for any purpose other than that intended by the contract.

DRAWING NO.	TITLE
4740	Cornell-Dubilier Electronics Corp, Et. Al, Prepared by Factory Insurance Association, Easter Regional Office South Plainfield, NJ Dated 03/17/1954 Updated December 18, 1956

1.3.2 Boring Logs/Subsurface Data

The Government does not guarantee that borings indicate actual conditions, except for the exact locations and the time that they were made as part of the Remedial Investigation Report. The data are available for examination by prospective bidders by Contacting _____. [note to reviewers: USACE to provide contact for obtaining soil boring during bidding if desired.]

1.3.3 Subsurface Data

Subsurface data, not specified or indicated, have been obtained by the Government at the station. The data are available for examination by prospective bidders as part of the Remedial Investigation Report.

-- End of Document --

SECTION 01110

SUMMARY OF WORK

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

1.1.1 Project Description

Provide all labor, materials, equipment, site management, home office support, and incidental items necessary to accomplish performance requirements for the Response Action (RA) at the Cornell-Dubilier Electronics Superfund Site, Operable Unit 02 (OU-2), in the Borough of South Plainfield, Middlesex County, New Jersey. The Cornell-Dubilier Electronics Site is on the National Priorities List due to contamination found in the soil and building materials.

Work includes demolition of structures; transportation of all waste and offsite disposal of all waste including demolition debris and soil resulting from demolition; restoration with backfill and pavement; sampling and analysis of soil, water, air and building material; and other activities necessary for complete and proper remediation of the site. A more complete description is covered in the scope of work, below.

The Site remediation was separated into multiple Operable Units. Operable Unit-1 (OU-1) consists of the residential, commercial, and municipal properties in the vicinity of the former Cornell-Dubilier Electronics facility and is being addressed by others. OU-2 consists of contaminated facility site soils and buildings which are being addressed by Malcolm Pirnie, Inc. The groundwater and sediments in the adjacent Bound Brook will be addressed by the USEPA as part of future Operable Units. The response action selected in the Record of Decision (ROD) dated September 2004 for OU-2 buildings includes:

a. The demolition of the 19 on-site buildings and 2 structures;

b. Transportation of the building debris off-site for disposal, with treatment as necessary; and

c. Relocation of eligible tenants at the former Cornell-Dubilier facility buildings pursuant to the Uniform Relocation Act, as necessary. The Contracting Officer will coordinate all relocation efforts.

1.1.2 Information Resources

Feasibility Study for Operable Unit 2 (OU-2) Facility Soils and Buildings, Tetra Tech-Foster Wheeler, Inc., April 2004;

Record of Decision, Cornell-Dubilier Electronics Superfund Site, South Plainfield, New Jersey, United States Environmental Protection Agency, Region II, September 2004;

Final Remedial Investigation Report for Operable Unit 2 (OU-2) On-Site Soils and Buildings - Volume I and II, Tetra Tech-Foster Wheeler, Inc., December 2002;

Final Buildings Field Sample Plan, Malcolm Pirnie, Inc., February 2006;

Final Buildings Quality Assurance Project Plan, Malcolm Pirnie, Inc., March 2006;

Final Buildings Site Safety and Health Plan, Malcolm Pirnie, Inc., March 2006; and

Draft Data Summary Report, Malcolm Pirnie, Inc., June 2006.

Draft Demolition Design Report, Malcolm Pirnie, Inc., June 2006.

1.1.3 Location

The Cornell-Dubilier Electronics Superfund Site (the Site) is located at 333 Hamilton Boulevard in the Borough of South Plainfield, Middlesex County, New Jersey as shown in the drawings. The Site consists of approximately 26 acres including the Hamilton Industrial Park, contaminated portions of the Bound Brook adjacent to and downstream of the industrial park, and contaminated residential, municipal, and commercial properties in the vicinity of the former Cornell-Dubilier Electronics Corporation, Inc. (Cornell-Dubilier Electronics) facility. The Site contains numerous subdivided buildings, numbered 1 through 18, some of which are currently used by several commercial and light industrial operations. Site buildings are shown on the drawings. The Site is bounded by the Lehigh Valley Railroad to the northeast, Factory Street to the southeast, Spicer Avenue to the southwest, and by Hamilton Boulevard. The area is a busy, heavily developed mixed use neighborhood.

The developed portion of the facility (the northwestern portion) comprises approximately 45 percent of the total land area and contains buildings, a system of catch basins to channel stormwater flow, and paved roadways. Several of the catch basins drain into a stormwater collection system whose outfalls discharge at various locations along Bound Brook. The other 55 percent of the property is predominantly vegetated. The central part of the undeveloped portion is primarily an open field, with some wooded areas to the northeast and south, and a deteriorated, partially paved area in the middle. The northeast and southeast boundaries consist primarily of wetland areas adjacent to Bound Brook, which flows from the eastern corner across the northeastern border of the undeveloped portion of the facility (Foster Wheeler, 2002).

1.1.4 Site History and Background

Cornell-Dubilier Electronics operated what is now the Hamilton Industrial Park from 1936 to 1962, manufacturing electronic components including capacitors. Polychlorinated biphenyls (PCBs) and chlorinated organic degreasing solvents were used in the manufacturing process and it has been alleged that during Cornell-Dubilier Electronics' period of operation, the company disposed of PCB-contaminated materials and other hazardous substances at the facility. A former employee has claimed that the rear of the property was saturated with transformer oils and that capacitors were also buried behind the facility during the same time period (Foster Wheeler, 2002). Based on historic site practices, portions of the Site have the potential to be contaminated with asbestos, lead, mercury, PCBs, TCE and dechlorination products, and other constituents of potential concern (COPCs).

Previous studies and evaluations which are listed in paragraph: Information Resources document the presence of hazards at the site including the presence of large amounts of asbestos, metals, PCB containing lighting ballasts and transformers and capacitors and other hazardous substances which must be abated and / or removed prior to demolition of the site buildings. A tabulation of exiting site information can be found in the Demolition Design Report attached and made part of the design documents.

1.1.5 Method of Contracting and Project Execution

The demolition of the buildings and structures at the site will occur in a staged fashion, corresponding to availability of funding, occupancy of buildings by active businesses, archaeological/historical significance designation, and feasibility of disconnecting utility services with minimum disruption. The Bid Form has therefore been configured for the Contractor to provide separate pricing to remove each building and structure independently, or as a group. The Contractor may be directed to demolish and remove some, all, or none of the structures at the site.

1.1.6 Scope of Work

The Work to be performed includes hazardous materials removal and disposal, above grade fuel oil storage tank removal and disposal, asbestos abatement and demolition of buildings and structures on the property. The work consists of furnishing all labor, materials, tools, equipment and supervision to demolish the Cornell-Dubilier site buildings. The items of work include, but are not limited to:

a. Verifying the location of and disconnecting and abandoning all utilities to the individual buildings and structures.
b. Acquiring and paying the costs of all necessary permits and licenses, variances, Storage Tank registration, testing, removal and closure fees, including but not limited to the following:
   (1) Borough of South Plainfield, New Jersey Demolition Permit including Asbestos Removal Requirements
   (2) NJDEP Storage Tank registration, testing, removal and closure forms and reports.
   (3) USEPA Asbestos removal notification.
   (4) Provisional General Hazardous Waste Generator ID No. for the site if necessary.
   (5) Notification to Borough of South Plainfield Police and Fire Departments for emergency purposes and for traffic routing.
   (6) Borough of South Plainfield Sewer Department, American Water Company and applicable utility companies.
c. Implementing site monitoring and controls including temporary chain link fencing and security, as discussed in detail in the following Sections:
   (1) 02310 EXCAVATION
   (2) 02220 DEMOLITION
   (3) 01356A STORM WATER POLLUTION PREVENTION MEASURES
   (4) 01500A TEMPORARY CONSTRUCTION FACILITIES
   (5) 02821A FENCING
   (6) 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST)
d. Removal, separation and off-site disposal of trash, tires, and other wastes located within buildings to be demolished and throughout the site as specified in Sections 02220 DEMOLITION and 02350 TRANSPORTATION AND DISPOSAL.
e. Asbestos removal and disposal as specified in Sections 02350 TRANSPORTATION AND DISPOSAL and 13280A ASBESTOS HAZARD CONTROL

ACTIVITIES.

f. Demolition of buildings and structures as specified in Section 02220 DEMOLITION
g. Backfilling demolished structures as specified in Sections 02220 DEMOLITION and 02310 EXCAVATION.
h. Sampling, testing, removal and disposal of hazardous materials and special wastes including PCB-containing materials and equipment, metals, transformers, and capacitors to an approved disposal recycling or disposal facility as specified in Sections 02220 DEMOLITION, 13285 REMOVAL AND DISPOSAL OF PCB CONTAMINATED SOILS, and 13284 REMOVAL AND DISPOSAL OF POLYCHLORINATED BIPHENYLS (PCBS).
i. Site grading and restoration.

1.2 RELOCATION

Relocation of on-site tenants will be necessary prior to demolition and will be arranged by the Government prior to Contractor mobilization. The Contracting Officer will coordinate all tenant relocations with the Contractor.

1.3 LIMITS OF WORK

The limits of work include the designated clusters as indicated on the Contract Drawings. Contractor shall not work beyond the limits for each cluster indicated on the drawings without prior approval from the Contracting Officer.

The Contractor shall satisfy the requirements of all access agreements for the work obtained by the Government.

1.4 WORK PLANS

The Contractor shall develop the following work plans and designs in accordance with their specific sections:

Soil Erosion and Sediment Control Plan;
Security Plan;
Contractor Quality Control Plan;
Spill Prevention and Control Plan;
Site Safety and Health Plan;
Accident Prevention Plan;
Demolition Plan;
Excavation Support System Plan;
Dewatering Work Plan;
Excavation and Material Handling Plan;
Temporary Facilities Plan;
Traffic Control Plan;
Pest and Rodent Control Plan;
Storage Tank Handling Plan;
Security Plan for Hazardous Materials Shipments;
PCB Removal Work Plan;
PCB Disposal Plan;
PCB Protection Plan;
PCB-Contaminated Soil and Concrete Removal Plan;
PCB-Contaminated Water Handling Plan;
PCB Sampling and Testing Plan;
PCB-Contaminated Soil and Concrete Disposal Plan;
PCB and Lamp Removal Work Plan;
PCB and Lamp Disposal Plan;

Waste Management Plan and Addendum; and,
Sampling and Analysis Plan.

1.5 SUBMITTALS

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

SD-01 Preconstruction Submittals

Security Plan;G

Spill Prevention and Control Plan;G

Pest and Rodent Control Plan;

SD-11 Closeout Submittals

Pre-Work Conference Meeting Minutes; G

Progress Meeting Minutes; G

Pre-Construction, Progress, and Post Construction Photographs; (FIO)

Pre-Construction, Progress, Post Construction Video, and as built drawings and geophysics.

1.6 SEQUENCE AND PROGRESS OF WORK

1.6.1 Submittal Requirements

CONTRACTOR shall prepare and implement a Site Safety and Health Plan in accordance with Section 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE and other required submittals including progress schedule in accordance with Section 01320 PROJECT SCHEDULE prior to initiation of any work.

1.6.2 Asbestos Abatement

Asbestos abatement and removal with the exception of asbestos-containing roofing materials shall be completed for each building prior to initiating any demolition activities in that particular building.

1.6.3 Construction Activities

Construction activities for each cluster should generally be sequenced in the following order. The proposed sequence is intended to shorten the duration of major construction activities but does not include fine details for each activity such as demolition of individual items. Many of the activities in the proposed sequence can occur concurrently.

a. Prepare Schedules and other submittals.
b. Obtain permits.
c. Mobilize to job site.
d. Install temporary fencing and institute environmental site monitoring and controls as described in the Division 1 Sections.

e. Sample and characterize the contents of storage tanks, transformer oils and other environmental hazards / substances prior to removing them from the site.
f. Erect temporary facilities and begin to remove asbestos containing materials from inside buildings.
g. Demolish roofing and roof framing systems above building floors and dispose of demolition debris off-site.
h. Demolish remainder of buildings, including ground floor slabs and dispose of demolition debris off-site.
i. Continue demolition and off-site disposal of building foundations and footings.
j. Backfill all excavations as specified.
k. Install asphalt as shown.
l. Submit closeout documents, manifests, and other documents as required by the project specifications.
m. Demobilize from site.

1.7 PERMITS

The Contractor is responsible for complying with all local, state, and federal permit requirements necessary to perform the work defined in this contract.

1.8 EXISTING WORK

In addition to "FAR 52.236-9, Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements":

a. Remove or alter existing work in such a manner as to prevent injury or damage to any portions of the existing work which remain.

1.9 LOCATION OF UNDERGROUND FACILITIES

The Contractor shall contact all local utilities and identify all underground utilities prior to start of excavation and submit underground utility mapping to the Contracting Officer 15 calendar days in advance. Scan the construction site with electromagnetic or sonic equipment, and mark the surface of the ground or paved surface where existing underground utilities are discovered. Verify the elevations of existing piping, utilities, and any type of underground or encased obstruction not indicated or to be specified or removed but indicated or discovered during scanning.

1.9.1 Notification Prior to Excavation

Notify the Contracting Officer at least 15 days prior to starting excavation work.

1.9.2 Existing Utilities

1.9.2.1 Electric Power

Based on information received from current site management, electric power for all buildings and structures except for Building 1 and Building 2 is via an overhead pole-mounted high voltage system which enters the site at the southwest corner of the site at Hamilton Boulevard and New Market Avenue. The distribution line extends eastward along the south side of Building 5 to the rear of Building 12, then northward to the north side the oil storage tank where it splits and runs to the north, west, and northeast from that point to the south side of Building 9c, to Building 10, and to the north property line, then westward to Buildings 7 and 8. The

electrical lines described above are constructed on a PSE&G easement.

Buildings 1 and 2 are connected to the power lines on Hamilton Boulevard.

The disconnection of the individual power services to the buildings on-site will not pose any significant difficulties. The close proximity of the poles to the south wall of Building 5 however, may require temporary deenergization of site power while Building 5 is being demolished.

1.9.2.2 Natural Gas

Based on information received from current site management, buried natural gas lines enter the site via the main on Hamilton Boulevard and extend eastward as far as Building 14. There are reportedly individual gas shutoff valves at each building which shall be located prior to disconnecting and removing each structure. The route of the buried gas piping which was marked by a utility location service in the spring of 2006 is shown on the Contract Drawings.

1.9.2.3 Telephone and Communication Cable

Based on information received from current site management, telephone cables enter the Site from Hamilton Boulevard primarily between Buildings 1 and 2.

1.9.2.4 Site Water Systems

Based on information received from current site management, the site domestic and fire protection systems are connected to a 36-inch main which transects the Site from Southwest to Northeast. The location of the fire protection loop which serves virtually all of the on-site buildings is shown on the Contract Drawings.

1.9.2.5 Building Sanitary Sewers

Based on information received from current site management, the site sanitary sewer runs along the north and eastern sides of the Site and leaves the Site at the Fulton Spicer intersection. Flow is generally to the north and east and reportedly connects to the sewer on the east side in the vicinity of Building 13.

1.9.2.6 Site Drainage

The location of site catch basins and drainage piping is shown on the Site Contract Drawings. Some site drainage exits via Hamilton Boulevard and the remainder is diverted to the Bound Brook Northeast of Building 13.

1.10 TEMPORARY FACILITIES

The Contractor shall provide all temporary facilities, as needed, as described and in accordance with Section 01500A TEMPORARY CONSTRUCTION FACILITIES.

1.11 SPILL PREVENTION AND CONTROL

Provide methods, means, and facilities required to prevent contamination of soil, water, atmosphere, uncontaminated structures, equipment, or material by the discharge of wastes from spills due to Contractor's operations. Measures shall be taken to prevent contaminated materials, chemicals,

fuels, oils, greases, bituminous materials, waste washings, herbicides and insecticides, harmful materials, decontamination water, condensate, biological and concrete materials, and surface drainage from entering any groundwater sources, utilities, drainage or storage, and to prevent release into the air.

Provide emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage. Properly dispose of collected spill material. This includes spillage during soil excavation and loading, dewatering, treatment and discharge, building demolition, or equipment and personnel decontamination.

If a spill occurs, notify the Contracting Officer immediately. Take immediate measures to control and contain the spill within the site boundaries. This includes the following: isolate hazardous areas and keep unnecessary people away; prevent people from touching spilled material; stay upwind, keep out of low areas; and keep combustibles away from the spilled material.

After each spill, a spill report shall be submitted, the minimum requirements of which shall be outlined in the Spill Prevention and Control Plan.

The Contractor shall implement, maintain, supervise, and be responsible for a comprehensive Spill Prevention and Control Plan. This plan shall document procedures to be implemented to minimize the occurrence of spills and provide contingency measures for potential spills and discharges. This Plan shall include a description of spill prevention procedures to be implemented for the following:

a. Site drainage;

b. Bulk storage;

c. Truck loading/unloading; and,

d. Project site production or work.

The Plan shall ensure that sufficient inspections and tests are performed on a continual basis to enable the Contractor to certify, in writing, that the Spill Prevention and Control Plan conforms to any maximum spillage item with respect to the quality of materials, workmanship, construction, finish notification, and reporting requirements under federal, state and local laws and regulations.

1.12 SOIL/WASTE STAGING AND TESTING PLAN

Prior to start of work, the Contractor shall develop a Waste Management Plan in accordance with Section 02350 TRANSPORTATION AND DISPOSAL.

1.13 SECURITY

The Contractor shall be responsible for maintaining site security within the limits of this contract for 24 hours a day, 7 days a week including holidays throughout the duration of field activities, including mobilization and demobilization. Maintain security through the presence of on-site trained security officers 24 hours a day, 7 days a week including holidays throughout the duration of the field activities, including mobilization and demobilization.

The Security Plan shall address at a minimum, the following:

Duties of security officers;

Names and qualifications of security officers;

Description of proposed daily security operations;

Method and frequency for conducting security checks;

Description of how a breach of security will be handled. A breach of security includes, but is not be limited to, unauthorized personnel located on the site working area, unauthorized personnel attempting to gain access to the site working area, broken fences and unlocked gates, and unauthorized personnel in the hazardous work zones;

Locations of security check points;

List of personnel to be contacted in case of emergency; and,

Safety training of security personnel.

1.14 PRE-WORK CONFERENCE AND PROGRESS MEETINGS

The Contractor shall meet with the Contracting Officer for a Pre-Work Conference. The purpose of this conference is to review submittals, safety, payrolls, labor relations, environmental protection, work plan and schedules, schedule of values, payment procedures, and procurement of materials. The principal features of work will be reviewed and any questions regarding the Contract and the Site will be addressed. Attendance by the Contractors Superintendent, quality control personnel, safety personnel, and any major Subcontractor's Superintendent is required. Provide Pre-work Conference Meeting Minutes to the Contracting Office within 5 days of meeting.

During construction, the Contractor shall schedule and administer progress meetings at a minimum of once per week and such additional meetings as required. Meetings shall be scheduled when requested by the Contracting Officer during any stage of this project when it is deemed necessary to raise any significant questions, establish new guidelines, introduce a new aspect to the project, or address any other item that will affect the progress of work. The Contractor shall attend these meetings with all necessary personnel as determined by the Contracting Officer for the duration of the Contract. Required personnel may include the Contractor's Superintendent, quality control personnel, safety personnel, and any major Subcontractor's Superintendents. Provide Progress Meeting Minutes to the Contracting Officer within 5 days of each meeting.

Meetings and conferences may take place at the project site or some other location that is satisfactory to both the Contracting Officer and the Contractor. The Contractor shall administer the following general requirements for progress meetings:

Prepare agendas for meetings;

Make physical arrangements for meetings;

Preside at meetings;

Record the minutes, including proceedings and decisions; and,

Reproduce and distribute copies of minutes within three (3) days after each meeting to participants and parties affected by decisions made at the meeting. Furnish three copies of the minutes to the Contracting Officer.

1.15 CONTRACTOR QUALITY CONTROL

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system as specified in Section 01451A CONTRACTOR QUALITY CONTROL.

1.16 PROJECT PHOTOGRAPHS AND VIDEOTAPE

Color photographs and video shall be taken by an experienced professional photographer and audio videotaping firm using suitable equipment to record the important features of the work areas prior to commencement of work, during construction, and after the work has been completed. Prior to construction, a minimum of 10 exposures shall be taken at each building or stricture that show the location of existing structures. The Contracting Officer shall designate all locations. Provide two copies of Pre-Construction, Progress, and Post-Construction Photographs and Pre-Construction, Progress, and Post-Construction Video, and as-built drawings and geophysics to the Contracting Officer and one copy to the property owners.

After construction operations have been started at each site, the Contractor shall photographically record the project, specifically including coverage of:

Demolition;

Temporary excavation support systems;

Backfill, compaction, grading, and paving;

Soil Erosion and Sediment Control features;

Temporary facilities construction and status;

Site or task-specific employee respiratory and personnel protection;

Unanticipated events such as spillage or related accidents;

Truck loading and decontamination; and,

Employee decontamination.

The actual number and location of views to be taken will be as directed by the Contracting Officer. It is suggested that all Contracting Officer-designated photographs taken during the pre-construction phase of the project be retaken as closely as possible to their original positions at the post construction phase. All photographs and videotape are government property and shall not be released by the Contractor to the public or news media.

Prints shall be color prints, of standard commercial quality, 4 in. by 6

in. in size, and of single weight glossy paper. The information below will be on a label fastened to the back of each photograph. The label will be typewritten and arranged as follows:

REMEDIAL ACTION
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE - OU2

IFB Project No._____C.O.E. Contract No._____
Designer:_____
Contractor:_____
Phone:_____ Address:_____
Property Designation_____
Photograph No._____
Date:_____
Time:_____
Description:_____

In addition to the color prints, the Contractor shall provide the Contracting Officer with digital copies of all photos on CD. Descriptively name all photo files on the CD.

Begin each videotape with the Contract name and number, Contractor's name, date, and location information such as property identification, street name, direction of travel, and viewing side. Information on the tape must be continuous. No editing or overlaying of information at a later date will be acceptable. Label all tapes and boxes with the following information:

a. Tape number;

b. Date of taping;

c. Project name and number;

d. Property address and designation; and,

e. Location and standing limit of tape.

1.17 ENVIRONMENTAL PROTECTION

Protect human and natural environments during demolition, excavation, and restoration. Environmental protection requires consideration of air, water, and land resources and involves noise, solid waste management, and management of other pollutants. Prevent, abate, and control all environmental pollution arising from the construction activities in performance of this contract. Comply with all federal, state, and local laws and regulations. Perform all work in such a manner as to minimize the pollution of air, water, or land, and, within reasonable limits, control noise and disposal of solid waste materials, as well as other pollutants. Do not remove, cut, deface, injure, or destroy trees or shrubs, except in areas to be cleared, without the Contracting Officer's permission.

1.18 PEST AND RODENT CONTROL

The Contractor shall provide rodent and pest control as required to prevent infestation of construction or storage areas.

a. Employ methods and use materials that will not adversely affect conditions at the Site or on adjoining properties.

b. Obtain the services of and pay all costs for a professional exterminator / rodent control expert to visit the site and prepare

a Pest and Rodent Control Plan for review with the Contracting Officer.

c. The requirements of the approved pest control plan shall be in place a minimum of four weeks prior to site mobilization activities, including placement of all traps and bait stations.

d. Professional exterminator / rodent control expert shall visit site throughout building demolition a minimum of twice per week.

e. Contractor's Superintendent shall provide written documentation of exterminator visits and work performed to the Contracting Officer on a weekly basis.

f. Notify the Contracting Officer at least 24 hours in advance of site visits.

g. Remove all bait, traps, etc at conclusion of demolition.

1.19 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

[note to reviewers: this section will be updated during future submittal phases once additional information is obtained as part of Malcolm Pirnie's historical review efforts.] The Contractor is notified that certain buildings on the Site have historical significance. Accordingly, the Government has undertaken an architectural recordation process in accordance with preservation guidelines. If during construction the Contractor discovers any archaeological or historical items, cease excavation in that area and notify the Contracting Officer immediately.

1.20 PROJECT AND SAFETY SIGNS

Maintain a project identification sign and safety performance sign at the locations directed by the Contracting Officer. The project sign must contain, at a minimum, the USEPA logo, NJDEP logo, USACE logo, name of the Superfund Site, the Contract award amount, and a point-of-contact with their telephone number for obtaining further information or reporting any suspicious activities. The Government will provide a sample sign as a guide for use by the Contractor's Sign Construction Subcontractor. Install signs within 30 days of the date of Notice to Proceed and maintain in good condition throughout the Contract period. Update the information contained on the face of the safety performance sign regarding the Contractor's safety record on a daily basis throughout the contract period. Upon completion of the Contract work, remove signs from the work site and backfill all resulting holes. [Note to Reviewers: Should USACE provide specific schematics for preferred signage, they will be included in these design documents and this paragraph will be revised accordingly.]

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01140

WORK RESTRICTIONS

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

List of Contact Personnel; G

1.2 SPECIAL SCHEDULING REQUIREMENTS

a. Have materials, equipment, and personnel required to perform the work at the site prior to the commencement of the work. Specific items of work to which this requirement applies include:

(1) Temporary Facility Trailers in accordance with Section 01110 SUMMARY OF WORK and Section 01500A TEMPORARY CONSTRUCTION FACILITIES

b. The temporary facility will remain in operation during the entire construction period. The Contractor shall conduct his operations so as to cause the least possible interference with normal operations of the activity.

c. Permission to interrupt any Activity roads, railroads, and/or utility service shall be requested in writing a minimum of 15 calendar days prior to the desired date of interruption.

d. The work under this contract requires special attention to the scheduling and conduct of the work in connection with existing operations. Identify on the construction schedule each factor which constitutes a potential interruption to operations.

1.3 CONTRACTOR ACCESS AND USE OF PREMISES

1.3.1 Activity Regulations

Ensure that Contractor personnel employed on the Activity become familiar with and obey Activity regulations including safety, fire, traffic and security regulations. Keep within the limits of the work and avenues of ingress and egress. Wear hard hats in designated areas. Do not enter any restricted areas unless required to do so and until cleared for such entry. The Contractor's equipment shall be conspicuously marked for identification. Contractor Activity and access shall be in accordance with Section 01110 SUMMARY OF WORK.

1.3.1.1 Subcontractors and Personnel Contacts

Furnish a list of contact personnel of the Contractor and subcontractors

including addresses and telephone numbers for use in the event of an emergency. As changes occur and additional information becomes available, correct and change the information contained in previous lists.

1.3.1.2 Identification Badges

Not used.

1.3.1.3 Personnel Entry Approval

Failure to obtain entry approval will not affect the contract price or time of completion.

1.3.2 Working Hours

Regular working hours shall consist of an 8 1/2 hour period from 7:30 a.m. and 5:00 p.m., Monday through Friday, excluding Government holidays.

1.3.3 Work Outside Regular Hours

Work outside regular working hours requires Contracting Officer approval. Make application 15 calendar days prior to such work to allow arrangements to be made by the Government for inspecting the work in progress. During periods of darkness, the different parts of the work shall be lighted in a manner approved by the Contracting Officer.

1.3.4 Exclusionary Period

There have been no exclusionary periods considered in computing the time allowed for the performance of this contract.

1.3.5 Occupied and Existing Buildings

The Contractor shall be working around existing buildings which are occupied. Do not enter the buildings without prior approval of the Contracting Officer.

1.3.6 Utility Cutovers and Interruptions

a. Make utility cutovers and interruptions after normal business tenant working hours or on Saturdays, Sundays, and Government holidays; cutovers and interruptions shall be strictly scheduled through the Contracting Officer. Conform to procedures required in the paragraph "Work Outside Regular Hours."

b. Interruption to water, sanitary sewer, storm sewer, telephone service, electric service, air conditioning, heating, fire alarm, and compressed air shall be considered utility cutovers pursuant to the paragraph entitled "Work Outside Regular Hours."

1.4 SECURITY REQUIREMENTS

Contract Clause "FAR 52.204-2, Security Requirements and Alternate II," "FAC 5252.236-9301, Special Working Conditions and Entry to Work Area," and the following apply:

[_____].

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.
-- End of Section --

SECTION 01270A

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 GENERAL

Payment for this "Cost Reimbursable - Fixed-Fee" contract will be made on a cost reimbursable basis for allowable expenses incurred by the Contractor in the performance of work required by the Contract Documents.

Since work will be performed using a "Cost Reimbursable - Fixed-Fee" contract, bid Items are not appropriate. However, proposed work Items are presented herein for the purpose of establishing the Contractor's cost proposal.

The work Items included in this section and in the Proposal Schedule will serve as the basis for the Contractor's cost tracking and invoicing system.

1.2 DESCRIPTIONS OF WORK ITEMS

The descriptions of work Items below are not intended to indicate the actual means of payment under this contract. The work Items are to be used by the Contractor as a basis for development of a cost proposal. With the exception of lump sum Items, actual payment will be made on a "Cost Reimbursable" basis for work performed and allowable expenses.

A brief summary of the work to be performed under each task listed in the Bid Schedule is included below. The summary is not intended to describe all the Items in detail, but to clarify the Items on which the cost proposal is to be based. It is the responsibility of the Contractor to thoroughly review the Contract Documents to determine the actual work requirements included in each work Item.

1.3 CLUSTER 1 (WORK ITEMS 0001 THROUGH 0023)

1.3.1 Work Plans (Work Item 0001)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.3.2 General Conditions (Work Item 0002)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity

measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.3.3 Asbestos Abatement (Work Item 0003)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.3.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0004)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;
c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size
as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.3.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0005)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.3.6 Special Waste (Work Item 0006)

1.3.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0006A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.3.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0006B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, Contractor's overhead and profit for payment under this Item.

1.3.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0006C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, Contractor's overhead and profit for payment under this Item. Built in

items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.3.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0006D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.3.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0006E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.3.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0006F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.3.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0006G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD)

1.3.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0007)

1.3.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0007A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than

500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.3.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0007B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.3.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0007C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.3.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0007D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120

Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.3.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0007E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.3.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0008)

1.3.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0008A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.3.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0008B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and

Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.3.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0008C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.3.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0008D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.3.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0008E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.3.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0009)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.3.10 Security (Work Item 0010)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.3.11 Perimeter Air Monitoring (Work Item 0011)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.3.12 General Utility Management (Work Item 0012)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, and Contractor's overhead and profit, and incidentals for payment under this Item.

1.3.13 Geophysical Survey Scan Around Buildings (Work Item 0013)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.3.14 Utility Test Pits (Work Item 0014)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.3.15 Warning Signs (Work Item 0015)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.3.16 Controlled Low Strength Material (Work Item 0016)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.3.17 Dense Graded Aggregate (Work Item 0017)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.3.18 Bituminous Surface Coarse (Work Item 0018)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.3.19 Geotextile (Work Item 0019)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.3.20 Fencing (Work Item 0020)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.3.21 Gates (Work Item 0021)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.3.22 Additional Asbestos Abatement (Work Item 0022)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.3.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0023)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 1

1.4 CLUSTER 2 (WORK ITEMS 0024 THROUGH 0046)

1.4.1 Work Plans (Work Item 0024)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.4.2 General Conditions (Work Item 0025)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.4.3 Asbestos Abatement (Work Item 0026)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.4.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0027)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade structures, bollards, above grade walls, loading docks and similar

structures as described in Section 02220, Demolition;

c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.4.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0028)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.4.6 Special Waste (Work Item 0029)

1.4.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0029A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.4.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0029B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.4.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0029C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.4.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0029D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.4.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0029E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.4.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0029F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.4.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0029G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD)

1.4.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0030)

1.4.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0030A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.4.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0030B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.4.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0030C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall

be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.4.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0030D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.4.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0030E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.4.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0031)

1.4.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0031A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for

all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.4.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0031B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.4.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0031C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.4.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0031D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285,

PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.4.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0031E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.4.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0032)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.4.10 Security (Work Item 0033)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.4.11 Perimeter Air Monitoring (Work Item 0034)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.4.12 General Utility Management (Work Item 0035)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.4.13 Geophysical Survey Scan Around Buildings (Work Item 0036)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.4.14 Utility Test Pits (Work Item 0037)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.4.15 Warning Signs (Work Item 0038)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.4.16 Controlled Low Strength Material (Work Item 0039)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.4.17 Dense Graded Aggregate (Work Item 0040)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.4.18 Bituminous Surface Coarse (Work Item 0041)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.4.19 Geotextile (Work Item 0042)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.4.20 Fencing (Work Item 0043)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.4.21 Gates (Work Item 0044)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.4.22 Additional Asbestos Abatement (Work Item 0045)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.4.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0046)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 2

1.5 CLUSTER 3 (WORK ITEMS 0047 THROUGH 0069)

1.5.1 Work Plans (Work Item 0047)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.5.2 General Conditions (Work Item 0048)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.5.3 Asbestos Abatement (Work Item 0049)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.5.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0050)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;

c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.5.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0051)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.5.6 Special Waste (Work Item 0052)

1.5.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0052A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.5.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0052B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.5.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0052C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.5.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0052D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.5.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0052E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.5.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0052F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.5.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0052G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD)

1.5.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0053)

1.5.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0053A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.5.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0053B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.5.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0053C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals

required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.5.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0053D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.5.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0053E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.5.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0054)

1.5.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0054A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental

controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.5.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0054B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.5.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0054C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.5.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0054D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section

02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.5.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0054E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.5.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0055)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.5.10 Security (Work Item 0056)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.5.11 Perimeter Air Monitoring (Work Item 0057)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.5.12 General Utility Management (Work Item 0058)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.5.13 Geophysical Survey Scan Around Buildings (Work Item 0059)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.5.14 Utility Test Pits (Work Item 0060)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.5.15 Warning Signs (Work Item 0061)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.5.16 Controlled Low Strength Material (Work Item 0062)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.5.17 Dense Graded Aggregate (Work Item 0063)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.5.18 Bituminous Surface Coarse (Work Item 0064)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.5.19 Geotextile (Work Item 0065)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.5.20 Fencing (Work Item 0066)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.5.21 Gates (Work Item 0067)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.5.22 Additional Asbestos Abatement (Work Item 0068)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.5.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0069)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 3

1.6 CLUSTER 4 (WORK ITEMS 0070 THROUGH 0092)

1.6.1 Work Plans (Work Item 0070)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.6.2 General Conditions (Work Item 0071)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.6.3 Asbestos Abatement (Work Item 0072)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.6.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0073)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade

structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;

c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size
as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.6.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0074)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.6.6 Special Waste (Work Item 0075)

1.6.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0075A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.6.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0075B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.6.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0075C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.6.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0075D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.6.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0075E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.6.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0075F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.6.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0075G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD).

1.6.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0076)

1.6.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0076A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.6.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0076B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.6.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0076C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals

required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.6.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0076D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.6.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0076E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.6.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0077)

1.6.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0077A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental

controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.6.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0077B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.6.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0077C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.6.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0077D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section

02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.6.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0077E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.6.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0078)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.6.10 Security (Work Item 0079)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.6.11 Perimeter Air Monitoring (Work Item 0080)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.6.12 General Utility Management (Work Item 0081)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.6.13 Geophysical Survey Scan Around Buildings (Work Item 0082)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.6.14 Utility Test Pits (Work Item 0083)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.6.15 Warning Signs (Work Item 0084)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.6.16 Controlled Low Strength Material (Work Item 0085)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.6.17 Dense Graded Aggregate (Work Item 0086)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.6.18 Bituminous Surface Coarse (Work Item 0087)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.6.19 Geotextile (Work Item 0088)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.6.20 Fencing (Work Item 0089)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.6.21 Gates (Work Item 0090)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.6.22 Additional Asbestos Abatement (Work Item 0091)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.6.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0092)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 4

1.7 CLUSTER 5 (WORK ITEMS 0093 THROUGH 0115)

1.7.1 Work Plans (Work Item 0093)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.7.2 General Conditions (Work Item 0094)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.7.3 Asbestos Abatement (Work Item 0095)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.7.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0096)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade

structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;

c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.7.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0097)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.7.6 Special Waste (Work Item 0098)

1.7.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0098A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.7.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0098B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.7.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0098C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.7.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0098D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.7.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0098E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.7.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0098F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.7.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0098G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD)

1.7.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0099)

1.7.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0099A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.7.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0099B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.7.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0099C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals

required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.7.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0099D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.7.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0099E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.7.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0100)

1.7.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0100A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental

controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.7.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0100B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.7.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0100C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.7.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0100D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section

02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.7.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0100E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.7.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0101)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.7.10 Security (Work Item 0102)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.7.11 Perimeter Air Monitoring (Work Item 0103)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.7.12 General Utility Management (Work Item 0104)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.7.13 Geophysical Survey Scan Around Buildings (Work Item 0105)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.7.14 Utility Test Pits (Work Item 0106)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.7.15 Warning Signs (Work Item 0107)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.7.16 Controlled Low Strength Material (Work Item 0108)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.7.17 Dense Graded Aggregate (Work Item 0109)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.7.18 Bituminous Surface Coarse (Work Item 0110)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.7.19 Geotextile (Work Item 0111)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.7.20 Fencing (Work Item 0112)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.7.21 Gates (Work Item 0113)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.7.22 Additional Asbestos Abatement (Work Item 0114)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.7.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0115)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 5

1.8 CLUSTER 6 (WORK ITEMS 0116 THROUGH 0138)

1.8.1 Work Plans (Work Item 0116)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.8.2 General Conditions (Work Item 0117)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.8.3 Asbestos Abatement (Work Item 0118)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.8.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0119)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

c. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade

structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;

c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.8.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0120)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.8.6 Special Waste (Work Item 0121)

1.8.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0121A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.8.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0121B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.8.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0121C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.8.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0121D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.8.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0121E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.8.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0121F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.8.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0121G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD)

1.8.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0122)

1.8.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0122A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.8.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0122B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.8.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0122C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals

required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.8.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0122D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.8.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0122E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.8.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0123)

1.8.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0123A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental

controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.8.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0123B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.8.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0123C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.8.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0123D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section

02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.8.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0123E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.8.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0124)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.8.10 Security (Work Item 0125)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.8.11 Perimeter Air Monitoring (Work Item 0126)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.8.12 General Utility Management (Work Item 0127)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.8.13 Geophysical Survey Scan Around Buildings (Work Item 0128)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.8.14 Utility Test Pits (Work Item 0129)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.8.15 Warning Signs (Work Item 0130)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.8.16 Controlled Low Strength Material (Work Item 0131)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.8.17 Dense Graded Aggregate (Work Item 0132)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.8.18 Bituminous Surface Coarse (Work Item 0133)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.8.19 Geotextile (Work Item 0134)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.8.20 Fencing (Work Item 0135)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.8.21 Gates (Work Item 0136)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.8.22 Additional Asbestos Abatement (Work Item 0137)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.8.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0138)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 6

1.9 CLUSTER 7 (WORK ITEMS 0139 THROUGH 0161)

1.9.1 Work Plans (Work Item 0139)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.9.2 General Conditions (Work Item 0140)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.9.3 Asbestos Abatement (Work Item 0141)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.9.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0142)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade

structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;

c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.9.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0143)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.9.6 Special Waste (Work Item 0144)

1.9.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0144A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.9.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0144B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.9.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0144C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.9.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0144D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.9.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0144E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.9.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0144F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.9.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0144G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD)

1.9.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0145)

1.9.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0145A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.9.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0145B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.9.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0145C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals

required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.9.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0145D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.9.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0145E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.9.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0146)

1.9.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0146A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental

controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.9.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0146B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.9.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0146C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.9.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0146D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section

02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.9.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0146E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.9.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0147)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.9.10 Security (Work Item 0148)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.9.11 Perimeter Air Monitoring (Work Item 0149)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.9.12 General Utility Management (Work Item 0150)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.9.13 Geophysical Survey Scan Around Buildings (Work Item 0151)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.9.14 Utility Test Pits (Work Item 0152)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.9.15 Warning Signs (Work Item 0153)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.9.16 Controlled Low Strength Material (Work Item 0154)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.9.17 Dense Graded Aggregate (Work Item 0155)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.9.18 Bituminous Surface Coarse (Work Item 0156)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.9.19 Geotextile (Work Item 0157)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.9.20 Fencing (Work Item 0158)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.9.21 Gates (Work Item 0159)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.9.22 Additional Asbestos Abatement (Work Item 0160)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.9.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0161)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 7

1.10 CLUSTER 8 (WORK ITEMS 0162 THROUGH 0184)

1.10.1 Work Plans (Work Item 0162)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.10.2 General Conditions (Work Item 0163)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.10.3 Asbestos Abatement (Work Item 0164)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.10.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0165)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;

b. Demolition and removal of all building floor slabs, above grade structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;
c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.10.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0166)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.10.6 Special Waste (Work Item 0167)

1.10.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0167A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.10.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0167B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.10.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0167C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.10.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0167D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.10.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0167E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.10.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0167F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This

Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.10.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0167G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD)

1.10.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0168)

1.10.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0168A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.10.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0168B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.10.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0168C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site

disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.10.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0168D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.10.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0168E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.10.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0169)

1.10.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0169A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-

site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.10.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0169B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.10.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0169C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.10.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0169D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500

ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.10.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0169E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.10.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0170)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.10.10 Security (Work Item 0171)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.10.11 Perimeter Air Monitoring (Work Item 0172)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air

monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.10.12 General Utility Management (Work Item 0173)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.10.13 Geophysical Survey Scan Around Buildings (Work Item 0174)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.10.14 Utility Test Pits (Work Item 0175)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.10.15 Warning Signs (Work Item 0176)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for

all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.10.16 Controlled Low Strength Material (Work Item 0177)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.10.17 Dense Graded Aggregate (Work Item 0178)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.10.18 Bituminous Surface Coarse (Work Item 0179)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.10.19 Geotextile (Work Item 0180)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.10.20 Fencing (Work Item 0181)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.10.21 Gates (Work Item 0182)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.10.22 Additional Asbestos Abatement (Work Item 0183)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.10.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0184)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 8

1.11 CLUSTER 9 (WORK ITEMS 0185 THROUGH 0207)

1.11.1 Work Plans (Work Item 0185)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.11.2 General Conditions (Work Item 0186)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.11.3 Asbestos Abatement (Work Item 0187)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.11.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0188)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade

structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;

c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.11.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0189)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.11.6 Special Waste (Work Item 0190)

1.11.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0190A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.11.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0190B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.11.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0190C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.11.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0190D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.11.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0190E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.11.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0190F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This

Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.11.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0190G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on ((TBD))

1.11.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0191)

1.11.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0191A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.11.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0191B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.11.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0191C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted

facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.11.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0191D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.11.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0191E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.11.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0192)

1.11.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0192A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.11.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0192B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.11.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0192C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.11.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0192D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the

cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.11.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0192E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.11.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0193)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.11.10 Security (Work Item 0194)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.11.11 Perimeter Air Monitoring (Work Item 0195)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter

air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.11.12 General Utility Management (Work Item 0196)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.11.13 Geophysical Survey Scan Around Buildings (Work Item 0197)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.11.14 Utility Test Pits (Work Item 0198)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.11.15 Warning Signs (Work Item 0199)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.11.16 Controlled Low Strength Material (Work Item 0200)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.11.17 Dense Graded Aggregate (Work Item 0201)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.11.18 Bituminous Surface Coarse (Work Item 0202)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.11.19 Geotextile (Work Item 0203)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.11.20 Fencing (Work Item 0204)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of

fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.11.21 Gates (Work Item 0205)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.11.22 Additional Asbestos Abatement (Work Item 0206)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.11.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0207)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 9

1.12 CLUSTER 10 (WORK ITEMS 0208 THROUGH 0230)

1.12.1 Work Plans (Work Item 0208)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.12.2 General Conditions (Work Item 0209)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.12.3 Asbestos Abatement (Work Item 0210)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.12.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0211)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade

structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;

c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.12.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0212)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.12.6 Special Waste (Work Item 0213)

1.12.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0213A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.12.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0213B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.12.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0213C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.12.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0213D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.12.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0213E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.12.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0213F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This

Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.12.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0213G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD)

1.12.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0214)

1.12.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0214A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.12.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0214B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.12.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0214C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site

disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.12.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0214D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.12.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0214E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.12.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0215)

1.12.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0215A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-

site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.12.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0215B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.12.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0215C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.12.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0215D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500

ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.12.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0215E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.12.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0216)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.12.10 Security (Work Item 0217)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.12.11 Perimeter Air Monitoring (Work Item 0218)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air

monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.12.12 General Utility Management (Work Item 0219)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.12.13 Geophysical Survey Scan Around Buildings (Work Item 0220)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.12.14 Utility Test Pits (Work Item 0221)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.12.15 Warning Signs (Work Item 0222)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for

all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.12.16 Controlled Low Strength Material (Work Item 0223)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.12.17 Dense Graded Aggregate (Work Item 0224)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.12.18 Bituminous Surface Coarse (Work Item 0225)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.12.19 Geotextile (Work Item 0226)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.12.20 Fencing (Work Item 0227)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.12.21 Gates (Work Item 0228)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.12.22 Additional Asbestos Abatement (Work Item 0229)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.12.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0230)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 10

1.13 CLUSTER 11 (WORK ITEMS 0231 THROUGH 0253)

1.13.1 Work Plans (Work Item 0231)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.13.2 General Conditions (Work Item 0232)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.13.3 Asbestos Abatement (Work Item 0233)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.13.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0234)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade

structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;

c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size
as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.13.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0235)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.13.6 Special Waste (Work Item 0236)

1.13.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0236A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.13.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0236B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.13.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0236C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.13.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0236D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.13.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0236E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.13.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0236F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This

Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.13.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0236G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD)

1.13.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0237)

1.13.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0237A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.13.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0237B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.13.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0237C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted

facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.13.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0237D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.13.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0237E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.13.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0238)

1.13.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0238A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.13.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0238B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.13.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0238C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.13.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0238D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the

cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.13.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0238E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.13.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0239)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.13.10 Security (Work Item 0240)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.13.11 Perimeter Air Monitoring (Work Item 0241)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter

air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.13.12 General Utility Management (Work Item 0242)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with general utility management. Specific utility management tasks include, but are not limited to:

a. Installing line stops
b. Installing fire hydrants if necessary
c. Abandonment of fire suppression water mains
d. Disconnection of water service for each building
e. Disconnection of gas main at each bldg
f. Disconnection and abandonment of sanitary sewer 6' outside of building foundation
g. All required coordination with public utilities
h. Temporary utility bypasses if necessary

The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.13.13 Geophysical Survey Scan Around Buildings (Work Item 0243)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.13.14 Utility Test Pits (Work Item 0244)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.13.15 Warning Signs (Work Item 0245)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall

estimate the cost for warning signs, which shall be full compensation for all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.13.16 Controlled Low Strength Material (Work Item 0246)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.13.17 Dense Graded Aggregate (Work Item 0247)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.13.18 Bituminous Surface Coarse (Work Item 0248)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.13.19 Geotextile (Work Item 0249)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.13.20 Fencing (Work Item 0250)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.13.21 Gates (Work Item 0251)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.13.22 Additional Asbestos Abatement (Work Item 0252)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.13.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0253)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 11

1.14 CLUSTER 12 (WORK ITEMS 0254 THROUGH 0276)

1.14.1 Work Plans (Work Item 0254)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include the costs to prepare and submit the initial project schedule and the work plans or work plan amendments required by the Contract Documents.

1.14.2 General Conditions (Work Item 0255)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. General Conditions shall include all of the Items required under these Contract Documents but not covered under other work Items, including but not limited to the following: the Contractor's cost for insurance, bonds, fees, permits, and other similar expenses directly related to and required by these Contract Documents; project-dedicated supervisory staff and equipment; Home office support (as necessary), temporary project facilities; project signs; compliance with specified regulatory requirements; construction period planning; administration; coordination with municipalities, subcontractors, disposal facilities, as necessary; Contractor quality control; environmental protection and spill control/emergency response; temporary environmental controls; decontamination facilities; project photographs and videotaping; mobilization / demobilization; updated project schedules; surveying; storm water / erosion control; and any submittals not included under the Item for Work Plans.

1.14.3 Asbestos Abatement (Work Item 0256)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with the removal and off-site disposal of Asbestos Containing Buildings Materials (ACBMs) as described in Section 13280A, Asbestos Hazard Control Activities and as shown on the Contract Drawings.

1.14.4 Above Grade Structure Demolition and Off-Site Disposal (Work Item 0257)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with uncontaminated above grade structure demolition and off-site disposal including but not limited to:

a. Demolition of the on-site buildings including interior walls, Structural components and partitions to grade;
b. Demolition and removal of all building floor slabs, above grade

structures, bollards, above grade walls, loading docks and similar structures as described in Section 02220, Demolition;

c. Demolition of utilities as described in Section 02220, Demolition;
d. On-site stockpiling and crushing demolition debris to a suitable size
as required by off-site disposal facility;
e. Analytical sampling and testing as required by off-site disposal facility;
f. Removal and off-site disposal of demolished building materials as described in Section 02220, Demolition.

Demolition and off-site disposal of contaminated structures as shown on the Contract Drawings is not covered under this Item.

1.14.5 Below-Grade Structure Demolition and Off-Site Disposal (Work Item 0258)

Measurement for this unit cost Item shall be per ton of below-grade uncontaminated structures and concrete. The proposal shall estimate the cost for below grade structure demolition, which includes, but is not limited to:

a. Demolition of below grade structures and concrete including walls, footings, chases, vaults, basements and similar structures as described in Section 02220, Demolition;
b. On-site stockpiling and crushing demolition debris to a suitable size as required by off-site disposal facility;
c. Excavation and exposure necessary to complete demolition of structures;
d. Analytical sampling and testing as required by off-site disposal facility;
e. Removal and off-site disposal of demolished structures and concrete, as described in Section 02220, Demolition.

1.14.6 Special Waste (Work Item 0259)

1.14.6.1 Removal and Disposal of Special Wastes as Shown on Drawings (Work Item 0259A)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with analytical sampling (as necessary), collection, loading and off-site disposal of all special wastes as shown on the Drawings and further described in Sections 02220-Demolition and 13286-Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury. Special wastes to be removed and disposed under this Item include but are not limited to:

a. Miscellaneous containerized contents;
b. Miscellaneous solvents and degreasers;
c. Capacitors and transformers containing PCBs;
d. Waste oil;
e. Fluorescent light fixtures;
f. Batteries;
g. Tires;
h. Pressurized vessels.

1.14.6.2 Removal and Disposal of Trash and Debris From Buildings (Work Item 0259B)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of trash and debris located within and adjacent to site buildings prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.14.6.3 Removal and Disposal of Furnishings From Buildings (Work Item 0259C)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of miscellaneous furnishings and production equipment remaining within the buildings or left by former tenants, prior to demolition activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item. Built in items which are permanently affixed to the structure are included in the Above Grade Structure Demolition Item.

1.14.6.4 Removal and Disposal of Buried Metal Debris (Work Item 0259D)

Measurement for this unit cost Item shall be per ton of buried metal debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, and off-site disposal of buried metal debris encountered during below grade demolition operations. Weight of debris shall be determined using a certified scale acceptable to the Contracting Officer.

1.14.6.5 Removal and Disposal of Uncontaminated Buried Concrete Debris (Work Item 0259E)

Measurement for this unit cost Item shall be per ton of buried uncontaminated concrete debris disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation, decontamination, demolition, and off-site disposal of uncontaminated buried concrete debris not associated with building foundations encountered during below grade demolition operations.

1.14.6.6 Removal and Disposal of Underground Storage Tanks and Contents - 5,000 Gallons or Less (Work Item 0259F)

Measurement for this unit cost Item shall be per each underground storage tank removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for notifications, analytical sampling, storage tank content removal, tank excavation, off-site disposal, and all other requirements described in Section 02650, Storage Tank Removal. This

Item will only be paid if underground storage tanks are encountered during below grade demolition operations.

1.14.6.7 Removal and Disposal of Contaminated Wood Flooring Blocks (Work Item 0259G)

Measurement for this unit cost Item shall be per ton of contaminated wood flooring blocks removed and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated wood flooring blocks as shown on (TBD)

1.14.7 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of PCB-Contaminated Concrete (Work Item 0260)

1.14.7.1 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0260A)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220 Demolition, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.14.7.2 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0260B)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.14.7.3 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0260C)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site

disposal of contaminated concrete (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.14.7.4 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0260D)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.14.7.5 Demolition, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0260E)

Measurement for this unit cost Item shall be per ton of contaminated concrete demolished and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for demolition and off-site disposal of contaminated concrete (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), demolition, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02220, Demolition and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.14.8 Excavation, Handling/Stockpiling, Sampling and Off-Site Disposal of Contaminated Excavated Soil (Work Item 0261)

1.14.8.1 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste > 500 ppm (Work Item 0261A)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-

site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil(with PCB Concentrations greater than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soil sand Concrete, Section 02310, Excavation, and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.14.8.2 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of TSCA Waste < 500 ppm (Work Item 0261B)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soil (with PCB Concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.14.8.3 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of RCRA Waste (Failing TCLP) (Work Item 0261C)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.14.8.4 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA > 500 ppm] (Work Item 0261D)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations greater than 500

ppm),which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.14.8.5 Excavation, Handling/Stockpiling, Sampling, and Off-Site Disposal of Mixed Waste - Both TSCA and RCRA [TSCA < 500 ppm] (Work Item 0261E)

Measurement for this unit cost Item shall be per ton of contaminated soil excavated as part of subsurface demolition activities and disposed off-site at a properly permitted facility. The proposal shall estimate the cost for excavation and off-site disposal of contaminated soils (RCRA Waste Failing TCLP and TSCA waste with PCB concentrations less than 500 ppm), which shall be full compensation for all labor materials, equipment, and incidentals required for environmental controls, analytical sampling (as necessary to facilitate off-site disposal), excavation, temporary stockpiling, loading and off-site disposal as specified in Section 13285, PCB Contaminated Soils and Concrete, Section 02310, Excavation and Section 02120 Transportation and Disposal of Hazardous Materials. Payment shall not be made until Contractor submits all weight tickets and required documentation indicating the actual tonnage of material disposed off-site.

1.14.9 On-Site Reuse of Uncontaminated Excavated Soil (Work Item 0262)

Measurement for this unit cost Item shall be per cubic yard of uncontaminated excavated soil reused on Site, measured in-place as directed by Contracting Officer. The proposal shall estimate the cost for excavation and on-site reuse of uncontaminated soils, which shall be full compensation for all labor, material, equipment, surveys and incidentals required for excavation, temporary stockpiling, on-site hauling, placement and backfill as directed by Contracting Officer and as specified in Sections 02310, Excavation, and 02320, Backfill and Compaction.

1.14.10 Security (Work Item 0263)

Measurement for this unit cost Item shall be per week of site security services provided during non-working hours. The proposal shall estimate the cost for site security services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide full-time site security services during non-working hours for the entire duration of the project.

1.14.11 Perimeter Air Monitoring (Work Item 0264)

Measurement for this unit cost Item shall be per week of perimeter air monitoring services. The proposal shall estimate the cost for perimeter air monitoring services, which shall be full compensation for all labor, material, equipment, and incidentals required to provide all perimeter air

monitoring (with the exception of asbestos monitoring, which shall be paid for under the Asbestos Abatement Item)as required by Section 01351, Safety, Health, and Emergency Response (HTRW / UST), and Section 13285, Removal and Disposal of PCB Contaminated Soils and Concrete.

1.14.12 Tank Closure (Work Item 0265)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the cleaning and closure of the above ground oil tank as necessary prior to the initiation of demolition activities. The Contractor shall submit documentation of actual cost of labor, material, equipment, Contractor's overhead and profit and incidentals for payment under this Item.

1.14.13 Geophysical Survey Scan Around Buildings (Work Item 0266)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with geophysical surface scanning around the perimeter of each building or structure located within the Building Cluster for the purposes of underground utility location. The Contractor shall not excavate prior to performance of geophysical surface scanning, and approval by Contracting Officer.

1.14.14 Utility Test Pits (Work Item 0267)

Measurement for this unit cost Item shall be per each utility test pit excavated within the Building Cluster. The proposal shall estimate the cost for test pits, which shall be full compensation for all labor, material, equipment, and incidentals required to excavate utility location test pits within the cluster. The maximum test pit dimensions shall be 10 feet x 10 feet x 6 feet deep. Saw cutting of pavements, excavation, backfilling with crushed stone to grade, environmental monitoring, stockpiling, and testing of excavated soils, are included in this Item. Disposal and/or reuse of excavated soils shall not be included under this Item.

1.14.15 Warning Signs (Work Item 0268)

Measurement for this unit cost Item shall be per each project warning sign furnished and installed within the Building Cluster. The proposal shall estimate the cost for warning signs, which shall be full compensation for all labor, material, equipment, and incidentals required to purchase, importation and installation of warning signs within the Building Cluster as requested by Contracting Officer and as required in Section 01351, Safety, Health, and Emergency Response (HTRW / UST).

1.14.16 Controlled Low Strength Material (Work Item 0269)

Measurement for this unit cost Item shall be per cubic yard of controlled low strength material furnished and placed on-site. The proposal shall

estimate the cost for low strength material, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation and placement as directed by Contracting Officer and as specified in Section 02320, Backfill and Compaction.

1.14.17 Dense Graded Aggregate (Work Item 0270)

Measurement for this unit cost Item shall be per ton of Dense Graded Aggregate furnished and placed on-site. The proposal shall estimate the cost for Dense Graded Aggregate, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of dense graded aggregate as specified in Section 02320, Backfill and Compaction and as shown on the Contract Drawings.

1.14.18 Bituminous Surface Coarse (Work Item 0271)

Measurement for this unit cost Item shall be per square yard of bituminous surface coarse furnished and placed to the thickness shown on the Contract Drawings. The proposal shall estimate the cost for bituminous surface coarse, which shall be full compensation for all labor, material, equipment and incidentals required for purchase, importation, placement, and compaction of bituminous surface coarse as shown and as specified in Section 02742, Hot Mix Bituminous Pavement.

1.14.19 Geotextile (Work Item 0272)

Measurement for this unit cost Item shall be per square foot of geotextile furnished and installed. The proposal shall estimate the cost for geotextile, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and placement of geotextile as shown and specified in Section 02373, Geotextile and shown on the Contract Drawings.

1.14.20 Fencing (Work Item 0273)

Measurement for this unit cost Item shall be per linear foot of fencing furnished and installed. The proposal shall estimate the cost for fencing, which shall be full compensation for all labor, material, equipment, and incidentals required for purchase, importation, and installation of fencing as shown and specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.14.21 Gates (Work Item 0274)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with furnishing and installing one Slide Gate per Building Cluster as shown and as specified in Section 02821A, Fencing and as shown on the Contract Drawings.

1.14.22 Additional Asbestos Abatement (Work Item 0275)

This Item shall be presented in the proposal as an allowance. This Item includes all costs associated with the removal and off-site disposal of additional Asbestos Containing Building Materials (ACBMs) not indicated in the asbestos survey located in (TBD) to these specifications, shown on the Contract Drawings, or specified in Section 13280A, Asbestos Hazard Control Activities. Contractor shall submit documentation of actual cost of labor material, equipment, and incidentals, as well as transportation and disposal fees, and Contractor's overhead and profit for payment under this Item.

1.14.23 Water Handling, Temporary Storage, and Off-Site Disposal (Work Item 0276)

This Item shall be presented in the proposal as a lump sum estimate, which shall include all Items described herein, and no separate quantity measurement shall be made. This Item shall include all costs associated with pumping, handling, temporary storage, analytical sampling and off-site disposal of contaminated water generated as a result of decontamination operations and/or precipitation entering open excavations during demolition activities. The Contractor shall provide temporary cover over open excavations, and implement other site controls as necessary to limit the amount of precipitation entering open excavations. No additional compensation shall be made if actual water disposal quantities are higher then originally anticipated by Contractor.

END OF CLUSTER 12

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01312A

QUALITY CONTROL SYSTEM (QCS)

PART 1 GENERAL

1.1 REFERENCES

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2003) Safety and Health Requirements Manual

1.2 GENERAL

The Government will use the Resident Management System for Windows (RMS) to assist in its monitoring and administration of this contract. The Contractor shall use the Government-furnished Construction Contractor Module of RMS, referred to as QCS, to record, maintain, and submit various information throughout the contract period. The Contractor module, user manuals, updates, and training information can be downloaded from the RMS web site.This joint Government-Contractor use of RMS and QCS will facilitate electronic exchange of information and overall management of the contract. QCS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

Administration
Finances
Quality Control
Submittal Monitoring
Scheduling
Import/Export of Data

1.2.1 Correspondence and Electronic Communications

For ease and speed of communications, both Government and Contractor will, to the maximum extent feasible, exchange correspondence and other documents in electronic format. Correspondence, pay requests and other documents comprising the official contract record shall also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

1.2.2 Other Factors

Particular attention is directed to Contract Clause, "Schedules for Construction Contracts", Contract Clause, "Payments", Section 01320, PROJECT SCHEDULE, Section 01330, SUBMITTAL PROCEDURES, and Section 01451A, CONTRACTOR QUALITY CONTROL, which have a direct relationship to the reporting to be accomplished through QCS. Also, there is no separate payment for establishing and maintaining the QCS database; all costs associated therewith shall be included in the contract pricing for the work.

1.3 QCS SOFTWARE

QCS is a Windows-based program that can be run on a stand-alone personal computer or on a network. The Government will make available the QCS

software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor shall be responsible to download, install and use the latest version of the QCS software from the Government's RMS Internet Website. Upon specific justification and request by the Contractor, the Government can provide QCS on 3-1/2 inch high-density diskettes or CD-ROM. Any program updates of QCS will be made available to the Contractor via the Government RMS Website as they become available.

1.4 SYSTEM REQUIREMENTS

The following listed hardware and software is the minimum system configuration that the Contractor shall have to run QCS:

Hardware

IBM-compatible PC with 1000 MHz Pentium or higher processor

256+ MB RAM for workstation / 512+ MB RAM for server

1 GB hard drive disk space for sole use by the QCS system

3 1/2 inch high-density floppy drive

Compact disk (CD) Reader, 8x speed or higher

SVGA or higher resolution monitor (1024 x 768, 256 colors)

Mouse or other pointing devise

Windows compatible printer (Laser printer must have 4+ MB of RAM)

Connection to the Internet, minimum 56k BPS

Software

MS Windows 2000 or higher

Word Processing software compatible with MS Word 2000 or newer

Latest version of : Netscape Navigator, Microsoft Internet Explorer, or other browser that supports HTML 4.0 or higher

Electronic mail (E-mail), MAPI compatible

Virus protection software that is regularly upgraded with all issued manufacturer's updates

1.5 RELATED INFORMATION

1.5.1 QCS User Guide

After contract award, the Contractor shall download instructions for the installation and use of QCS from the Government RMS Internet Website; the Contractor can obtain the current address from the Government. In case of justifiable difficulties, the Government will provide the Contractor with a CD-ROM containing these instructions.

1.5.2 Contractor Quality Control(CQC) Training

The use of QCS will be discussed with the Contractor's QC System Manager during the mandatory CQC Training class.

1.5.3 Video Training for RMS-QC

After contract award, the Contractor will be provided with a CD containing a training video on the use of RMS-QC.

1.6 CONTRACT DATABASE

Prior to the pre-construction conference, the Government shall provide the Contractor with basic contract award data to use for QCS. The Government will provide data updates to the Contractor as needed, generally by files attached to E-mail. These updates will generally consist of submittal reviews, correspondence status, QA comments, and other administrative and QA data.

1.7 DATABASE MAINTENANCE

The Contractor shall establish, maintain, and update data for the contract in the QCS database throughout the duration of the contract. The Contractor shall establish and maintain the QCS database at the Contractor's site office. Data updates to the Government shall be submitted by E-mail with file attachments, e.g., daily reports, schedule updates, payment requests. If permitted by the Contracting Officer, a data diskette or CD-ROM may be used instead of E-mail (see Paragraph DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM). The QCS database typically shall include current data on the following items:

1.7.1 Administration

1.7.1.1 Contractor Information

The database shall contain the Contractor's name, address, telephone numbers, management staff, and other required items. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver Contractor administrative data in electronic format via E-mail.

1.7.1.2 Subcontractor Information

The database shall contain the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor must be listed separately for each trade to be performed. Each subcontractor/trade shall be assigned a unique Responsibility Code, provided in QCS. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver subcontractor administrative data in electronic format via E-mail.

1.7.1.3 Correspondence

All Contractor correspondence to the Government shall be identified with a serial number. Correspondence initiated by the Contractor's site office shall be prefixed with "S". Letters initiated by the Contractor's home (main) office shall be prefixed with "H". Letters shall be numbered starting from 0001. (e.g., H-0001 or S-0001).

1.7.1.4 Requests for Information

QCS includes a means for the Contractor to enter, log, and transmit requests for information (RFI) to the government. RFIs can be exchanged electronically using the import/export functions of QCS. Also provide a signed, printed copy of each RFI. All RFIs from the Contractor to the government shall have the prefix "RFI" and shall be numbered sequentially beginning with RFI-0001.

1.7.1.5 Equipment

The Contractor's QCS database shall contain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.7.1.6 EM 385-1-1, Corps of Engineers Safety Manual and RMS Linkage

Upon request, the Contractor can obtain a copy of the current version of the Safety Manual, EM 385-1-1, on CD. Data on the CD will be accessible through QCS, or in stand-alone mode.

1.7.1.7 Management Reporting

QCS includes a number of reports that Contractor management can use to track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections of QCS. Among these reports are: Progress Payment Request worksheet, QA/QC comments, Submittal Register Status, Three-Phase Inspection checklists.

1.7.2 Finances

1.7.2.1 Pay Activity Data

The QCS database shall include a list of pay activities that the Contractor shall develop in conjunction with the construction schedule. The sum of all pay activities shall be equal to the total contract amount, including modifications. Pay activities shall be grouped by Contract Line Item Number (CLIN), and the sum of the activities shall equal the amount of each CLIN. The total of all CLINs equals the Contract Amount.

1.7.2.2 Payment Requests

All progress payment requests shall be prepared using QCS. The Contractor shall complete the payment request worksheet and include it with the payment request. The work completed under the contract, measured as percent or as specific quantities, shall be updated at least monthly. After the update, the Contractor shall generate a payment request report using QCS. The Contractor shall submit the payment requests with supporting data by E-mail with file attachment(s). If permitted by the Contracting Officer, a data diskette may be used instead of E-mail. A signed paper copy of the approved payment request is also required, which shall govern in the event of discrepancy with the electronic version.

1.7.3 Quality Control (QC)

QCS provides a means to track implementation of the 3-phase QC Control System, prepare daily reports, identify and track deficiencies, document progress of work, and support other contractor QC requirements. The Contractor shall maintain this data on a daily basis. Entered data will

automatically output to the QCS generated daily report. The Contractor shall provide the Government a Contractor Quality Control (CQC) Plan within the time required in Section 01451A, CONTRACTOR QUALITY CONTROL. Within seven calendar days of Government acceptance, the Contractor shall submit a data diskette or CD-ROM reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

1.7.3.1 Daily Contractor Quality Control (CQC) Reports.

QCS includes the means to produce the Daily CQC Report. The Contractor may use other formats to record basic QC data. However, the Daily CQC Report generated by QCS shall be the Contractor's official report. Data from any supplemental reports by the Contractor shall be summarized and consolidated onto the QCS-generated Daily CQC Report. Daily CQC Reports shall be submitted as required by Section 01451A, CONTRACTOR QUALITY CONTROL. Reports shall be submitted electronically to the Government using E-mail or diskette within 24 hours after the date covered by the report. Use of either mode of submittal shall be coordinated with the Government representative. The Contractor shall also provide the Government a signed, printed copy of the daily CQC report.

1.7.3.2 Deficiency Tracking.

The Contractor shall use QCS to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using QC punch list items. The Contractor shall maintain a current log of its QC punch list items in the QCS database. The Government will log the deficiencies it has identified using its QA punch list items. The Government's QA punch list items will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of both QC and QA punch list items.

1.7.3.3 Three-Phase Control Meetings

The Contractor shall maintain scheduled and actual dates and times of preparatory and initial control meetings in QCS.

1.7.3.4 Accident/Safety Tracking.

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of the safety comments. In addition, the Contractor shall utilize QCS to advise the Government of any accidents occurring on the jobsite. This brief supplemental entry is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 300.

1.7.3.5 Features of Work

The Contractor shall include a complete list of the features of work in the QCS database. A feature of work may be associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of paragraph "Finances") will only be linked to a single feature of work.

1.7.3.6 QC Requirements

The Contractor shall develop and maintain a complete list of QC testing, transferred and installed property, and user training requirements in QCS. The Contractor shall update all data on these QC requirements as work progresses, and shall promptly provide this information to the Government via QCS.

1.7.4 Submittal Management

The Government will provide the initial submittal register, ENG Form 4288, SUBMITTAL REGISTER, in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall use QCS to track and transmit all submittals. ENG Form 4025, submittal transmittal form, and the submittal register update, ENG Form 4288, shall be produced using QCS. RMS will be used to update, store and exchange submittal registers and transmittals, but will not be used for storage of actual submittals.

1.7.5 Schedule

The Contractor shall develop a construction schedule consisting of pay activities, in accordance with Contract Clause "Schedules for Construction Contracts", or Section 01320, PROJECT SCHEDULE, as applicable. This schedule shall be input and maintained in the QCS database either manually or by using the Standard Data Exchange Format (SDEF) (see Section 01320 PROJECT SCHEDULE). The updated schedule data shall be included with each pay request submitted by the Contractor.

1.7.6 Import/Export of Data

QCS includes the ability to export Contractor data to the Government and to import submittal register and other Government-provided data, and schedule data using SDEF.

1.8 IMPLEMENTATION

Contractor use of QCS as described in the preceding paragraphs is mandatory. The Contractor shall ensure that sufficient resources are available to maintain its QCS database, and to provide the Government with regular database updates. QCS shall be an integral part of the Contractor's management of quality control.

1.9 DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM

The Government-preferred method for Contractor's submission of updates, payment requests, correspondence and other data is by E-mail with file attachment(s). For locations where this is not feasible, the Contracting Officer may permit use of computer diskettes or CD-ROM for data transfer. Data on the disks or CDs shall be exported using the QCS built-in export function. If used, diskettes and CD-ROMs will be submitted in accordance with the following:

1.9.1 File Medium

The Contractor shall submit required data on 3-1/2 inch double-sided high-density diskettes formatted to hold 1.44 MB of data, capable of

running under Microsoft Windows 95 or newer. Alternatively, CD-ROMs may be used. They shall conform to industry standards used in the United States. All data shall be provided in English.

1.9.2 Disk or CD-ROM Labels

The Contractor shall affix a permanent exterior label to each diskette and CD-ROM submitted. The label shall indicate in English, the QCS file name, full contract number, contract name, project location, data date, name and telephone number of person responsible for the data.

1.9.3 File Names

The Government will provide the file names to be used by the Contractor with the QCS software.

1.10 MONTHLY COORDINATION MEETING

The Contractor shall update the QCS database each workday. At least monthly, the Contractor shall generate and submit an export file to the Government with schedule update and progress payment request. As required in Contract Clause "Payments", at least one week prior to submittal, the Contractor shall meet with the Government representative to review the planned progress payment data submission for errors and omissions. The Contractor shall make all required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will be returned. The Government will not process progress payments until an acceptable QCS export file is received.

1.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification.

-- End of Section --

SECTION 01320

PROJECT SCHEDULE

PART 1 GENERAL

1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1-1-11	(1995) Progress, Schedules, and Network Analysis Systems

1.2 SUBMITTALS

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

SD-01 Preconstruction Submittals

Initial Project and Cluster Schedules; G

Submit Initial Project and Cluster Schedules for approval defining the Contractor's planned operations for approval. A separate schedule for each cluster shall be provided. Submit a revised project schedule, if necessary, for approval.

The data disk, reports, and network diagrams required for each submission are contained in the paragraph entitled SUBMISSION REQUIREMENTS.

Periodic Schedule Update; G

Submit periodic schedule update based on the results of progress meetings, specified in "Periodic Progress Meetings." Submit updates every two weeks at a minimum. These submissions shall enable the Contracting Officer to assess Contractor's progress.

The data disk, reports, and network diagrams required for each submission are contained in the paragraph entitled SUBMISSION REQUIREMENTS.

1.3 SUBMISSION REQUIREMENTS

Provide the Standard Activity Coding Dictionary in accordance with the activity coding structure defined in the Standard Data Exchange Format (SDEF) in ER 1-1-11, Appendix A. This exact structure is mandatory, even if some fields are not used. Submit the following for the preliminary

submission, initial submission, and every Periodic Schedule Update throughout the life of the project:

1.3.1 Data Disks

Provide two data disks containing the project schedule. Adhere to the SDEF format specified in ER 1-1-11, Appendix A.

1.3.1.1 File Medium

Submit required data on 3.5 disks, formatted to hold 1.44 MB of data, under the MS-DOS Version 5. or 6.x, unless otherwise approved by the Contracting Officer.

1.3.1.2 Disk Label

Affix a permanent exterior label to each disk submitted. Indicate the type of schedule (Preliminary, Initial, Update, or Change), full contract number, project name, project location, data date, and name and telephone number or person responsible for the schedule.

1.3.1.3 File Name

Submit each file with a name related to either the schedule data date, project name, or contract number. Develop a naming convention that will ensure that the names of the files submitted are unique, and submit the file naming convention to the Contracting Officer for approval.

1.3.2 Narrative Report

Provide a Narrative Report with the preliminary, initial, and each update of the project schedule. Include a description of activities along the two most critical paths, a description of current and anticipated problem areas or delaying factors and their impact, and an explanation of corrective actions taken or required to be taken. The narrative report is expected to relay the Contractor's thorough analysis of the schedule output and its plans to compensate for any problems, either current or potential, which are revealed through that analysis.

1.3.3 Approved Changes Verification

Include only project schedule changes that have been previously approved by the Contracting Officer in the schedule submission. The Narrative Report shall specifically reference, on an activity by activity basis, all changes made since the previous period and relate each change to documented, approved schedule changes.

1.3.4 Schedule Reports

The format for each activity for the schedule reports listed below shall contain: Activity Numbers, Activity Description, Original Duration, Remaining Duration, Early Start Date, Early Finish Date, Late Start Date, Late Finish Date, Total Float. Actual Start and Actual Finish Dates shall be printed for those activities in progress or completed.

1.3.4.1 Activity Report

A list of all activities sorted according to activity number.

1.3.4.2 Logic Report

A list of Preceding and Succeeding activities for every activity in ascending order by activity number. Preceding and succeeding activities shall include all information listed above in paragraph Schedule Reports. Leave a blank line between each activity grouping.

1.3.4.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. List activities that have the same amount of total float in ascending order of Early Start Dates. Do not show completed activities on this report.

1.3.4.4 Earnings Report

A compilation of the Contractor's Total Earnings on the project from the NTP until the most recent Monthly Progress Meeting. Reflect the Earnings of specific activities based on the agreements made in the field and approved between the Contractor and Contracting Officer at the most recent Monthly Progress Meeting. Provided that the Contractor has provided a complete schedule update. Group activities by Work Breakdown Structure (WBS) and sort by activity numbers. This report shall sum all activities in a WBS and provide a WBS percent complete; and complete and sum all WBS to provide a total project percent complete. The printed report shall contain, for each activity: the Activity Number, Activity Description, Original Budgeted Amount, Total Quantity, Quantity to Date, Percent Complete (based on cost), Earnings to Date, and fee.

1.3.5 Network Diagram

The network diagram is required on the initial schedule submission and on monthly schedule update submissions. The network diagram depicts and displays order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting Officer will use the following conditions to review compliance with this paragraph:

1.3.5.1 Continuous Flow

Show a continuous flow from left to right with no arrows from right to left on diagrams. Show the activity number, description, duration, and estimated earned value on the diagram.

1.3.5.2 Project Milestone Dates

Show dates for start of project, contract required interim completion dates, and contract completion dates on the diagram.

1.3.5.3 Banding

Group activities to assist in the understanding of the activity sequence. Typically, this flow will group activities by category of work, work area and/or responsibility.

1.3.5.4 S-Curves

Earnings curves showing projected early and late earnings and earnings to date.

1.4 QUALIFICATIONS

Designate an authorized representative responsible for the preparation of all required project schedule reports.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Provide a Preliminary Project Schedule for each cluster as described below. The scheduling of construction shall be the responsibility of the Contractor who shall actively participate in its development. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate Project Schedule. The approved Project Schedule shall be used to measure the progress of the work, and to aid in evaluating time extensions.

3.2 BASIS FOR PAYMENT

The schedule shall be the basis for measuring Contractor progress. Lack of an approved schedule and scheduling personnel will result in an inability of the Contracting Officer to evaluate Contractor's progress. Verified, approved actual costs will be the basis for Contractor payment.

3.3 INITIAL PROJECT SCHEDULE

Utilize the computer software system to produce the Initial Project and Cluster Schedules that is capable of providing all requirements of this specification and submit to the Contracting Officer prior to use. Failure to meet the requirements of this specification shall result in the disapproval of the schedule. Manual methods used to produce any required information require approval by the Contracting Officer.

3.3.1 Use of the Critical Path Method

The Contractor shall provide the Project Schedule in the Precedence Diagram Method (PDM) and in the form of a GANTT chart.

3.3.2 Level of Detail Required

Failure to develop or update the Initial Project and Cluster Schedules or provide data at the appropriate level of detail, as specified by the Contracting Officer, shall result in the disapproval of the schedule. The Contracting Officer will use the following conditions to determine the appropriate level of detail to be used in the Initial Project and Cluster Schedules:

3.3.2.1 Activity Durations

Contractor submissions shall follow the direction of the Contracting Officer regarding reasonable activity durations. Reasonable durations are those that allow the progress of activities to be accurately determined between payment periods (usually less than 2 percent of all non-procurement activities' Original Durations are greater than 20 days). The chronological order of the start of each major operation or segment of work

will determine the vertical location of its bar on the chart. Provide bold vertical lines, at one-week intervals, with the consecutive numbering of each week on the horizontal time scale. Identify the first work day of each work item on the horizontal time scale.

3.3.2.2 Procurement Activities

Include tasks related to the procurement of long lead materials, equipment, or services as separate activities in the Initial Project Schedule. Long lead materials and equipment are materials that have a procurement cycle of over 90 days. Examples of procurement process activities include, but are not limited to: submittals, approvals, procurement, design, fabrication, and delivery.

3.3.2.3 Government Activities

Show government and other agency activities that could impact progress. These activities include approvals, business tenant relocations, inspections, utility interruptions, government Furnished Equipment (GFE) and Notice to Proceed (NTP) for phasing requirements.

3.3.2.4 Responsibility

Identify all activities in the Initial Project and Cluster Schedules by the party responsible to perform the work. Responsibility includes the subcontracting firm, contractor work force, or government agency performing a given task. Activities shall not belong to more than one responsible party. Identify the responsible party for each activity by the Responsibility Code.

3.3.2.5 Work Areas

Identify all activities in the Initial Project and Cluster Schedules by the work area in which the activity occurs. Provide a separate horizontal bar for each work activity or operation. Activities shall not be allowed to cover more than one work area. Identify the work area of each activity by the Work Area Code.

3.3.2.6 Modification or Claim Number

Identify any activity that is added or changed by contract modification or used to justify claimed time by a mod or claim code that changed the activity. Activities shall not belong to more than one modification or claim item. Identify the modification or claim number of each activity by the Mod or Claim Number. Whenever possible, changes shall be added to the schedule by adding new activities. Existing activities shall not normally be changed to reflect modifications.

3.3.2.7 Work Breakdown Structure (WBS)

Identify all activities in the Initial Project and Cluster Schedules by the WBS to which the activity belongs.

3.3.2.8 Phase of Work

Identify all activities in the Initial Project and Cluster Schedules by the phases of work in which the activity occurs. Activities shall not contain work in more than one phase of work. The project phase of each activity shall be by the unique Phase of Work Code.

3.3.2.9 Category of Work

Identify all activities in the Initial Project and Cluster Schedules according to the category of work which best describes the activity. Category of work refers, but is not limited, to the procurement chain of activities including such items as submittals, approvals, procurement, excavation, transportation, disposal, restoration, fabrication, delivery, installation, start-up, and testing. Identify the category of work for each activity by the Category of Work Code.

3.3.2.10 Feature of Work

Identify all activities in the Initial Project and Cluster Schedules according to the feature of work to which the activity belongs. Feature of work refers, but is not limited to, a work breakdown structure for the project. Identify the feature of work for each activity by the Feature of Work Code.

3.3.3 Scheduled Project Completion

Extend the schedule interval from NTP to the contract completion date.

3.3.3.1 Project Start Date

Start the schedule no earlier than the date on which the NTP was acknowledged. Include as the first activity in the Initial Project and Cluster Schedules an activity called "Start Project". The "Start Project" activity shall have an "ES" constraint date equal to the date that the NTP was acknowledged, and a zero day duration.

3.3.3.2 Constraint of Last Activity

Completion of the last activity in the schedule shall be constrained by the contract completion date. Calculation on project updates shall be such that if the early finish of the last activity falls after the contract completion date, then the float calculation shall reflect a negative float on the critical path. Include as the last activity in the Initial Project and Cluster Schedules an activity called "End Project". The "End Project" activity shall have an "LF" constraint date equal to the completion date for the project, and a zero day duration.

3.3.3.3 Early Project Completion

In the event the Initial Project and Cluster Schedules show completion of the project prior to the contract completion date, identify those activities that have been accelerated and/or those activities that are scheduled in parallel to support the Contractor's "early" completion. Specifically address each of the activities noted in the narrative report at every Initial Project and Cluster Schedules update period to assist the Contracting Officer in evaluating the Contractor's ability to actually complete prior to the contract period.

3.3.4 Interim Completion Dates

Contractually specified interim completion dates shall also be constrained to show negative float if the early finish date of the last activity in that phase falls after the interim completion date.

3.3.4.1 Start Phase

Include as the first activity for a project phase an activity called "Start Phase X" where "X" refers to the phase of work. The "Start Phase X" activity shall have an "ES" constraint date equal to the date on which the NTP was acknowledged, and a zero day duration.

3.3.4.2 End Phase

Include as the last activity in a project phase an activity called "End Phase X" where "X" refers to the phase of work. The "End Phase X" activity shall have an "LF" constraint date equal to the completion date for the project, and a zero day duration.

3.3.4.3 Phase X

Include a hammock type activity for each project phase called "Phase X" where "X" refers to the phase of work. The "Phase X" activity shall be logically tied to the earliest and latest activities in the phase.

3.3.5 Default Progress Data Disallowed

Do not automatically update actual start and finish dates by default mechanisms that may be included in CPM scheduling software systems. Actual Start and Finish dates on the CPM schedule shall match those dates provided from Contractor Quality Control Reports. Failure to document the Actual Start and Finish dates on the Daily Quality Control report for every in-progress or completed activity, and failure to ensure that the data contained on the Daily Quality Control reports is the sole basis for schedule updating shall result in the disapproval of the Contractor's schedule and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. Updating of the percent complete and the remaining duration of any activity shall be independent functions. Disable program features that calculate one of these parameters from the other.

3.3.6 Out-of-Sequence Progress

Activities that have posted progress without all preceding logic being satisfied (Out-of-Sequence Progress) will be allowed only on a case-by-case approval of the Contracting Officer. Propose logic corrections to eliminate all out of sequence progress or justify not changing the sequencing for approval prior to submitting an updated Initial Project and Cluster Schedules.

3.3.7 Negative Lags

Lag durations contained in the project schedule shall not have a negative value.

3.4 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include a monthly onsite meeting or other regular intervals mutually agreed to at the pre-work conference. During this meeting the Contractor shall describe, on an activity by activity basis, all proposed revisions and adjustments to the project schedule required to reflect the current status of the project. The Contracting Officer will approve activity progress, proposed revisions, and adjustments as appropriate.

3.4.1 Meeting Attendance

The Contractor's Project Manager and Scheduler shall attend the regular progress meeting.

3.4.2 Update Submission Following Progress Meeting

Submit a complete update of the project schedule containing all approved progress, revisions, and adjustments based on the regular progress meeting no later than four(4) working days after the monthly progress meeting.

3.4.3 Progress Meeting Contents

Updated information, including Actual Start Dates, Actual Finish Dates, Remaining Durations, and Cost-to-Date shall be subject to the approval of the Contracting Officer. As a minimum, address the following items on an activity by activity basis during each progress meeting.

3.4.3.1 Start and Finish Dates

T he Actual Start and Actual Finish dates for each activity currently in-progress or completed.

3.4.3.2 Time Completion

The estimated Remaining Duration for each activity in-progress. Base time-based progress calculations on Remaining Duration for each activity.

3.4.3.3 Cost Completion

The earnings for each activity started. Payment will be based on earnings for each in-progress or completed activity. Payment for individual activities will not be made for work that contains quality defects. A portion of the overall project amount may be retained based on delays of activities.

3.4.3.4 Logic Changes

Identify and discuss all logic changes. This list includes, but it is not limited to:

NTP on change orders;

change orders to be incorporated into the schedule;

contractor-proposed changes in work sequence;

corrections to schedule logic for out-of-sequence progress;

lag durations; and

any other changes that have been made pursuant to contract provisions.

3.4.3.5 Other Changes

Other changes required due to delays in completion of any activity or group of activities include:

delays beyond the Contractor's control, such as strikes and unusual weather;

delays encountered due to submittals, government activities, deliveries or work stoppages which make re-planning the work necessary; and

changes required to correct a schedule that does not represent the actual or planned prosecution and progress of the work.

Indicate progress of each activity to date of submission. Show changes occurring since previous submission of schedule, major changes in scope or quantities (if any), activities modified since previous submission, and revised projections of progress and completion.

3.5 REQUESTS FOR TIME EXTENSIONS

Furnish the following for a determination whether an extension of time is warranted: justification, project schedule data, and supporting evidence as the Contracting Officer may deem necessary. Submission of proof of delay, based on revised activity logic, duration, and costs (updated to the specific date that the delay occurred) shall also be provided.

3.5.1 Justification of Delay

The project schedule shall clearly display that the Contractor has used, in full, all the float time available for the work involved with this request. The Contracting Officer's determination as to the number of allowable days of contract extension shall be based upon the project schedule updates in effect for the time period in question, and other factual information. Actual delays that are found to be caused by the Contractor's own actions, which result in the extension of the schedule, will not be a cause for a time extension to the contract completion date.

The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities for the duration of the project.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY

WORK DAYS BASED ON (5) DAY WORK WEEK

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(7)	(5)	(6)	(2)	(2)	(2)	(2)	(2)	(3)	(2)	(2)	(4)

3.5.2 Submission Requirements

Submit a justification for each request for a change in the contract completion date of under 2 weeks based upon the most recent schedule update at the time of the NTP or constructive direction issued for the change. Such a request shall be in accordance with the requirements of other appropriate Contract Clauses and shall include, as a minimum:

a. A list of affected activities, with their associated project schedule activity number.

b. A brief explanation of the causes of the change.

c. An analysis of the overall impact of the changes proposed.

d. A sub-network of the affected area.

Identify activities impacted in each justification for change by a unique activity code contained in the required data file.

3.5.3 Additional Submission Requirements

For any requested time extension of over 2 weeks, the Contracting Officer may request an interim update with revised activities for a specific change request. Provide this disk within 4 days of the Contracting Officer's request.

3.6 DIRECTED CHANGES

If the NTP is issued for changes prior to settlement of price, fee and/or time, submit proposed schedule revisions to the Contracting Officer within two (2) weeks of the NTP being issued. The proposed revisions to the schedule will be approved by the Contracting Officer prior to inclusion of those changes within the project schedule. If the Contractor fails to submit the proposed revisions, the Contracting Officer may furnish the Contractor with suggested revisions to the project schedule. Include these revisions in the project schedule until revisions are submitted, and final changes and impacts have been negotiated. If the Contractor has any objections to the revisions furnished by the Contracting Officer, the Contractor shall advise the Contracting Officer within two (2) weeks of receipt of the revisions. Regardless of the objections, continue to update the schedule with the Contracting Officer's revisions until a mutual agreement in the revisions is reached. If the Contractor fails to submit alternative revisions within 2 weeks of receipt of the Contracting Officer's proposed revisions, the Contractor will be deemed to have concurred with the Contracting Officer's proposed revisions. The proposed revisions will then be the basis for an equitable adjustment for performance of the work.

-- End of Section --

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 Submittal

Contract Clauses "FAR 52.236-5, Material and Workmanship," paragraph (b) and "FAR 52.236-21, Specifications and Drawings for Construction," paragraphs (d), (e), and (f) apply to all "submittals."

1.1.2 Submittal Descriptions (SD)

Submittal requirements are specified in the technical sections. Submittals are identified by SD numbers and titles as follows.

SD-01 Preconstruction Submittals

Certificates of insurance.
Surety bonds.
List of proposed subcontractors.
List of proposed products.
Construction Progress Schedule.
Submittal register.
Schedule of prices.
Health and safety plan.
Work plan.
Quality control plan.
Environmental protection plan.

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

SD-04 Samples

Physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

SD-05 Design Data

Calculations, mix designs, analyses or other data pertaining to a part of work.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. (Testing must have been within three years of date of contract award for the project.)

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports.

Daily checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

Text of posted operating instructions.

SD-08 Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and Material Safety Data sheets concerning impedances, hazards and safety precautions.

SD-09 Manufacturer's Field Reports

Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

Factory test reports.

SD-10 Operation and Maintenance Data

Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel. This data is needed by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

1.1.3 Approving Authority

Office authorized to approve submittal.

1.1.4 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.

1.3 USE OF SUBMITTAL REGISTER

Submittal registers shall be developed for each of the clusters. The Contractor shall provide, at a minimum, the submittals indicated in the submittal register prepared for each phase of work. The submittal register is included at the end of this section.

Contractor shall complete the following columns of the Submittal Register:

a. Activity No.
b. Transmittal No.
c. Contractor: Schedule Dates - Submit
d. Contractor: Schedule Dates - Approval Needed By
e. Contractor: Schedule Dates - Material Needed By
f. Contractor Action - Action Code

g. Contractor Action - Date of Action
h. Date Fwd to Approving Authority

1.4 PROCEDURES FOR SUBMITTALS

1.4.1 Reviewing, Certifying, Approving Authority

QC organization shall be responsible for reviewing and certifying that submittals are in compliance with contract requirements. Approving authority on submittals is QC manager unless otherwise specified for specific submittal. At each "Submittal" paragraph in individual specification sections, a notation "G," following a submittal item, indicates Contracting Officer is approving authority for that submittal item.

1.4.2 Constraints

a. Submittals listed or specified in this contract shall conform to provisions of this section, unless explicitly stated otherwise.

b. Submittals shall be complete for each definable feature of work; components of definable feature interrelated as a system shall be submitted at same time.

c. When acceptability of a submittal is dependent on conditions, items, or materials included in separate subsequent submittals, submittal will be returned without review.

d. Approval of a separate material, product, or component does not imply approval of assembly in which item functions.

1.4.3 Scheduling

a. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential requirements to resubmit.

b. Except as specified otherwise, allow review period, beginning with receipt by approving authority, that includes at least 15 working days for submittals for QC Manager approval and 20 working days for submittals for Contracting Officer approval. Period of review for submittals with Contracting Officer approval begins when Government receives submittal from QC organization. Period of review for each resubmittal is the same as for initial submittal.

1.4.4 Variations

Variations from contract requirements require Government approval pursuant to contract Clause entitled "FAR 52.236-21, Specifications and Drawings for Construction" and will be considered where advantageous to Government.

1.4.4.1 Considering Variations

Discussion with Contracting Officer prior to submission, will help ensure functional and quality requirements are met and minimize rejections and resubmittals.

1.4.4.2 Proposing Variations

When proposing variation, deliver written request to the Contracting Officer, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to Government. If lower cost is a benefit, also include an estimate of the cost saving. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

1.4.4.3 Warranting That Variations Are Compatible

When delivering a variation for approval, Contractor warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.4.4.4 Review Schedule Is Modified

In addition to normal submittal review period, a period of 10 working days will be allowed for consideration by the Government of submittals with variations.

1.4.5 Contractor's Responsibilities

a. Determine and verify field measurements, materials, field construction criteria; review each submittal; and check and coordinate each submittal with requirements of the work and contract documents.

b. Transmit submittals to QC organization in accordance with schedule on approved Submittal Register, and to prevent delays in the work, delays to Government, or delays to separate Contractors.

c. Advise Contracting Officer of variation, as required by paragraph entitled "Variations."

d. Correct and resubmit submittal as directed by approving authority. When resubmitting disapproved transmittals or transmittals noted for resubmittal, the Contractor shall provide copy of that previously submitted transmittal including all reviewer comments for use by approving authority. Direct specific attention in writing or on resubmitted submittal, to revisions not requested by approving authority on previous submissions.

e. Furnish additional copies of submittal when requested by Contracting Officer, to a limit of 20 copies per submittal.

f. Complete work which must be accomplished as basis of a submittal in time to allow submittal to occur as scheduled.

g. Ensure no work has begun until submittals for that work have been returned as "approved," or "approved as noted", except to the extent that a portion of work must be accomplished as basis of submittal.

1.4.6 QC Organization Responsibilities

a. Note date on which submittal was received from Contractor on each submittal.

b. Review each submittal; and check and coordinate each submittal with requirements of work and contract documents.

c. Review submittals for conformance with project design concepts and compliance with contract documents.

d. Act on submittals, determining appropriate action based on QC organization's review of submittal.

(1) When QC manager is approving authority, take appropriate action on submittal from the possible actions defined in paragraph entitled, "Actions Possible."

(2) When Contracting Officer is approving authority or when variation has been proposed, forward submittal to Government with certifying statement or return submittal marked "not reviewed" or "revise and resubmit" as appropriate. The QC organization's review of submittal determines appropriate action.

e. Ensure that material is clearly legible.

f. Stamp each sheet of each submittal with QC certifying statement or approving statement, except that data submitted in bound volume or on one sheet printed on two sides may be stamped on the front of the first sheet only.

(1) When approving authority is Contracting Officer, QC organization will certify submittals forwarded to Contracting Officer with the following certifying statement:

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated with contract Number [_____], is in compliance with the contract drawings and specification, can be installed in the allocated spaces, and is submitted for Government approval.

Certified by Submittal Reviewer _____, Date _____
(Signature when applicable)

Certified by QC Manager _____, Date _____"
(Signature)

(2) When approving authority is QC Manager, QC Manager will use the following approval statement when returning submittals to Contractor as "Approved" or "Approved as Noted."

"I hereby certify that the (material) (equipment) (article) shown and marked in this submittal and proposed to be incorporated with contract Number [_____], is in compliance with the contract drawings and specification, can be installed in the allocated spaces, and is _____ approved for use.

Certified by Submittal Reviewer _____, Date _____
(Signature when applicable)

Approved by QC Manager _____, Date _____"
(Signature)

g. Sign certifying statement or approval statement. The person

signing certifying statements shall be QC organization member designated in the approved QC plan. The signatures shall be in original ink. Stamped signatures are not acceptable.

h. Update submittal register as submittal actions occur and maintain the submittal register at project site until final acceptance of all work by Contracting Officer.

i. Retain a copy of approved submittals at project site, including Contractor's copy of approved samples.

1.4.7 Government's Responsibilities

When approving authority is Contracting Officer, the Government will:

a. Note date on which submittal was received from QC manager, on each submittal for which the Contracting Officer is approving authority.

b. Review submittals for approval within scheduling period specified and only for conformance with project design concepts and compliance with contract documents.

c. Identify returned submittals with one of the actions defined in paragraph entitled "Actions Possible" and with markings appropriate for action indicated.

1.4.8 Actions Possible

Submittals will be returned with one of the following notations:

a. Submittals marked "not reviewed" will indicate submittal has been previously reviewed and approved, is not required , does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

b. Submittals marked "approved" "approved as submitted" authorize Contractor to proceed with work covered.

c. Submittals marked "approved as noted" or "approval except as noted; resubmission not required" authorize Contractor to proceed with work as noted provided Contractor takes no exception to the notations.

d. Submittals marked "revise and resubmit" or "disapproved" indicate submittal is incomplete or does not comply with design concept or requirements of the contract documents and shall be resubmitted with appropriate changes. No work shall proceed for this item until resubmittal is approved.

1.5 FORMAT OF SUBMITTALS

1.5.1 Transmittal Form

Transmit each submittal, except sample installations and sample panels, to office of approving authority. Transmit submittals with transmittal form prescribed by Contracting Officer and standard for project. The

transmittal form shall identify Contractor, indicate date of submittal, and include information prescribed by transmittal form and required in paragraph entitled "Identifying Submittals." Process transmittal forms to record actions regarding sample panels and sample installations.

1.5.2 Identifying Submittals

Identify submittals, except sample panel and sample installation, with the following information permanently adhered to or noted on each separate component of each submittal and noted on transmittal form. Mark each copy of each submittal identically, with the following:

a. Project title and location.

b. Construction contract number.

c. Section number of the specification section by which submittal is required.

d. Submittal description (SD) number of each component of submittal.

e. When a resubmission, add alphabetic suffix on submittal description, for example, SD-10A, to indicate resubmission.

f. Name, address, and telephone number of subcontractor, supplier, manufacturer and any other second tier Contractor associated with submittal.

g. Product identification and location in project.

1.5.3 Format for SD-02 Shop Drawings

a. Shop drawings shall not be less than 8 1/2 by 11 inches nor more than 30 by 42 inches.

b. Present 8 1/2 by 11 inches sized shop drawings as part of the bound volume for submittals required by section. Present larger drawings in sets.

c. Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph entitled "Identifying Submittals."

d. Dimension drawings, except diagrams and schematic drawings; prepare drawings demonstrating interface with other trades to scale. Shop drawing dimensions shall be the same unit of measure as indicated on the contract drawings. Identify materials and products for work shown.

e. Drawings shall include the nameplate data, size and capacity. Also include applicable federal, military, industry and technical society publication references.

1.5.4 Format of SD-03 Product Data and SD-08 Manufacturer's Instruction's

a. Present product data submittals for each section as a complete, bound volume. Include table of contents, listing page and catalog item numbers for product data.

b. Indicate, by prominent notation, each product which is being submitted; indicate specification section number and paragraph number to which it pertains.

c. Supplement product data with material prepared for project to satisfy submittal requirements for which product data does not exist. Identify this material as developed specifically for project, with information and format as required for submission of SD-07 Certificates..

e. Product data shall include the manufacturer's name, trade name, place of manufacture, and catalog model or number. Submittals shall also include applicable federal, military, industry and technical society publication references. Should manufacturer's data require supplemental information for clarification, the supplemental information shall be submitted as specified for SD-07 Certificates.

f. Where equipment or materials are specified to conform to industry and technical society reference standards of the organizations such as American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), and Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. The certificate shall state that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

g. Submit manufacturer's instruction prior to installation.

1.5.5 Format of SD-04 Samples

a. Furnish samples in sizes below, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately same size as specified:

(1) Sample of Equipment or Device: Full size.

(2) Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.

(3) Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.

(4) Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.

(5) Sample of Non-Solid Materials: Pint. Examples of non-solid materials are sand and paint.

(6) Color Selection Samples: 2 by 4 inches.

(7) Sample Panel: 4 by 4 feet.

(8) Sample Installation: 100 square feet.

b. Samples Showing Range of Variation: Where variations are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range.

c. Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples shall be in undamaged condition at time of use.

d. Recording of Sample Installation: Note and preserve the notation of area constituting sample installation but remove notation at final clean up of project.

e. When color, texture or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.

1.5.6 Format of SD-05 Design Data and SD-07 Certificates

a. Provide design data and certificates on 8 1/2 by 11 inches paper. Provide a bound volume for submittals containing numerous pages.

1.5.7 Format of SD-06 Test Reports and SD-09 Manufacturer's Field Reports

a. Provide reports on 8 1/2 by 11 inches paper in a complete bound volume.

b. Indicate by prominent notation, each report in the submittal. Indicate specification number and paragraph number to which it pertains.

1.5.8 Format of SD-10 Operation and Maintenance (O&M) Data

a. O&M Data format shall comply with the requirements specified in Section 01781, Operation and Maintenance Data"

1.5.9 Format of SD-01 Preconstruction Submittals and SD-11 Closeout Submittals

a. When submittal includes a document which is to be used in project or become part of project record, other than as a submittal, do not apply Contractor's approval stamp to document, but to a separate sheet accompanying document.

1.6 QUANTITY OF SUBMITTALS

1.6.1 Number of Copies of SD-02 Shop Drawings

a. Submit six copies of submittals of shop drawings requiring review and approval only by QC organization and seven copies of shop drawings requiring review and approval by Contracting Officer.

1.6.2 Number of Copies of SD-03 Product Data and SD-08 Manufacturer's Instructions

Submit in compliance with quantity requirements specified for shop drawings.

1.6.3 SD-04 Number of Samples

a. Submit two samples, or two sets of samples showing range of variation, of each required item. One approved sample or set of samples will be retained by approving authority and one will be returned to Contractor.

b. Submit one sample panel. Include components listed in technical section or as directed.

c. Submit one sample installation, where directed.

d. Submit one sample of non-solid materials.

1.6.4 Number of Copies SD-05 Design Data and SD-07 Certificates

a. Submit in compliance with quantity requirements specified for shop drawings.

1.6.5 Number of Copies SD-06 Test Reports and SD-09 Manufacturer's Field Reports

a. Submit in compliance with quantity with quality requirements specified for shop drawings.

1.6.6 Number of Copies of SD-10 Operation and Maintenance Data

Submit Five copies of O&M Data to the Contracting Officer for review and approval

1.6.7 Number of Copies of SD-01 Preconstruction Submittals and SD-11 Closeout Submittals

a. Unless otherwise specified, submit administrative submittals compliance with quantity requirements specified for shop drawings.

1.7 FORWARDING SUBMITTALS

1.7.1 Submittals Required from the Contractor

As soon as practicable after award of contract, and before procurement of fabrication, forward to the Contracting Officer submittals required in the technical sections of this specification, including shop drawings, product data and samples. One copy of the transmittal form for all submittals shall be forwarded to the Government's Field Engineer in Charge of Construction.

The Government's Field Engineer for this project will review and approve for the Contracting Officer those submittals reserved for Contracting Officer approval to verify submittals comply with the contract requirements.

1.7.1.1 O&M Data

The Government's Field Engineer for this project will review and approve for the Contracting Officer O&M Data to verify the submittals comply with the contract requirements.; submit data specified for a given item within 30 calendar days after the item is delivered to the contract site.

a. In the event the Contractor fails to deliver O&M Data within the time limits specified, the Contracting Officer may withhold from progress payments 50 percent of the price of the item with which such O&M Data are applicable.

1.8 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.8.1 Designer of Record Approved

Designer of Record approval is required for extensions of design, critical materials, any deviations from the solicitation, the accepted proposal, or the completed design, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction", they are considered to be "shop drawings". The Contractor shall provide the Government the number of copies designated hereinafter of all Designer of Record approved submittals. The Government may review any or all Designer of Record approved submittals for conformance to the Solicitation and Accepted Proposal. The Government will review all submittals designated as deviating from the Solicitation or Accepted Proposal, as described below. Generally, design submittals should be identified as SD-05 DESIGN DATA submittals.

1.8.2 Government Approved

Government approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Government approval is required for any deviations from the Solicitation or Accepted Proposal and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.8.3 Government Reviewed Design or Extension of Design

The Government will review all design submittals for conformance with the technical requirements of the solicitation. Government review is required for extension of design construction submittals, used to define contract conformity, and for deviation from the completed design. Review will be only for conformance with the contract requirements. Included are only those construction submittals for which the Designer of Record design documents do not include enough detail to ascertain contract compliance. The Government may, but is not required, to review extensions of design such as structural steel or reinforcement shop drawings.

1.8.4 Information Only

All submittals not requiring Government approval will be for information only. All submittals not requiring Designer of Record or Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above. All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.9 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory and that design, general method of construction, materials, detailing and other information appear to meet the Solicitation and Accepted Proposal. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.10 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. The Contractor shall make all corrections required by the Contracting Officer, obtain the Designer of Record's approval when applicable, and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. Any "information only" submittal found to contain errors or unapproved deviations from the Solicitation or Accepted Proposal shall be resubmitted as one requiring "approval" action, requiring both Designer of Record and Government approval. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

1.11 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained. No payment for materials incorporated in the work will be made if all required Designer of Record or required Government approvals have not been obtained. No payment will be made for any materials incorporated into the work for any conformance review submittals or information only submittals found to contain errors or deviations from the Solicitation or Accepted Proposal.

1.12 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control System Manager (CQCSM) and the Designer of Record, if applicable, and each item shall be stamped, signed, and dated by the CQC System Manager indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders;

samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

1.13 SUBMITTAL REGISTER

Per paragraph 1.3, Contractor shall provide, at a minimum, submittals indicated per the "Submittal Register" for each cluster.

1.14 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 15 calendar days exclusive of mailing time) shall be allowed for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

1.15 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out the heading blank spaces and identifying each individual item in the submittal package with a full description as indicated in the headings on the form. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

1.16 SUBMITTAL PROCEDURES

Submittals shall be made as follows:

1.16.1 Procedures

The Government will further discuss detailed submittal procedures with the Contractor at the Preconstruction Conference.

1.16.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

1.17 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.18 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. 4 copies of the submittal will be retained by the Contracting Officer and 2 copies of the submittal will be returned to the Contractor. If the Government performs a conformance review of other Designer of Record approved submittals, the submittals will be so identified and returned, as described above.

1.19 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe. For design-build construction the Government will retain 2 copies of information only submittals.

1.20 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR

(Firm Name)

_____ Approved

_____ Approved with corrections as noted on submittal data and/or attached sheets(s).

SIGNATURE: _____

TITLE: _____

DATE: _____

For design-build construction, both the Contractor Quality Control System Manager and the Designer of Record shall stamp and sign to certify that the submittal meets contract requirements.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Cornell-Dubilier Electronics Superfund Site - OU2

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG# RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01110	SD-01 Preconstruction Submittals															
			Security Plan	1.13	G													
			Spill Prevention and Control Plan	1.11	G													
			Pest and Rodent Control Plan	1.18														
			SD-11 Closeout Submittals															
			Pre-Work Conference Meeting	1.14	G													
			Minutes															
			Progress Meeting Minutes	1.14	G													
			Pre-Construction, Progress, and	1.16														
			Post Construction Photographs;															
			Pre-Construction, Progress, Post															
			Construction Video, and as built															
			drawings and geophysics															
		01140	SD-01 Preconstruction Submittals															
			List of Contact Personnel	1.3.1.1	G													
		01320	SD-01 Preconstruction Submittals															
			Initial Project and Cluster	3.3	G													
			Schedules															
			Periodic Schedule Update	1.3	G													
		01351	SD-01 Preconstruction Submittals															
			Site Safety and Health Plan	1.7.1	G													
			Name of the Contractor's Site	1.10.3.1	G													
			Safety and Health Officer															
			Health and Safety Training	1.13														
			Documentation															
			SD-04 Samples															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Cornell-Dubilier Electronics Superfund Site - OU2

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(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01351	Work Zone Drawings	1.19.1														
			SD-06 Test Reports															
			Weekly Safety Reports	1.10.3.2	G													
			Accident Reports	1.10.3.2	G													
			Exposure Monitoring/Sampling	1.16.1														
			Results															
			Site Control Entry/Exit Log	1.19.2														
			Daily Inspection Log	1.26														
			SD-07 Certificates															
			Monthly Exposure Reports	1.27														
			Confined Space Entry Permit	1.9.4.1														
			SD-08 Manufacturer's Instructions															
			Medical Certifications	1.9														
			Training certificates	1.9														
			Respirator Fit-Test Certificates	1.9														
			List of Field Personnel	1.9														
			Safety and Health Phase-Out	1.29	G													
			Report															
			OSHA Permissible Exposure	1.9.3.1														
			Limits															
			ACGIH Threshold Limit Values	1.9.3.1														
		01356A	SD-01 Preconstruction Submittals															
			Soil Erosion and Sediment	1.4	G													
			Control Plan															
			SD-07 Certificates															
			Mill Certificate or Affidavit	2.1.3														

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Cornell-Dubilier Electronics Superfund Site - OU2

CONTRACTOR

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		01450A	SD-01 Preconstruction Submittals															
			Sampling and Analysis Plan	3.2.1	G													
			SD-06 Test Reports															
			Chemical Data Packages	3.4	G													
			Daily Chemical Quality Control	3.6														
			Reports															
			Quality Control Summary Report	3.4	G													
		01451A	SD-01 Preconstruction Submittals															
			Contractor Quality Control (CQC)	3.2	G													
			Plan															
		01500A	SD-01 Preconstruction Submittals															
			Temporary Facilities Plan	1.1.1	G													
		01550	SD-04 Samples															
			Initial Site Drawings	3.3.1	G													
			Record Topographic Maps	3.3.2	G													
			SD-07 Certificates															
			Surveyor Elevation/Location	1.3	G													
			Certifications															
			SD-11 Closeout Submittals															
			Surveyor Field Notes Data	3.6	G													
			Surveyor in Place Volume	3.6														
			Calculations For Aggregate Base															
			And Backfill Material															
		01700	SD-11 Closeout Submittals															
			Remedial Unit Closeout	3.1	G													
			Information															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Cornell-Dubilier Electronics Superfund Site - OU2

CONTRACTOR

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		02212	SD-01 Preconstruction Submittals																
			Drummed and Hazardous	3.1.1	G														
			Materials Handling Plan																
			Drummed and Hazardous	3.1.1.1	G														
			Materials Handling Plan																
			Drummed and Hazardous	3.3.2.3	G														
			Materials Handling Plan																
			SD-07 Certificates																
			Qualifications		G														
			Certificates of Disposal																
			Shipping Documents and	3.4.3															
			Packagings Certification																
			SD-11 Closeout Submittals																
			Receipts																
		02220	SD-07 Certificates																
			Demolition Plan	3.2	G														
			Notifications	1.5.1	G														
			SD-08 Manufacturer's Instructions																
			Pre-Demolition Survey	3.2															
			SD-11 Closeout Submittals																
			Receipts																
		02310	SD-01 Preconstruction Submittals																
			Excavation Support System Plan	1.8	G														
			Excavation Schedule	1.5	G														
			Dewatering Work Plan	1.9	G														

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Cornell-Dubilier Electronics Superfund Site - OU2

CONTRACTOR

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		02310	Excavation and Material Handling	1.7	G														
			Plan																
			SD-03 Product Data																
			Notification of Opening of any	3.2															
			Excavation																
			SD-06 Test Reports																
			Field Measurement Data	1.6	G														
		02320	SD-06 Test Reports																
			Testing	3.7															
			Borrow Site Testing	3.7.4															
			Off-Site Soils Chemical Testing	2.1															
			SD-07 Certificates																
			Commercial Testing Laboratory	3.7															
			Qualifications																
		02350	SD-01 Preconstruction Submittals																
			Waste Management Plan and	3.1.2	G														
			Addendum																
			Security Plan for Hazardous	3.2.5.1	G														
			Materials Shipments																
			Traffic Control Plan	3.2.2	G														
			Notices of Non-Compliance and	3.2															
			Notices of Violation																
			Hazardous Waste Manifest	3.1.1	G														
			EPA Form 8700-12, Notification	3.2.3	G														
			of Hazardous Waste Activity																
			SD-06 Test Reports																

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Cornell-Dubilier Electronics Superfund Site - OU2

CONTRACTOR

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		02350	Hazardous Waste Manifest	3.3.1														
			Annual and/or Biennial Reports															
			State Reporting Requirements	1.5	G													
			Transportation and Disposal	3.3.1														
			Tracking Form															
			Discrepancy Reports	3.3.1														
			Exception Reports	3.3.1														
			Toxic Substance Control Act PCB	3.3.1	G													
			Reporting Requirements															
			Final Disposal Report	1.5	G													
			Final Disposal Report	3.3.1	G													
			SD-07 Certificates															
			Qualifications	1.4	G													
			Regulatory specialist and	1.4.1	G													
			transportation and disposal															
			coordinator															
			Off-Site Policy Compliance	1.4.3														
			Certification															
			Certificates of Disposal	3.2.4														
			Shipping Documents and	3.2.4														
			Packagings Certification															
		02373	SD-04 Samples															
			Manufacturing Quality Control	2.2														
			Sampling And Testing															
			Quality Assurance Samples and	3.1														
			Tests															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Cornell-Dubilier Electronics Superfund Site - OU2

CONTRACTOR

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		02373	SD-07 Certificates															
			Geotextile	2.1.1														
		02650	SD-03 Product Data															
			Storage Tank Handling Plan	1.7	G													
			Qualifications	1.4	G													
			Salvage Rights	3.14.4														
			SD-06 Test Reports															
			Backfill Material	2.1	G													
			Tank Sampling And Analytical	3.2														
			Program															
			Tank Contents Verification	3.5.1	G													
			Contaminated Water Disposal	3.4.2	G													
			Soil Examination, Testing, and	3.12	G													
			Analysis															
			Backfilling	3.13	G													
			Tank Closure Report	3.16														
		02742	SD-05 Design Data															
			Mix Design	1.4.1														
			SD-06 Test Reports															
			Specific gravity of asphalt	3.7.1.5														
			Specific gravity of mineral filler	3.7.1.4														
			Aggregates tests	3.7.2.1														
			Bituminous Mix Tests	3.7.2.2														
			Pavement Courses Testing	3.7.2.3														
		02821A	SD-07 Certificates															
			Chain Link Fence	2.1.1														

SUBMITTAL REGISTER

CONTRACT NO.

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Cornell-Dubilier Electronics Superfund Site - OU2

CONTRACTOR

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(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		13280A	SD-02 Shop Drawings															
			Detailed Drawings	1.4	G													
			SD-03 Product Data															
			Asbestos Waste Shipment	3.11.5.1	G													
			Records															
			Weight Bills and Delivery Tickets	3.11.4	G													
			Encapsulants	2.1	G													
			Respiratory Protection Program	1.12	G													
			Cleanup and Disposal	3.11	G													
			Qualifications	1.5	G													
			Training Program	1.11														
			Licenses, Permits and	1.13	G													
			Notifications															
			SD-06 Test Reports															
			Exposure Assessment and Air	3.9	G													
			Monitoring															
			Local Exhaust System	1.19														
			SD-07 Certificates															
			Local Exhaust System	1.19														
			Encapsulants	2.1	G													
			Medical Surveillance	1.10														
			Requirements															
		13284	SD-07 Certificates															
			Training certification	1.7.1														
			Qualifications of CIH	1.7.2														
			PCB Removal Work Plan	1.7.3														

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Cornell-Dubilier Electronics Superfund Site - OU2

CONTRACTOR

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		13284	PCB Disposal Plan	1.7.4														
			Notification	1.7.5														
			Transporter certification	3.8														
			Certification of Decontamination	3.5.4														
			Post cleanup sampling	3.5.5														
			Certificate of disposal	3.8.1														
		13285	SD-03 Product Data															
			Field Screening Test	2.2														
			SD-07 Certificates															
			PCB Protection Plan	1.4.4	G	AE												
			PCB-Contaminated Soil and	1.4.5	G	AE												
			Concrete Removal Plan															
			PCB-Contaminated Water	1.4.6	G	AE												
			Handling Plan															
			PCB Sampling and Testing Plan	1.4.7	G	AE												
			Training certification	1.4.8														
			CIH qualifications	1.4.9	G	AE												
			PCB-Contaminated Soil and	1.4.10	G	AE												
			Concrete Disposal Plan															
			Shipping documentation															
			Vehicle decontamination	1.4.11														
			verification															
			Borrow site testing	3.9														
			Certificate of Disposal															
			SD-11 Closeout Submittals															
			Closeout Report	1.4.12	G	AE												

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Cornell-Dubilier Electronics Superfund Site - OU2

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		13286	SD-07 Certificates															
			Qualifications of CIH	1.8.1	G	AE												
			Training Certification	1.8.1	G	AE												
			PCB and Lamp Removal Work	1.8.2	G	AE												
			Plan															
			PCB and Lamp Disposal Plan	1.8.3	G	AE												
			SD-11 Closeout Submittals															
			Transporter certification	3.5.2	G													
			Certification of Decontamination	3.2.4														
			Certificate of Disposal and/or	3.5.2.1														
			recycling															

SECTION 01351

SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST)

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z358.1	(1998) Emergency Eyewash and Shower Equipment

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH METHOD 7105	(1994) NIOSH Manual of Analytical Methods(NMAM)
NIOSH Pub No. 85-115	(1985) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2003) Safety and Health Requirements Manual (Contractors shall always check for the most current updates to the EM at http://hq.usace.army.mil/soh/hqusace_soh.htm)
ER 385-1-92	(2003) Safety - Safety and Occupational Health Document Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) and Ordnance and Explosive Waste (OEW) Activities

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1904	Recording and Reporting Occupational Injuries and Illnesses
29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

NEW JERSEY ADMINISTRATIVE CODE (NJAC)

NJAC 8:60	(2004) New Jersey Administrative Code Title 8 Health
NJAC 12:120	(2004) New Jersey Administrative Code Title 12 Labor

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA (NAAQS)	Air Quality Guidelines - National Ambient Air Quality Standards (NAAQS)

1.2 DESCRIPTION OF WORK

This section provides requirements for implementing practices and procedures for working safely and in compliance with OSHA and USACE regulations while performing remedial activities at the Cornell-Dubilier Electronics Site - OU-2. This section primarily addresses Safety, Health, and emergency response for potential chemical and physical hazards which may be encountered at the site. For Health and Safety requirements for asbestos abatement, refer to Section 13280A ASBESTOS HAZARD CONTROL ACTIVITIES.

1.3 SUBMITTALS

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

SD-01 Preconstruction Submittals

Site Safety and Health Plan (SSHP); G

Name of the Contractor's Site Safety and Health Officer (SSHO); G

Certificate Numbers of the Contractor's Safety and Health Manager; Certified Industrial Hygienist; and/or Certified Safety Professional, as applicable; G

Health and Safety Training Documentation

Submit all training curriculums for Contractor-provided site-specific training courses.

SD-04 Drawings

Work Zone Drawings

Submit drawings of the proposed Work Zone and Decontamination Facility.

SD-06 Reports

Weekly Safety Reports; G

Accident Reports; G

Exposure Monitoring/Sampling Results

Site Control Entry/Exit Log

Daily Inspection Log

SD-07 Certificates

Monthly Exposure Reports

Confined Space Entry Permit

SD-08 Statements

Medical Certifications

Training certificates

Respirator Fit-Test Certificates

List of Field Personnel

Safety and Health Phase-Out Report; G

OSHA Permissible Exposure Limits

ACGIH Threshold Limit Values

1.4 REGULATORY REQUIREMENTS

Work performed under this contract shall comply with EM 385-1-1, and applicable federal, state, and local safety and occupational health laws and regulations. This includes, but is not limited to, Occupational Safety and Health Administration (OSHA) Standards, 29 CFR 1910, especially Section 120, "Hazardous Waste Site Operations and Emergency Response" and 29 CFR 1926, especially Section 65, "Hazardous Waste Site Operations and Emergency Response." Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply

1.5 MEETINGS

1.5.1 Preconstruction Safety Conference

Meet with the Contracting Officer's Representative for a pre-work conference, which will include safety issues, as specified and described in Section 01110 SUMMARY OF WORK of this specification.

1.5.2 Safety Meetings

Safety meetings shall be conducted and documented as required by EM 385-1-1. Minutes showing contract title, signatures of attendees and a narrative of topics discussed shall be attached to the Contractor's daily quality control report. The narrative shall be in sufficient detail to serve for liability questions that potentially could be raised.

1.6 SAFETY AND HEALTH PROGRAM

Continue implementation of the existing Safety and Health Program (SHP) that incorporates the requirements of OSHA Standards 29 CFR 1910.120(b); 29 CFR 1926.65(b); and EM 385-1-1, and includes: Signature Sheet; Background Information; Statement of Safety and Health Policy; Responsibilities and Lines of Authority; Subcontractors and Suppliers; Training; Safety and Health Inspections; Safety and Health Expectations, Incentives programs and Compliance; Accident Reporting; Medical Surveillance/Medical Support; Personal Protective Equipment; Standard Operating Procedures and Corporate Plans supporting occupational safety and health.

1.7 SITE SAFETY AND HEALTH PLAN (SSHP)

1.7.1 Development and Implementation

The Contractor shall develop a Site Safety and Health Plan (SSHP) for the project. Once the SSHP is approved, the Contractor shall review and update the approved plan for site-specific conditions at each building or cluster, as necessary, if conditions change. The Site Safety and Health Plan (SSHP) shall meet the requirements of Section 01.A.09 and Appendix A of EM 385-1-1 and 29 CFR 1910.120/29 CFR 1926.65 (b)(4). The Safety and Health Manager shall be responsible for the development, implementation and oversight of the SSHP. The SSHP shall establish, in detail, the protocols necessary for the anticipation, recognition, evaluation, and control of hazards associated with each task performed. The SSHP shall address site-specific safety and health requirements and procedures based upon site-specific conditions.

At a minimum, the SSHP shall incorporate a site-specific (and cluster-specific) Activity Hazard Analysis meeting the requirements of Section 01.A.12 and 01.A.13 and Figure 1-2 of EM 385-1-1; an Accident Prevention Plan as specified in Appendix A of EM 385-1-1; and shall address each of the following elements in Appendix C of ER 385-1-92 as they pertain to this site:

1. Site Description and Contamination Characterization;
2. Hazard/Risk Analysis;
3. Occupational Exposure Action Levels;
4. Staff Organization, Qualifications and Responsibilities;
5. Training;
6. Personal Protective Equipment;
7. Medical Surveillance requirements for the project;
8. Exposure Monitoring/Air Sampling;
9. Heat/Cold Stress Monitoring and Management;
10. Standard Operating Safety Procedures, Engineering Controls, and Work Practices;
11. Site Control Measures;
12. Personal Hygiene and Decontamination;
13. Equipment Decontamination;
14. Emergency Equipment and First Aid Requirements;
15. Emergency Response and Contingency Procedures;
16. Accident Prevention;
17. Logs, Reports and Recordkeeping.

The SSHP shall be considered a living document and shall be updated as occupational safety and health conditions change during project execution

and improved as occupational safety and health lessons are learned during the course of the project.

1.7.2 Acceptance and Modifications

Prior to submittal, the SSHP shall be signed and dated by the Safety and Health Manager and the Site Superintendent. The SSHP shall be submitted for review and approval by the government. [note to reviewers: Will the SSHP be approved by the Government.] Deficiencies in the SSHP will be discussed at the pre-work safety conference, and the SSHP shall be revised to correct the deficiencies and resubmitted for acceptance. On-site work shall not begin until the plan has been accepted. A copy of the written SSHP shall be maintained on site. Changes and modifications to the accepted SSHP shall be made with the knowledge and concurrence of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer's Representative. If any unforeseen hazard becomes evident during the performance of the work, the SSHO shall bring such hazard to the attention of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer's Representative, both verbally and in writing, for resolution as soon as possible. In the interim, necessary action shall be taken to re-establish and maintain safe working conditions in order to safeguard on-site personnel, visitors, the public, and the environment. Disregard for the provisions of this specification or the accepted SSHP shall be cause for stopping of work until the matter has been rectified.

1.7.3 Availability

The SSHP shall be made available in accordance with 29 CFR 1910.120, (b)(1)(v) and 29 CFR 1926.65, (b)(1)(v).

1.8 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

1.8.1 Project/Site Conditions

The SSHP shall include a site description and contamination characterization section that addresses the following elements:

Description of site location, topography, size, and past uses of the site.

A list of contaminants that may present occupational health and safety hazards. This list shall be created by researching sources of information from past site investigation activities. The contamination characterization shall be reviewed and revised if new chemicals are identified as work progresses.

1.8.2 Information Resources

The information resources are in Section 01110 SUMMARY OF WORK.

1.9 HAZARD/RISK ANALYSIS

The SSHP shall include a safety and health hazard/risk analysis for each site task and operation to be performed. The hazard/risk analysis shall provide information necessary for determining safety and health procedures, equipment, and training to protect on-site personnel, the environment, and the public. Available site information shall be reviewed when preparing the "Hazard/Risk Analysis" section of the SSHP. Submit Medical Certifications for all field personnel. Submit a statement reflecting the

number of the Contractor's employees who have completed required health and safety training courses. Submit a copy of Training certificates and refresher training certificates for all field personnel including, at a minimum, health and safety training required by OSHA 29 CFR 1910.120; and First aid/CPR training. Submit a copy of Respirator Fit-Test Certificates for all field personnel. Submit a List of Field Personnel specifying names of all the field personnel who will be on site. The following elements, as a minimum, shall be addressed.

1.9.1 Site Tasks and Operations

The SSHP will include a comprehensive section that addresses tasks and objectives of site operations and logistics and resources required to reach those tasks and objectives. Based on the demolition required, the following are anticipated major site tasks and operations to be performed: site preparation, work zone construction, excavation, grading, backfilling, utility termination and deactivation, building demolition, transportation and disposal of materials, surveying, paving, equipment decontamination, and demobilization. This is not a complete list of site tasks and operations, therefore, it shall be expanded and/or revised, during preparation of the SSHP, as necessary.

1.9.2 Hazards

The following potential hazards may be encountered during site work. These are not complete lists, therefore, they shall be expanded and/or revised as necessary during preparation of the SSHP. For those hazards that are evaluated and found not to be a potential hazard on this site, a negative declaration shall be given to establish that adequate consideration was given to the topic with a brief justification for its omission or reduced level of detail.

1.9.2.1 Physical Hazards

The Hazard/Risk Analysis section of the SSHP shall describe the physical hazards associated with anticipated site operations. These include, but are not limited to: heavy equipment operation; slips, trips, and falls; overhead and belowground utilities; etc.

1.9.2.2 Chemical Hazards

The Hazard/Risk Analysis section of the SSHP shall describe chemical, physical, and toxicological properties of contaminants; sources and pathways of employee exposures; anticipated on-site and off-site exposure level potentials; and regulatory (including federal, state, and local) or recommended protective exposure/dose standards. The SSHP shall also address employee exposure to hazardous substances brought on site, and shall comply with the requirements of 29 CFR 1910.1200 and 29 CFR 1926.59, Hazard Communication.

1.9.2.3 Physical Agents

The SSHP shall evaluate hazards associated with ordnance, noise, and heat/cold stress. Although ordnance is not expected at this site, the Contractor shall include in the SSHP, at a minimum, the basic steps for initial response in the unlikely event that ordnance is discovered.

1.9.2.4 Biological Hazards

Potential hazards associated with poisonous plants, insects, and animals shall be evaluated in the SSHP.

1.9.3 Action Levels

1.9.3.1 General

Action levels shall be established for the situations listed below, at a minimum. Current EPA (NAAQS) National Ambient Air Quality Standards (NAAQS) or other applicable exposure standards and guidelines shall be utilized in developing the action levels. The action levels and required actions (engineering controls, changes in PPE, etc.) shall be presented in the SSHP in both text and tabular form. Initial action levels for workers and the community appear in Tables 01351-1 and 01351-2, respectively.

[note to reviewers: These tables will be updated during future submittal phases once additional information is obtained.]

TABLE 01351-1 MINIMUM ACCEPTABLE WORKER ACTION LEVELS

CONTAMINANT AND MEDIUM	**LEVEL(a)**	**ACTION TO BE TAKEN(a)**
ACTIVE WORK AREA		
Lead in air	30 ug per cubic meter	Upgrade to Level C
Dust in air (total above background)	5 mg per cubic meter	Upgrade to Level C
Combustible gas in air	more than 10 percent LEL	Stop work; Ventilate workspace
Oxygen in air	less than 19.5 percent	Stop work; Ventilate workspace
Oxygen in air	more than 22 percent	Stop work; Ventilate workspace
Asbestos in air	0.1 fiber per cc	Upgrade to Level C

TABLE 01351-1 MINIMUM ACCEPTABLE WORKER ACTION LEVELS

CONTAMINANT AND MEDIUM	LEVEL(a)	ACTION TO BE TAKEN(a)
Total Organic Vapor(b)	25 ppm above background	Obtain a second sample within a time period of no less than five minutes but no more than 15 minutes; if the second sample reading exceeds 25 ppm above background, onsite workers wearing Level D+ shall upgrade to Level C protection. Take appropriate action as directed by the SSHO in accordance with the SSHP. Report reading to the Contracting Officer Obtain a third sample within a time period of no less than five minutes but no more than 15 minutes. Obtain a sample reading every 15 minutes. As early as possible in the sampling routine, the atmosphere will be characterized using chemical specific detector tubes while wearing Level C protection.
	25-250 ppm	Take appropriate action as directed by the SSHO in accordance with the SSHP. Report readings to the Contracting Officer.
	250 ppm above background (for two successive readings within a 15-minute period)	Active work area shall be shut down and personnel evacuated upwind.

TABLE 01351-1 MINIMUM ACCEPTABLE WORKER ACTION LEVELS

CONTAMINANT AND MEDIUM	**LEVEL(a)**	**ACTION TO BE TAKEN(a)**
SITE PERIMETER		
Total Organic Vapor(b)	1 ppm above ambient Conditions	Investigate and consult with CIH for further recommendations.
	5 ppm above ambient conditions	Stop work and implement engineering controls (e.g., water suppression on barriers of soil or plastic).
Respirable particulates	150 ug per cubic meter above background	Stop work and implement engineering controls.

Notes:

(a) Changes in these initial action levels may be required during the course of this project but will only occur with submission of written documentation specifying the technical basis for such a change and the written approval of the Contracting Officer's Representative.
(b) Also dependent on knowledge of contaminant and appropriate OSHA Permissible Exposure Limits (PELs) and/or ACGIH Threshold Limit Values (TLVs).

TABLE 01351-2 MINIMUM ACCEPTABLE COMMUNITY ACTION LEVELS

Notify the Contracting Officer every time a community action level is exceeded.

CONTAMINANT AND MEDIUM	LEVEL(a)	ACTION TO BE TAKEN(a)
Dust in air (above background)	75 ug per cubic meter	Control dust
Asbestos in air	0.01 fiber per cc	Control dust
Combustible gas in air	more than 10 percent LEL	Evacuate area
Oxygen in air	less than 19.5 percent more than 22 percent	Evacuate area Evacuate area
Volatile Organic Compounds of unknown origin	more than 5 ppm	Evacuate area

Notes:

(a) Changes in these initial action levels may be required during the course of this project but will only occur with submission of written documentation specifying the technical basis for such a change and the written approval of the Contracting Officer's Representative.

1.9.4 Confined Space Entry

1.9.4.1 General

Entry into and work in a confined space will not be allowed when oxygen readings are less than 19.5% or greater than 23.5% or if the Lower Flammable Limit (LFL) reading is greater than 10%, unless these conditions are adequately addressed in the confined space entry program and a Confined Space Entry Permit has been submitted. In addition, action levels for toxic atmospheres shall be determined.

1.9.5 Hot Work

Hot work will not be permitted on or within tanks or anywhere else on-site. Prior to conducting hot work, a hot work permit shall be prepared by the person to be conducting the hot work and reviewed and signed of on by the Contractor's qualified person. An additional hot work permit may need to be obtained from local authorities or in the case of military or other federal installations, the fire marshal. An example format for a hot work permit shall be included in the SSHP. The permit shall describe compliance with the following procedures. After tank interiors have been decontaminated, hot work may be conducted only when the tank is inerted, and to the extent necessary to begin dismantling the tanks. After decontamination of tank interiors, hot work shall not be performed unless monitoring indicates atmospheres within and immediately surrounding the tanks are less than 8% oxygen inside the tank and less than 10% of the LFL

outside the tank; continuous monitoring shall continue until the hot work is completed. The hot work prohibition includes welding, cutting, grinding, sawing, or other similar operations which could be expected to potentially generate combustion-producing temperatures or sparks, or which could produce potentially hazardous fumes or vapors. An individual at each hot work site shall be designated as a fire watch. This person's sole responsibility shall be to monitor the hot work and have immediate access to the fire extinguisher located at each hot work site. A new permit shall be obtained at the start of each work shift during which hot work will be conducted.

1.9.6 Activity Hazard Analysis

Perform an Activity Hazard Analysis prior to beginning each major phase of work and submit to the Contracting Officer's Representative for review and acceptance. The Activity Hazard Analysis shall be in accordance with EM 385-1-1, Section 01.A.13 and 01.A.14, and the format shall be similar to Figure 1-2. A major phase of work is defined as an operation involving a type of work presenting hazards not experienced in previous operations or where a new subcontractor or work crew is to perform. The analysis shall define the activities to be performed and identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on that phase until the activity hazard analysis has been accepted and a preparatory meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activities, including the government on-site representatives. The activity hazard analyses shall be continuously reviewed and, when appropriate, modified to address changing site conditions or operations, with the concurrence of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer's Representative. The activity hazard analyses shall be attached to the SSHP.

1.10 STAFF ORGANIZATION, QUALIFICATIONS AND RESPONSIBILITIES

Develop an organizational structure that sets forth lines of authority (chain of command), responsibilities, and communication procedures concerning site safety, health, and emergency response. This organizational structure shall cover management, supervisors and employees of the Contractor and subcontractors. The structure shall include the means for coordinating and controlling work activities of subcontractors and suppliers. The SSHP shall include a description of this organizational structure as well as qualifications and responsibilities of the individuals listed below. The Contractor shall obtain the Contracting Officer's Representative's acceptance before replacing any member of the safety and health staff. Requests for replacement shall include the names, qualifications, duties, and responsibilities of each proposed replacement.

1.10.1 Safety and Health Manager

1.10.1.1 Qualifications

The Safety and Health Manager shall be a certified industrial hygienist (CIH; certified by the American Board of Industrial Hygiene), or a certified safety professional (CSP; certified by the American Board of Certified Safety Professionals). The name, qualifications (education summary and documentation), and work experience summary shall be included in the SSHP along with a copy of a current valid ABHP confirmation of eligibility. The Safety and Health Manager shall have the following

additional qualifications:

a. A minimum of three years experience developing and implementing safety and health programs at chemically contaminated material cleanup project sites.

b. Documented experience supervising professional and technician level personnel.

c. Documented experience developing worker exposure assessment programs and air monitoring programs and techniques.

d. Documented experience developing personal protective equipment programs, including programs for working in and around potentially toxic, flammable and combustible atmospheres and confined spaces.

e. Working knowledge of State and Federal occupational safety and health regulations.

f. Documented experience supervising construction safety personnel, performing health and safety audits, developing health and safety action item lists, and providing documented health and safety follow-up for environmental (HTRW) sites.

1.10.1.2 Responsibilities

The Safety and Health Manager shall:

a. Be responsible for the development, implementation, oversight, and enforcement of the SHP and SSHP.

b. Sign and date the SSHP prior to submittal.

c. Conduct initial site-specific training.

d. Be present on site during the first day of remedial activities and at the startup of each new phase.

e. Visit the site at least once per month for the duration of activities to audit the effectiveness of the SSHP.

f. Be available for emergencies.

g. Provide on-site consultation as needed to ensure that the SSHP is fully implemented.

h. Coordinate any modifications to the SSHP with the Site Superintendent, the SSHO, and the Contracting Officer's Representative.

i. Provide continued support for upgrading/downgrading of the level of personal protection.

j. Be responsible for evaluating air monitoring/sampling data and recommending changes to engineering controls, work practices, and PPE.

k. Review accident reports and results of daily inspections.

1. Serve as a member of the Contractor's quality control staff.

1.10.2 Additional Professional Health and Safety Support Personnel

During the development of the SHP and SSHP, the designated Safety and Health Manager shall utilize, as necessary, the services of a qualified and competent industrial hygienist for health related hazards and strategies, and a qualified and competent safety professional for physical safety hazards and strategies.

1.10.3 Site Safety and Health Officer (SSHO)

1.10.3.1 Qualifications

An industrial hygienist, or safety professional, and one alternate, responsible to the Contractor's Safety and Health Manager, shall be designated as the Site Safety and Health Officer (SSHO). The Name of the Contractor's Site Safety and Health Officer, Certificate Numbers of the Contractor's Safety and Health Manager, qualifications (education and training summary and documentation), and work experience of the SSHO and alternate shall be included in the SSHP. The SSHO shall have the following qualifications:

a. A minimum of 3 years experience in implementing safety and health programs at chemically contaminated material cleanup project sites where Level C personal protective equipment was required.

b. Documented experience in construction techniques and construction safety procedures.

c. Working knowledge of Federal and State occupational safety and health regulations.

d. Specific training in personal and respiratory protective equipment program implementation, confined space program oversight, and in the proper use of air monitoring/sampling instruments.

e. A 10-hour Construction Safety Course meeting the requirements of EM 385-1-1, paragraph 01.A.17.

1.10.3.2 Responsibilities

The SSHO shall:

a. Assist and represent the Safety and Health Manager in on-site training and the day-to-day on-site implementation and enforcement of the accepted SSHP.

b. Be assigned to the site on a full-time basis for the duration of field activities excluding site grading, filling, seeding, site restoration, and demobilization. The SSHO shall be at the site on a part-time basis during these activities. The SSHO may have other duties besides safety- and health-related duties, but health and safety duties shall come first. If operations are performed during more than one work shift per day, an SSHO shall be present for each shift.

c. Have authority to enforce site compliance with specified safety and health requirements, Federal, State and OSHA regulations, and

all aspects of the SSHP including, but not limited to, activity hazard analyses, air monitoring/sampling, use of PPE, decontamination, site control, standard operating procedures used to minimize hazards, safe use of engineering controls, the emergency response plan, confined space entry procedures, spill containment program, and preparation of records by performing a daily safety and health inspection and documenting results on the Daily Safety Inspection Log.

d. Have authority to stop work if unacceptable health or safety conditions exist, and take necessary action to re-establish and maintain safe working conditions.

e. Consult with and coordinate any modifications to the SSHP with the Safety and Health Manager, the Site Superintendent, and the Contracting Officer's Representative.

f. Serve as a member of the Contractor's quality control staff on matters relating to safety and health. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.

g. Conduct accident investigations and prepare Accident Reports.ENG Form 3394 USACE Accident Investigation form will be filled out and submitted to USACE Safety Officer for pen and ink changes, and final submitted within 5 working days.

h. Review results of daily quality control inspections and document safety and health findings into the Daily Safety Inspection Log. Prepare and submit Weekly Safety Reports.

i. In coordination with site management and the Safety and Health Manager, recommend corrective actions for identified deficiencies and oversee the corrective actions.

j. Maintain a deficiency tracking log per EM 385-1-1, paragraph 01.A.12(d), on a health and safety bulletin board as specified in EM 385-1-1, paragraph 01A.06.

k. Maintain applicable safety reference material on the job site.

1.10.4 Safety and Health Technicians

For each work crew in the exclusion zone, one person designated as a Safety and Health Technician shall perform air monitoring, decontamination, and safety oversight activities on behalf of the SSHO. They shall have appropriate training equivalent to the SSHO in each specific area for which they have responsibility and shall report to and be under the supervision of the SSHO.

1.10.5 Occupational Physician

1.10.5.1 Qualifications

The services of a licensed physician, who is certified in occupational medicine by the American Board of Preventative Medicine, or who, by necessary training and experience is Board eligible, shall be utilized. The physician shall be familiar with this site's hazards and the scope of this project. The medical consultant's name, qualifications, and knowledge

of the site's conditions and proposed activities shall be included in the SSHP.

1.10.5.2 Responsibilities

The physician shall be responsible for the determination of medical surveillance protocols and for review of examination/test results performed in compliance with 29 CFR 1910.120(f) and 29 CFR 1926.65(f) and paragraph: MEDICAL SURVEILLANCE.

1.10.6 Persons Certified in First Aid and CPR

At least two persons who are currently certified in first aid and CPR by the American Red Cross or other approved agency shall be on site at all times during site operations. They shall be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910.1030. These persons may perform other duties but shall be immediately available to render first aid when needed.

1.11 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

1.12 EMERGENCY MEDICAL TREATMENT

Contractors will arrange for their own emergency medical treatment. Government has no responsibility to provide emergency medical treatment.

1.13 TRAINING

Personnel shall receive training in accordance with the Contractor's written safety and health training program and 29 CFR 1910.120, 29 CFR 1926.65, 29 CFR 1926.21, ER 385-1-92, and EM 385-1-1. The SSHP shall include a section describing training requirements. Copies of current Health and Safety Training Documentation shall be submitted prior to initial entry onto the work site and attached to the SSHP.Copies of recent training certificates shall be kept on site, along with medical surveillance, fit testing, and physician's or health care provider's written opinion that employee is fit for duty.

1.13.1 General Hazardous Waste Operations Training

All personnel shall have successfully completed 40 hours of hazardous waste instruction off the site; 3 days actual field experience under the direct supervision of a trained, experienced supervisor; and 8 hours refresher training annually. On-site supervisors shall have completed the above training and 8 hours of additional, specialized training covering at least the following topics: the employer's safety and health program, personal protective equipment program, spill containment program, and health hazard monitoring procedures and techniques.

1.13.2 Site-Specific Training

Site-specific training covering site hazards, procedures, and all contents of the approved SSHP shall be conducted by the SSHO for all on-site employees, including those assigned only to the Support Zone, prior to the commencement of work; for visitors prior to entering the site; and on an

ongoing basis.

Site-specific training sessions shall be documented in accordance with Section 01.B.05.b of EM 385-1-1.

1.13.2.1 Initial Session (Pre-entry Briefing)

Prior to commencement of on-site field activities, all site employees, including those assigned only to the Support Zone, shall attend a site-specific safety and health training session. This session shall be conducted by the Safety and Health Manager and the SSHO to ensure that all personnel are familiar with the requirements and responsibilities for maintaining a safe and healthful work environment. Procedures and contents of the accepted SSHP and Sections 01.B.02 and 28.A.02(4)(c) of EM 385-1-1 shall be thoroughly discussed. The Contracting Officer's Representative will be notified at least 5 days prior to the initial site-specific training session so government personnel involved in the project may attend.

1.13.2.2 Periodic Sessions

Periodic on-site training shall be conducted by the SSHO at least weekly for personnel assigned to work at the site during the following week. The training shall address safety and health procedures, work practices, any changes in the SSHP, activity hazard analyses, work tasks, or schedule; results of previous week's air monitoring/sampling, review of safety discrepancies and accidents. Detailed meeting minutes of safety discussions at weekly meetings shall be prepared and retained for reference.

If an operational change affecting on-site fieldwork is made, a meeting prior to implementation of the change shall be convened to explain safety and health procedures. Site-specific training sessions for new personnel, visitors, and suppliers shall be conducted by the SSHO using the training curriculum outlines developed by the Safety and Health Manager.

1.13.2.3 Training for Hazardous Materials Shipments

Training for hazardous materials shipments shall be provided to employees transporting hazardous materials in accordance with the regulatory requirements issued 25 March 2003 by the Research and Special Programs Administration (RSPA) of the Department of Transportation (DOT).

1.13.3 Other Training

The Safety and Health Manager shall provide training as specified by 29 CFR 1910.146, for employees who are required to supervise, standby, or enter permit-required confined spaces. Persons involved in any aspect of the transportation of hazardous materials shall be trained in accordance with 49 CFR 172 Subpart H.

Persons involved in removing asbestos shall be trained in accordance with NJAC 12:120 and NJAC 8:60.

1.14 PERSONAL PROTECTIVE EQUIPMENT

1.14.1 General

In accordance with 29 CFR 1910.120(g)(5) and 29 CFR 1926.65(g)(5), a written Personal Protective Equipment (PPE) Program which addresses the elements listed in that regulation, and which complies with respiratory

protection program requirements of 29 CFR 1910.134, is to be included in the employer's Safety and Health Program. The SSHP shall detail the minimum PPE ensembles (including respirators) and specific materials from which the PPE components are constructed for each site-specific task and operation to be performed, based upon the hazard/risk analysis. Components of levels of protection (B, C, D and modifications) must be relevant to site-specific conditions, including heat and cold stress potential and safety hazards. Only respirators approved by NIOSH shall be used. On-site personnel shall be provided with appropriate PPE. Protective equipment and clothing shall be kept clean and well maintained. The PPE section of the SSHP shall include site-specific procedures to determine PPE program effectiveness and for on-site fit-testing of respirators, cleaning, maintenance, inspection, and storage of PPE.

1.14.2 Levels of Protection

The Safety and Health Manager shall establish appropriate levels of protection for each work activity based on review of historical site information, existing data, an evaluation of the potential for exposure (inhalation, dermal, ingestion, and injection) during each task, past air monitoring results, and a continuing safety and health monitoring program. The Safety and Health Manager shall also establish action levels for upgrade or downgrade in levels of PPE from the following specified minimum levels of protection. Protocols and the communication network for changing the level of protection shall be described in the SSHP. The PPE reassessment protocol shall address air monitoring results, potential for exposure, changes in site conditions, work phases, job tasks, weather, temperature extremes, individual medical considerations, etc.

1.14.2.1 Components of Levels of Protection

The following items constitute minimum protective clothing and equipment ensembles to be used during this project:

Level D:

Work clothing, as dictated by the weather

Safety (steel toe/shank) shoes or boots

Hard hat

Safety glasses, goggles, or face shield

Hearing protection (where required)

Nitrile, neoprene, or natural rubber gloves (when handling contaminated wastes, soils, or water)

Modified Level D:

Level D PPE and:

Disposable, hooded, one-piece, full-body coveralls constructed of spun-bonded olefin or polypropylene fabrics (e.g., Tyvek, or equivalent).

Disposable boot covers of (minimum) 60 mil rubberized PVC.

Level C:

Modified Level D PPE and:

Full-facepiece, air purifying respirator equipped with filter cartridges approved by NIOSH for organic vapors, with a HEPA pre-filter.

1.14.3 Initial Minimum Levels of PPE by Task

The initial minimum protective equipment requirements for each major task and operation are listed below. Available site information shall be reviewed and the list of tasks and operations and these levels of protection shall be expanded and/or revised during preparation of the SSHP.

[note to reviewers: These tables will be updated during future submittal phases once additional information is obtained.]

OPERATION	INITIAL LEVEL OF PROTECTION
Site Preparation/Mobilization	Level D, modified
Civil Surveying	Level D
Chemical Sampling	Level C
Work Zone Construction	Level D, modified
Demolishing Structures/Underpinning	Level C
Excavation	Level C
Rubble and Soil Removal and Stockpiling	Level C
Site Restoration and Backfilling	Level D
Asbestos Removal	Level C
Equipment Decontamination	Level C
Demobilization	Level D

1.14.4 PPE for Government Personnel

Ten clean sets of PPE and clothing (excluding air-purifying negative-pressure respirators and safety shoes, which will be provided by individual visitors, as necessary), shall be available for use by the Contracting Officer's Representative or the Designated Representative or official visitors. The items shall be cleaned and maintained by the Contractor, stored and clearly marked: "FOR USE BY GOVERNMENT PERSONNEL ONLY." The Contractor shall provide basic training in the use and limitations of the PPE provided, and institute administrative controls to check prerequisites prior to issuance. Such prerequisites include meeting minimum training requirements for the work tasks to be performed and medical clearance for site hazards and respirator use.

1.15 MEDICAL SURVEILLANCE

The Safety and Health Manager, in conjunction with the Occupational Physician, shall detail, in the Contractor's Safety and Health Program and the SSHP, the Medical Surveillance Program that includes scheduling of examinations, certification of fitness for duty, compliance with OSHA requirements, and information provided to the physician. Examinations shall be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place. Medical surveillance protocols and examination and test results shall be reviewed by the Occupational Physician. The Medical Surveillance Program shall contain the requirements specified below. Personnel working in contaminated areas of the site shall have been examined as prescribed in 29 CFR 1910.120, and 29 CFR 1926.65, and determined medically fit to perform their duties.

1.15.1 Frequency of Examinations

Employees shall have been provided with medical examinations as specified, within the past 12 months and shall receive exams annually thereafter (if contract duration exceeds one year); on termination of employment; reassignment in accordance with 29 CFR 1910.120(e)(3)(i)(C), and 29 CFR 1926.65(e)(3)(i) if the employee develops signs or symptoms of illness related to workplace exposures; if the physician determines examinations need to be conducted more often than once a year; and when an employee develops a lost time injury or illness during the period of this Contract. The supervisor shall

be provided with a written statement signed by the physician prior to allowing the employee to return to the work site after injury or illness resulting in a lost workday, as defined in 29 CFR 1904.12(f).

1.15.2 Content of Examinations

The following elements shall be included in the Medical Surveillance Program. Additional elements may be included at the discretion of the occupational physician responsible for reviewing the medical surveillance protocols.

a. Complete medical and occupational history (initial exam only)

b. General physical examination of major organ systems

c. Pulmonary function testing including FVC and FEV1.0

d. CBC with differential

e. Blood chemistry screening profile (e.g., SMAC 20/25)

f. Urinalysis with microscopic examination and bioassay

g. Audiometric testing (as required by Hearing Conservation Program)

h. Visual acuity

i. Chest X-ray (This test should be performed no more frequently than every four years, unless directed by Occupational Physician.)

j. Electrocardiogram (as directed by Occupational Physician)

1.15.3 Information Provided to the Occupational Physician

The physician shall be furnished with the following:

a. Site information from paragraph: SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

b. Information on the employee's anticipated or measured exposure/dose

c. A description of any PPE used or to be used

d. A description of the employee's duties as they relate to the employee's exposures (including physical demands on the employee and heat/cold stress)

e. A copy of 29 CFR 1910.120, or 29 CFR 1926.65

f. Information from previous examinations not readily available to the examining physician

g. A copy of Section 5.0 of NIOSH Pub No. 85-115

h. Information required by 29 CFR 1910.134

1.15.4 Physician's Written Opinion

Before work begins a copy of the physician's written opinion for each

employee shall be obtained and furnished to the Safety and Health Manager and the employee. The opinion shall address the employee's ability to perform hazardous remediation work and shall contain the following:

a. The physician's recommended limitations upon the employee's assigned work and/or PPE usage;

b. The physician's opinion about increased risk to the employee's health resulting from work; and

c. A statement that the employee has been informed and advised about the results of the examination.

1.15.5 Medical Records

Documentation of medical exams shall be provided as part of the Certificate of Worker or Visitor Acknowledgment. Medical records shall be maintained in accordance with 29 CFR 1910.120, and 29 CFR 1926.65.

1.16 ENVIRONMENTAL MONITORING AND SAMPLING

1.16.1 General Requirements

a. An Environmental Monitoring Plan (EMP) shall be part of the SSHP and shall provide for Exposure Monitoring/Sampling Results for occupational and non-occupational exposures. The EMP shall be approved by the signature of the Safety and Health Manager and/or certified industrial hygienist (CIH) and submitted for review and approval by the Contracting Officer's Representative. The EMP shall be designed to detect and quantify respirable dust, lead, volatile organic compounds, oxygen levels, combustible gases, and airborne asbestos. Action levels shall be established by the Contractor as specified in the paragraph Action Levels. Initial action levels for workers and the community are provided in Tables 01351-1 and 01351-2.

b. The EMP shall be developed and implemented to ensure that the proper level of PPE is used, to document that the level of worker protection is adequate, to ensure compliance with the action levels established in the SSHP, to ensure that the total effective dose equivalent (TEDE) can be accurately derived, and to assess the migration of contaminants to off-site receptors associated with remedial work.

c. During each on-site activity air contaminant levels shall be monitored in each medium through which contaminants can enter the worker's breathing zone or the neighboring properties (perimeter air sampling) during intrusive activities (or at the discretion of the SSHO). The types of measurements to be collected shall be listed in the EMP with the instruments specified.

d. Information gathered during the EMP shall be documented.

e. All required air monitoring/sampling instrumentation shall be provided by the Contractor and shall be maintained and calibrated according to the NIOSH, OSHA, and EPA analytical methods and/or manufacturer's recommendations. Integrated air samples will be taken in appropriate workers breathing zones to prove a negative air exposure to lead, per 29 CFR 1926.62. Such maintenance and

calibration data shall be recorded and included in the project documents.

f. All air monitoring/sampling equipment shall be operated by personnel trained in its specific use.

g. The Safety and Health Manager shall follow the action levels prescribed in the SSHP or present new action levels which the Contracting Officer's Representative will duly consider. New action levels, if presented, shall be defined in the Contractor's SSHP. If, during the course of the construction project, unanticipated airborne hazards arise for which the established action levels do not provide adequate protection, the Safety and Health Manager shall establish action levels and protection procedures and standard equipment that will provide adequate protection from the new hazard. Establishment of additional action levels and protection procedures and equipment shall be made with the concurrence of the Contracting Officer's Representative. If initial air monitoring results are negative (i.e., no exceedences above action levels), Contractor may petition the Contracting Officer to reduce air monitoring frequency. In such a case, the Contractor shall archive all sample cassettes for future reference.

h. At the beginning of each work activity requiring air monitoring/sampling, the Contractor shall complete monitoring/sampling at the locations and frequencies stated in the SSHP. Criteria for modification of the monitoring locations or frequencies shall be discussed in the SSHP. Modifications shall not be implemented without written authorization from the Contracting Officer's Representative.

i. When project operations involve intrusive activities such as subsurface drilling, cutting of gas mains, fuel lines, or sewer lines, the Contractor shall utilize a combination of combustible gas indicator and oxygen monitor. Such monitoring shall be conducted close to the sources of potential leaks and in locations where leaked vapor could accumulate. If concentrations exceed the action levels, the Contractor shall stop work and ventilate the area. Any cutting or hot work done on fuel lines or storage tanks will be done in accordance with applicable API and OSHA standards. When natural gas or sewer lines are involved, the contractor shall require the on-site presence of the utility company representative. All sources of ignition within 100 feet of any minor incident and 500 feet of any gas main shall be extinguished.

1.16.2 Real-time Air Monitoring

a. Furnish and maintain real-time air monitoring equipment to include: an organic vapor monitor (photoionization detector or flame ionization detector), explosimeter, oxygen meter, and all necessary calibration/audit equipment and supplies. All equipment shall be intrinsically safe.

b. Perform real-time air monitoring for an adequate period prior to commencement of work to establish baseline conditions for total organic vapors, explosive gases, oxygen, and respirable airborne particulates. For the establishment of baseline conditions,

monitoring shall be performed near each anticipated active work zone and at each approved perimeter monitoring location. Total organic vapors baseline will be established based on consistent readings from the organic vapor monitor.

c. Provide real-time monitoring for explosive gases during excavation. This monitoring shall be performed every 30 minutes or less during soil stripping and subgrade work within 10 feet of active work areas.

d. Provide real-time monitoring for dust using a total airborne dust monitor (MIE-Ram-1 or equivalent) with datalogging capabilities within 10 feet (downwind) at appropriate areas adjacent to soil stripping and subgrade work.

e. Provide real-time air monitoring for volatile organic compounds with a photoionization detector or flame ionization detector (PID - HNu or equivalent). Monitored levels in excess of the on-site action levels established by the Safety and Health Manager and CIH shall require upgrades in levels of protection and/or site evacuation.

f. Monitoring for organic vapor concentrations will consist of measurements taken within 10 feet (downwind) of each active work area. Organic vapor concentrations exceeding 25 ppm above background at any active work area will require a second sample be taken within a time period of no less than five minutes but not more than 15 minutes

If the organic vapor level in any active working location exceeds 250 ppm for any two successive readings within a 15-minute period, or if the explosimeter indicates over 10 percent of the lower explosive limit on any signal reading, then that work location shall be shut down and personnel evacuated upwind and the Contracting Officer's Representative shall be notified immediately. Work shall not resume until:

Appropriate corrective measures are implemented; and

Authorization to continue work is given by the Safety and Health Manager based on lower air contamination levels.

g. A data sheet shall be developed and implemented by the Safety and Health Manager upon which the following real-time monitoring data shall be recorded:

Date and time of monitoring;

Air monitoring location;

Instrument, model number, serial number;

Calibration/background levels;

Results of monitoring; and

Interpretation of the data and any further recommendations by the Safety and Health Manager or the SSHO in consultation with the Safety and Health Manager.

h. The person conducting the sampling shall sign and date all data sheets. These results shall be given verbally to the Contracting Officer's Representative following each sampling event that indicates concentrations in excess of the action levels, and documented in writing by the end of each work day with three copies provided.

1.16.3 Lead Air Sampling

Determine whether a Lead Compliance Plan is required as per 29 CFR 1926.62 (e)(2). Document and submit for approval the evaluation and subject determination. Perform lead air sampling during the initial stages of activities that involve the mechanical disturbance of lead-contaminated soil or any surfaces that could be considered to be coated with lead-based paint. Samples shall be collected and analyzed in accordance with NIOSH METHOD 7105. Analysis shall be performed at a laboratory accredited by the AIHA. Although lead airborne concentration is not expected to exceed the OSHA Permissible Exposure Limit (PEL) requirements during this project, if the limits are exceeded, the Contractor shall be required to comply with 29 CFR 1926.62, the OSHA Lead Exposure in Construction Rule.

1.16.4 Asbestos

Background levels of asbestos-containing material (ACM) shall be established prior to initiation of any cleanup work by collecting two samples outside the first building that requires asbestos abatement. Air monitoring shall be conducted during asbestos abatement to determine effluent migration and/or personnel inhalation of friable asbestos potentially generated during ACM removal. Clearance sampling following ACM removal shall be performed in conformance with applicable regulations. Asbestos abatement work shall meet the requirements of Section 13280A ASBESTOS HAZARD CONTROL ACTIVITIES.

1.16.5 Meteorological Monitoring

Provide a portable meteorological station for the measurement of wind speed, wind direction, ambient air temperature, atmospheric pressure, atmospheric humidity, solar insulation, and atmospheric precipitation. Specify the calibration, audit, data reduction and document control of the meteorological equipment and data. The equipment and its placement shall be in conformance with EPA Ambient Monitoring guidelines for Prevention of Significant Deterioration (PSD). Standards as specified in PSD regulations promulgated by EPA under the Clean Air Act Amendments of 1977 (Public Law 95-95) on August 7, 1980, as replaced, modified, or amended shall be used. The station shall be installed in an area relatively free of trees and houses. The station shall include a continuous readout temperature gauge and a rainfall gauge and be able to produce a 24-hour average figure for each parameter such that the weather influences on the air samples can be characterized. In addition, visual wind direction indicators shall be established in a central location at each active work area. Meteorological monitoring results shall be documented in the daily safety log.

1.17 HEAT AND COLD STRESS MONITORING

The Safety and Health Manager shall develop a heat stress and cold stress monitoring program for on-site activities. Details of the monitoring program, including schedules for work and rest, and physiological monitoring requirements, shall be described in the SSHP. Personnel shall

be trained to recognize the symptoms of heat and cold stress. The SSHO and an alternate person shall be designated, in writing, to be responsible for the heat and cold stress monitoring program.

1.17.1 Heat Stress

Physiological monitoring shall commence when the ambient temperature is above 70 degrees F. Monitoring frequency shall increase as the ambient temperature increases or as slow recovery rates are observed. An adequate supply of cool drinking water shall be provided for the workers. NIOSH Pub No. 85-115 may be consulted for guidance in determining protocols for prevention of heat stress.

1.17.2 Cold Stress

To guard against cold injury, appropriate clothing and warm shelter for rest periods shall be provided. Procedures to monitor and avoid cold stress shall be followed in accordance with the current TLVs for Cold Stress as recommended by the American Conference of governmental Industrial Hygienists (ACGIH).

1.18 SAFETY PROCEDURES, ENGINEERING CONTROLS, AND WORK PRACTICES

The SSHP shall describe the standard operating safety procedures, engineering controls and safe work practices to be implemented for the work covered. These shall include, but not be limited to, the following:

1.18.1 General Site Rules/Prohibitions

General site rules/prohibitions (buddy system, eating, drinking, and smoking restrictions, etc.). Such rules/prohibitions include:

a. Work in the Exclusion Zone and Contamination Reduction Zone shall be performed with the "buddy system." Each person working in the work area shall maintain contact with another person at all times and take responsibility for continual knowledge of that person's status.

b. Eating, drinking, smoking, chewing gum or tobacco, and other practices that increase the probability of hand-to-mouth transfer and ingestion of material is prohibited within the Exclusion Zone and Contamination Reduction Zone.

c. Hands and face shall be thoroughly washed upon leaving the work area and before eating, drinking, or other activities.

d. Whenever decontamination procedures for protective clothing are in effect, the entire body shall be thoroughly washed as soon as possible after the protective clothing is removed.

e. Medicine and alcohol can increase the effects of exposure to toxic chemicals. Therefore:

(1) Personnel using prescription drugs shall inform the doctor who prescribed them of their potential contact with toxic materials.

(2) Personnel who take over-the-counter drugs within a day before work on a site must inform the SSHO of the warnings listed

on the drug's container (the part of the label that says, for example, "Do not take this medication if you are operating a motor vehicle").

(3) Alcoholic beverage intake shall be prohibited during project operations. Personnel under the influence of alcohol or recreational or illegal drugs shall not be allowed on site.

f. During on site maintenance to be performed on equipment capable of storing and releasing energy, the requirements of 29 CFR 1910.147, lock out/tag out, shall be adhered to by the Contractor and all of his personnel and subcontractors.

1.18.2 Work Permit Requirements

Prior to any excavation work, the New Jersey One-Call System will be contacted for mark-outs of nearest utilities, and utility clearances shall be documented as specified in Section 02310 EXCAVATION. Contractor shall obtain a copy of the New Jersey One-Call mark-out ticket for comparison to field mark-outs prior to commencing any excavation activities.

1.18.3 Spill Prevention and Control

Develop and implement written spill prevention and control. These procedures shall address contaminated material, shock sensitive wastes, laboratory waste packs, material handling equipment, and appropriate procedures for drum and container handling, opening, sampling, shipping, and transport. These procedures shall describe prevention measures, such as building berms or dikes; spill control measures and material to be used (e.g., booms, vermiculite); location of the spill control material; personal protective equipment required to cleanup spills; disposal of contaminated material; and who is responsible to report the spill. Storage of contaminated material or hazardous materials shall be appropriately bermed, diked and/or contained to prevent any spillage of material on uncontaminated soil. If the spill or discharge is reportable, and/or human health or the environment are threatened, the National Response Center, the NJDEP, and the Contracting Officer's Representative shall be notified within two hours of spill occurrence. The Spill Prevention and Control Plan shall be developed in accordance with Section 01110 SUMMARY OF WORK.

1.18.4 Confined Space Entry Procedures

Provide detailed confined space entry procedures in compliance with 29 CFR 1910.146. Excavations greater than 4 feet in depth shall be considered confined space.

1.18.5 Excavation and Trench Safety

Perform excavation and trench work in accordance with 29 CFR 1926, Subpart P.

1.18.6 Guarding of Machinery and Equipment

Guard machinery and equipment in accordance with EM 385-1-1 Section 16.B.

1.18.7 Lockout/Tagout

Conduct lockout/tagout operations in accordance with EM 385-1-1 Section 12 (A-E).

1.18.8 Fall Protection

Comply with fall protection procedures in 29 CFR 1926 subpart M.

1.18.9 Hazard Communication

Provide hazard communication in accordance with 29 CFR 1910.1200/29 CFR 1926.59.

1.18.10 Hearing Protection and Noise Control

Measure and document the noise exposure of on-site personnel in compliance with 29 CFR 1910.95 and EM 385-1-1. Institute noise abatement measures to meet the requirements of Occupational Noise Exposure for public health and safety. Contractor personnel shall be provided, as a minimum, protection against the effects of hazardous noise exposure whenever the sound-pressure level exceeds the applicable limits and/or exposure times. When personnel are subjected to sound-pressure levels exceeding the limits specified in the regulations, feasible engineering or administrative controls shall be utilized. The Contractor shall evaluate hearing protective devices based on dosimetry using generally accepted calculation methods. If such controls fail to reduce sound-pressure levels within the specified limit, personal protective equipment shall be selected, evaluated, provided and used in accordance with the hearing conservation program. When sound-pressure levels exceed 115 dB(A) steady-state, the Contractor shall evaluate hearing protective devices based on dosimetry using approved calculation methods. Sound-pressure level measurements shall be made by qualified personnel using calibrated instruments. Ear insert devices shall be fitted to the exposed individual by an individual trained in such fitting and able to recognize the difference between a good and poor fit. Noise hazard areas shall be marked with caution signs indicating both the presence of hazardous noise levels and the requirement for hearing protection.

Noise exposure to the surrounding residential area shall remain within reasonable levels. Noise exposure to the residential area shall remain within acceptable daily hours. The hours of work shall be submitted in the work plan and must be approved prior to commencement of work.

1.18.11 Hearing Conservation

Measure and document the noise exposure of on-site personnel in compliance with 29 CFR 1910.95, Occupational Noise Exposure. If necessary, the Contractor shall make hearing protection available to all personnel involved with equipment operation. Whenever employee noise exposures equal or exceed an 8-hour time-weighted average of 85 dB(A), a Hearing Conservation Program shall be implemented including employee notification, audiometric testing, and training per 29 CFR 1910.95(c).

1.18.12 Illumination

Illumination levels in the working zone shall be maintained at a minimum of 10 foot-candles. Supplementary lighting, if necessary, shall be provided by the Contractor.

1.18.13 Electrical Safety

Electrical installations and appliances used by the Contractor shall meet applicable National Electrical Code specifications. All electrical devices

utilized by the Contractor or subcontractors on this project shall be grounded and utilize ground fault circuit interrupter (GFCI) protected outlets.

1.18.14 Sanitation

Provide the following items to maintain a sanitary work environment:

Portable toilet facilities;

A source of potable water for employee consumption;

A source of water and a location at which employees may wash up; and

If food is consumed at the work site, clean locations for food storage and consumption shall be provided.

1.18.15 Fire Prevention

Every member of the site team shall be responsible to observe and report fires and conditions that could lead to fires. The Contractor shall observe the fire prevention and protection requirements described in EM 385-1-1, the USACE Health and Safety Requirements Manual, including:

a. Do not use fires or open flame devices.

b. Prohibit smoking within the Exclusion Zone.

c. Place at least four fire extinguishers, rated at least 20-A:120-B:C within the Exclusion Zone. Another fire extinguisher shall be placed in the Support Zone.

Contractor personnel shall fight fires on site that cannot be controlled through the use of extinguishers, only if the Contractor has designated and trained a fire brigade, as described in OSHA Standard 29 CFR 1910.58. Otherwise, contractor personnel shall quickly evacuate the site and notify the appropriate authorities listed in the SSHP.

Written procedures that address fire protection/prevention consistent with EM 385-1-1 Section 9 (a-k) shall be included in the SSHP: flammable and combustible liquids, liquified petroleum gas, temporary heating devices, first response fire protection, fire fighting equipment, fire detection and employee fire alarm systems, fire fighting organizations training and drilling, fire patrols, and wild land fire control.

1.19 SITE CONTROL MEASURES

To prevent the spread of contamination and control the flow of personnel, vehicles, and materials into and out of work areas, site control measures shall be established and described in the SSHP. The SSHP shall describe the methodology to be used by the Safety and Health Manager and SSHO in determining work zone designations and their modifications, and procedures to limit the spread of contamination. The SSHP shall include procedures for the implementation and enforcement of safety and health rules for all persons on the site, including employers, employees, outside Contractors, government representatives, and visitors.

1.19.1 Work Zones

Initial anticipated limits of construction are shown on the Work Zone Drawings. Using this guidance, work zone boundaries (Exclusion Zone, including restricted and regulated areas; Contamination Reduction Zone; and Support Zone) and access points shall be established and the boundary delineations shall be included in the SSHP. Delineation of work zone boundaries shall be based on the contamination characterization data and the hazard/risk analysis to be performed as described in paragraph: HAZARD/RISK ANALYSIS. As work progresses and field conditions are monitored, work zone boundaries may be modified with approval of the Contracting Officer's Representative or the Designated Representative. Work zones shall be clearly identified and marked in the field (using fences, tape, signs, etc.). A site map, showing work zone boundaries and locations of decontamination facilities, shall be posted in the on-site office. Work zones shall consist of the following:

1.19.1.1 Exclusion Zone (EZ)

The EZ is the area where hazardous contamination is either known or expected to occur and the greatest potential for exposure exists. All building or structure demolition areas shall be designated as the EZ for that cluster. Entry into this area shall be controlled and exit may only be made through the Contamination Reduction Zone (CRZ).

1.19.1.2 Contamination Reduction Zone (CRZ)

The CRZ is the transition area between the EZ and the Support Zone. The personnel and equipment decontamination areas shall be separate and unique areas located in the CRZ.

1.19.1.3 Support Zone (SZ)

The Support Zone is defined as areas of the site, other than Exclusion Zones and Contamination Reduction Zones, where workers do not have the potential to be exposed to hazardous substances or dangerous conditions resulting from hazardous waste operations. The SZ shall be secured against active or passive contamination. Site offices, parking areas, and other support facilities shall be located in the SZ.

1.19.2 Site Control Log

A Site Control Entry/Exit Log of personnel visiting, entering, or working on the site shall be maintained. The log shall include the following: date, name, agency or company, time entering and exiting site, time entering and exiting the Exclusion Zone (if applicable), and personal protective equipment utilized. Before visitors are allowed to enter the Contamination Reduction Zone or Exclusion Zone, they shall show proof of current training, medical surveillance and respirator fit testing (if respirators are required for the tasks to be performed) and shall fill out the Certificate of Worker or Visitor Acknowledgment. This visitor information, including date, shall be recorded in the log.

1.19.3 Communications

The SSHP shall identify the method by which Contractor personnel will communicate in the event of an emergency. An alarm system with means of on-site and off-site communication shall be provided and installed in accordance with 29 CFR 1910.165. Communications with the office trailer,

if it is outside vocal range, will be by radio. Communications between Contractor and other organizations (e.g., the Contracting Officer's Representative or the emergency response contractor) will be over the telephone. At least the following emergency telephone numbers must appear in the SSHP.

Name, address, and phone number of medical treatment facility and physician;

Ambulance service's telephone number;

Fire department's telephone number;

Police department's telephone number;

EPA Region II's telephone number;

NJDEP spill control phone numbers; and

Contracting Officer's Representative's telephone number.

1.19.4 Site Security

Site security shall be specified in the SSHP and in accordance with Section 01110 SUMMARY OF WORK.

1.20 CONTAMINATION MONITORING, DECONTAMINATION, AND PERSONAL HYGIENE

Personnel entering the Exclusion or Contamination Reduction Zones or otherwise exposed or subject to exposure to hazardous chemical contaminated material vapors, liquids, or contaminated solids shall adhere to approved contamination monitoring, decontamination, and personal hygiene protocol, which will be detailed in the SSHP. Contamination monitoring and decontamination shall be performed in the CRZ prior to entering the Support Zone from the Exclusion Zone. Chapter 10.0 of NIOSH Pub No. 85-115 shall be consulted when preparing decontamination procedures. Employees shall be trained in the procedures and the procedures shall be enforced throughout site operations. Persons disregarding these provisions of the SSHP shall be barred from the site. Minimum acceptable contamination limits are provided in tables 01351A-1 and 01351A-2 in the Action Levels paragraph.

1.20.1 Decontamination Facilities

A personnel decontamination facility shall be provided in the CRZ. This facility shall be used by both Contractor personnel and government representatives. The decontamination facility shall provide for separation of street clothing and contaminated PPE and shall be equipped with heating, lighting, ventilation, a change room and lockers, hot and cold water, towels, soap in sufficient quantities for all anticipated personnel, and waste water storage facilities for controlling the disposal of used water.

1.20.2 Procedures

The SSHP shall outline procedures to be used for contamination monitoring and decontamination of site personnel.

Personnel performing or supervising remedial work within the EZ or CRZ or those workers exposed (or subject to exposure) to hazardous chemical contaminated material vapors, liquids, or contaminated solids shall be

instructed by the Contractor in the requirements and advised to observe and adhere to the personal hygiene-related provisions of this paragraph. A detailed discussion of personnel contamination monitoring, decontamination, and sanitation protocols to be followed by site workers shall be submitted as part of the SSHP.

Any personnel found to be disregarding the personal hygiene-related provisions of the SSHP shall be barred from the site. The following personal hygiene conditions and procedures shall be followed by personnel exiting the EZ:

a. Contained storage and legal disposal of used disposable outerwear shall be provided.

b. All outerwear shall be removed prior to entering the lunch area or smoking area, and prior to washing hands.

c. All personnel shall be monitored for contamination prior to exiting the site.

d. Hand and face washing facilities shall be provided.

e. Contractor personnel shall be required to thoroughly clean their hands and other exposed areas before entering the smoking or lunch area.

f. A facility for changing into and out of and storing work clothing separate from street clothing shall be provided.

g. Disposable outerwear shall not be reused, and when removed, shall be placed inside disposal containers provided for that purpose located in the CRZ.

h. Smoking and chewing of tobacco or chewing gum shall be prohibited except in a designated smoking area, provided by the Contractor, in the SZ.

i. Eating and drinking shall be prohibited except in a designated lunch or break area, provided by the Contractor in the SZ.

1.21 EQUIPMENT DECONTAMINATION

Vehicles and equipment used in the EZ shall be monitored for contamination and decontaminated in the CRZ prior to leaving the site. The procedures for contamination monitoring and decontamination of vehicles and equipment shall be addressed in the SSHP. All monitoring and decontamination results shall be submitted to the Contracting Officer's Representative in a timely manner.

1.21.1 Decontamination Facilities

An equipment decontamination station shall be provided within the CRZ for decontaminating vehicles and equipment leaving the EZ. The decontamination station shall include the following: A traffic surface pad of sufficient strength to support traffic. The pad shall be constructed to capture decontamination water, including overspray, and shall allow for collection and removal of the decontamination water using sumps, dikes and ditches as required. In addition, the following facilities will also be included: high-pressure, low volume, water wash area for equipment and vehicles; a

steam cleaning system for use after the mud and/or site material has been cleaned from the equipment (dry decon techniques should be utilized where possible; all equipment decon water will be collected for characterization); a designated "clean area" in the CRZ for performing equipment maintenance. Equipment within the EZ or CRZ shall be decontaminated before maintenance is performed.

1.21.2 Procedures

Procedures for equipment decontamination shall be developed and used to prevent the spread of contamination into the SZ and off site areas. These procedures shall address disposal of contaminated products and spent materials used on the site, including containers, fluids, oils, etc. The production of large quantities of contaminated water should be avoided. Any item taken into the EZ shall be assumed to be contaminated and shall be inspected and/or decontaminated before the item leaves the area. Vehicles, equipment, and materials shall be cleaned and decontaminated prior to leaving the site.

Construction material shall be handled in such a way as to minimize the potential for contaminants being spread and/or carried off site. Prior to exiting the site, vehicles and equipment shall be monitored to ensure the adequacy of decontamination.

1.22 EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

The SSHP shall describe the emergency and first aid equipment to be available on site. The following items, as a minimum, shall be maintained on site and available for immediate use:

a. First aid equipment and supplies approved by the consulting physician.

b. Emergency eyewashes and showers which comply with ANSI Z358.1

c. Emergency-use respirators. For rescue purposes, two positive pressure self-contained breathing apparatus (SCBA) shall be supplied. These shall be dedicated for emergency use only and maintained on site in the CRZ.

d. Fire extinguishers with a minimum rating of 20-A:120-B:C shall be provided at site facilities and in all vehicles and at any other site locations where flammable or combustible materials present a fire risk.

1.23 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES

An Emergency Response Plan that meets the requirements of 29 CFR 1910, Section 120 (l), and 29 CFR 1926, Section 65 (l), shall be developed and implemented as a section of the SSHP. In the event of any emergency associated with remedial action, the Contractor shall, without delay, alert all on-site employees that there is an emergency situation; take action to remove or otherwise minimize the cause of the emergency; alert the Contracting Officer's Representative; and institute measures necessary to prevent repetition of the conditions or actions leading to, or resulting in, the emergency. Employees that are required to respond to hazardous emergency situations shall be trained to respond to such expected emergencies. The plan shall be rehearsed regularly as part of the overall training program for site operations. The plan shall be reviewed

periodically and revised as necessary to reflect new or changing site conditions or information. The following elements, as a minimum, shall be addressed in the plan:

a. Meetings with the local emergency response agencies shall be held during preparation of the Emergency Response Plan. Agencies to be contacted include local fire, police, and rescue authorities with jurisdiction and nearby medical facilities that may be utilized for emergency treatment of injured personnel. At these meetings, the agencies shall be notified of upcoming site activities and potential emergency situations. The response capabilities shall be ascertained and a response commitment obtained. The Contractor shall ensure the Emergency Response Plan for the site is compatible and integrated with the disaster, fire and/or emergency response plans of local, state, and federal agencies. Prior to commencing work, the Contractor shall contact the nearest medical provider and advise them as to where the work is located and for when it is scheduled.

b. Personnel roles, lines of authority, communications for emergencies.

c. Emergency recognition and prevention.

d. Site topography, layout, and prevailing weather conditions.

e. Criteria and procedures for site evacuation (emergency alerting procedures, employee alarm system, emergency PPE and equipment, safe distances, places of refuge, evacuation routes, site security and control).

f. Specific procedures for decontamination and medical treatment of injured personnel.

g. Route maps to nearest prenotified medical facility. Site-support vehicles shall be equipped with maps. At the beginning of project operations, drivers of the support vehicles shall become familiar with the emergency route and the travel time required. The Contractor shall visit the hospital designated in the SSHP to determine whether they can handle the types of injury (including chemically contaminated patients) that might occur at the site.

h. Emergency alerting and response procedures including posted instructions and a list of names and telephone numbers of emergency contacts (physician, nearby medical facility, fire and police departments, ambulance service, Federal, State, and local environmental agencies; as well as Safety and Health Manager, the Site Superintendent, the Contracting Officer's Representative and/or their alternates).

i. Criteria for initiating community alert program, contacts, and responsibilities.

j. Procedures for reporting incidents to appropriate government agencies. In the event that an incident such as an explosion or fire, or a spill or release of toxic materials occurs during the course of the project, the appropriate government agencies shall be immediately notified. In addition, the Contracting Officer's Representative shall be verbally notified immediately and receive

a written notification within 24 hours. The report shall include the following items:

(1) Name, organization, telephone number, and location of the Contractor;

(2) Name and title of the person(s) reporting;

(3) Date and time of the incident;

(4) Location of the incident (i.e., site location, facility name);

(5) Brief summary of the incident giving pertinent details including type of operation ongoing at the time of the incident;

(6) Cause of the incident, if known;

(7) Casualties (fatalities, disabling injuries);

(8) Details of any existing chemical hazard or contamination;

(9) Estimated property damage, if applicable;

(10) Nature of damage, effect on contract schedule;

(11) Action taken to ensure safety and security; and

(12) Other damage or injuries sustained, public or private.

k. Procedures for critique of emergency responses and follow-up.

1.24 ACCIDENT PREVENTION

An Accident Prevention Plan shall be developed in accordance with EM 385-1-1, Section 01.A.11 and Appendix A; and ER 385-1-92 Appendix C and submitted for government approval prior to work initiation. The plan shall be job-specific and include any unusual or unique aspects of the project. Daily safety and health inspections shall be conducted to ensure that the work is being performed in accordance with the SSHP and all USACE and OSHA regulations. If there is an accident/incident, the Contracting Officer shall be notified immediately and an Accident Report filed within two days.

1.25 CERTIFICATE OF WORKER/VISITOR ACKNOWLEDGEMENT

A copy of a Contractor-generated certificate of worker/visitor acknowledgement shall be completed and submitted for each visitor allowed to enter Contamination Reduction or Exclusion Zones, and for each employee, following the example certificate at the end of this section.

1.26 INSPECTIONS

The SSHO shall perform daily inspections of the job site and the work in progress to ensure compliance with EM 385-1-1, the Safety and Health Program, the SSHP and other occupational health and safety requirements of the Contract, and to determine the effectiveness of the SSHP. Procedures for correcting deficiencies (including actions, timetable and responsibilities) shall be described in the SSHP. Follow-up inspections to ensure correction of deficiencies shall be conducted and documented. Daily safety inspection logs shall be used to document the inspections, noting

safety and health deficiencies, deficiencies in the effectiveness of the SSHP, and corrective actions taken. The SSHO's Daily Inspection Log shall be attached to and submitted with the Daily Quality Control Reports. Each entry shall include the date, work area checked, employees present in work area, PPE and work equipment being used in each area, special safety and health issues and notes, and signature of preparer. In the event of an accident, the Contracting Officer's Representative shall be notified according to EM 385-1-1, Section 01.D. Within two working days of any reportable accident, an Accident Report shall be completed on ENG Form 3394 and submitted.

1.27 MONTHLY EXPOSURE REPORTS

Monthly exposure reporting to the Contracting Officer is required to be attached to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both prime and subcontractor. The Contracting Officer will provide copies of any special forms.

1.28 DUST AND EMISSION CONTROL

Dust control shall be used throughout the work at the site. A proposed Dust Control Plan shall be included in the Site Safety and Health Plan (SSHP) and be incorporated by reference in the Environmental Monitoring Plan. The Dust Control Plan shall identify materials, equipment, and methods to be used to monitor and control dust during project operations, including provisions for supplying clean water and supplying trailer-mounted water spraying equipment. At a minimum, the following provisions shall be incorporated into the Dust Control Plan:

a. The use of real-time airborne monitoring equipment to measure dust levels along the perimeter of the excavations and at the site perimeter.

b. The use of water-based dust suppressing agent to prevent the creation and dispersion of dust. Methods that generate slippery conditions or sticky mud shall be avoided.

c. Trucks carrying the debris shall be covered and sealed to control dust releases and shall have a double, positive locking mechanism on the tailgates.

d. Haul roads shall be treated as necessary to minimize dusty conditions.

e. The SSHO shall ensure that dust suppression practices are effective and being utilized.

1.29 SAFETY AND HEALTH PHASE-OUT REPORT

A Safety and Health Phase-Out Report shall be submitted within 10 days following completion of the work, prior to final acceptance of the work. The following minimum information shall be included:

a. Summary of the overall performance of safety and health (accidents or incidents including near misses, unusual events, lessons learned, etc.).

b. Final decontamination documentation including procedures and

techniques used to decontaminate equipment, vehicles, and on-site facilities.

c. Summary of exposure monitoring and air sampling accomplished during the project.

d. Signatures of Safety and Health Manager and SSHO.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

EXAMPLE CERTIFICATE OF WORKER/VISITOR ACKNOWLEDGMENT

PROJECT NAME CONTRACT NO.
PROJECT ADDRESS
CONTRACTOR'S NAME
(EMPLOYEE'S) (VISITOR'S) NAME

The contract for the above project requires the following: that you be provided with and complete formal and site-specific training; that you be supplied with proper personal protective equipment excluding respirators; that you be trained in its use; and that you receive a medical examination to evaluate your physical capacity to perform your assigned work tasks, under the environmental conditions expected, while wearing the required personal protective equipment. These things are to be done at no cost to you. By signing this certification, you are acknowledging that your employer has met these obligations to you.

I HAVE READ, UNDERSTAND AND AGREE TO FOLLOW THE SITE SAFETY AND HEALTH PLAN FOR THIS SITE.

Name _____ Date _____

FORMAL TRAINING: I have completed the following formal training courses that meet OSHA's requirements:

	Date Completed
40 hour:	_____
8 hour supervisory:	_____
8 hour refresher:	_____

SITE-SPECIFIC TRAINING: I have completed the site-specific training required by this Contract. The Site Safety and Health Officer conducted the training.

RESPIRATORY PROTECTION: I have been trained in accordance with the criteria in (the Contractor's) (my Employer's) Respiratory Protection program. I have been trained in the proper work procedures and use and limitations of the respirator(s) I will wear. I have been trained in and will abide by the facial hair policy.

RESPIRATOR FIT-TEST TRAINING: I have been trained in the proper selection, fit, use, care, cleaning, and maintenance, and storage of the respirator(s) that I will wear. I have been fit-tested in accordance with the criteria in (the Contractor's) (my employer's) Respiratory Program and have received a satisfactory fit. (I have been assigned my individual respirator.) I have been taught how to properly perform positive and negative pressure fit-check upon donning negative pressure respirators each time.

MEDICAL EXAMINATION: I have had a medical examination within the last twelve months that was paid for by my employer. The examination included health history, pulmonary function tests, and may have included an evaluation of a

chest X-ray. A physician made determination regarding my physical capacity to perform work tasks on the project while wearing protective equipment including a respirator. I was personally provided a copy and informed of the results of that examination. My employer's industrial hygienist evaluated the medical certification provided by the physician and checked the appropriate blank below. The physician determined that there:

_____ were no limitations to performing the required work tasks;

_____ were identified physical limitations to performing the required work tasks.

Date medical exam completed: _____

(Employee's) (Visitor's) Signature: _____

Date: _____

Printed Name:_____

Social Security Number:_____

Contractor's Site Safety and Health Officer Signature:

_____

Printed Name: _____

Date: _____

Social Security Number: _____

-- End of Section --

SECTION 01356A

STORM WATER POLLUTION PREVENTION MEASURES

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM D 4439	(2002) Geosynthetics
ASTM D 4491	(1999a) Water Permeability of Geotextiles by Permittivity
ASTM D 4533	(1991; R 1996) Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	(1991; R 1996) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(1999a) Determining Apparent Opening Size of a Geotextile
ASTM D 4873	(2002) Identification, Storage, and Handling of Geosynthetic Rolls and Samples

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP)

NJDEP DSW	General Permit for Construction Activity Stormwater

NEW JERSEY ADMINISTRATIVE CODE (NJAC)

NJAC 7:14	Water Pollution Control Act, including 7:14A, Pollutant Discharge Elimination System.

NEW JERSEY STATE SOIL CONSERVATION COMMITTEE (SCS)

SCS Standards	Standards for Soil Erosion and Sediment Control in New Jersey (July 1999)

1.2 GENERAL

The Contractor shall implement the storm water pollution prevention measures specified in this section in a manner which will meet the requirements of Section 01110 SUMMARY OF WORK and the requirements of the National Pollution Discharge Elimination System (NPDES) permit for the project.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Soil Erosion and Sediment Control Plan; G

SD-07 Certificates

Mill Certificate or Affidavit;

Certificate attesting that the Contractor has met all specified requirements.

1.4 EROSION AND SEDIMENT CONTROLS

Develop, implement, maintain, supervise, and be responsible for a comprehensive Soil Erosion and Sediment Control Plan that is certified by the New Jersey Natural Resources Conservation Program. The Plan shall specifically address each work area; multiple submittals are expected as work progresses. The purpose of this plan is to prevent runoff from the site entering and polluting surface waters, air, land, or groundwater.

Comply with NJAC 7:14 Appendix B, NJDEP DSW, and the SCS Standards .

In accordance with Section 02310 EXCAVATION, the Contracting Officer has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing and excavation and fill operations; and to direct the Contractor to provide immediate, permanent, or temporary pollution control measures to prevent contamination of adjacent properties, streams, or other watercourses. Such work may involve the use of temporary mulches, mats, seeding, or other control devices or methods as necessary to control erosion. Cut and fill slopes shall be seeded and mulched as the excavation proceeds, to the extent directed by the Contracting Officer. Incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the accepted schedule. Temporary pollution control measures shall be used to correct conditions that develop during construction; that are needed prior to installation of permanent pollution control features; or that are needed temporarily to control erosion that develops during normal construction practices but are not associated with permanent control features on the project.

In the event of conflict between these requirements and pollution control laws, rules or regulations, or other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

Contractor shall control sediment at the washdown facilities, control sediment that may be entrained by rainwater running off the site, curtail work, and reduce the exposed surface when heavy rain is predicted.

The controls and measures required by the Contractor are described below.

1.4.1 Stabilization Practices

The stabilization practices to be implemented shall include temporary

seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, erosion control matts, protection of trees, preservation of mature vegetation, etc. On the daily CQC Report, the Contractor shall record the dates when the major grading activities occur (e.g., excavation, demolition, and grading); when construction activities temporarily or permanently cease on a portion of the site; and when stabilization practices are initiated. Except as provided in paragraphs UNSUITABLE CONDITIONS and NO ACTIVITY FOR LESS THAN 21 DAYS, stabilization practices shall be initiated as soon as practicable, but no more than 14 days, in any portion of the site where construction activities have temporarily or permanently ceased.

1.4.1.1 Unsuitable Conditions

Where the initiation of stabilization measures by the fourteenth day after construction activity temporarily or permanently ceases is precluded by unsuitable conditions caused by the weather, stabilization practices shall be initiated as soon as practicable after conditions become suitable.

1.4.1.2 No Activity for Less Than 21 Days

Where construction activity will resume on a portion of the site within 21 days from when activities ceased (e.g., the total time period that construction activity is temporarily ceased is less than 21 days), then stabilization practices do not have to be initiated on that portion of the site by the fourteenth day after construction activity temporarily ceased.

1.4.2 Structural Practices

Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Contractor shall implement structural practices as necessary to provide storm sewer inlet protection meeting the requirements of the Standard for Storm Sewer Inlet Protection, Ch.30 of the SCS Standards. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff. Structural practices shall include the following devices and shall meet the requirements of Ch.25 of the SCS Standards.

1.4.2.1 Silt Fences

The Contractor shall provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Silt fences shall be properly installed to effectively retain sediment immediately after completing each phase of work where erosion would occur in the form of sheet and rill erosion (e.g. clearing and grubbing, excavation, embankment, and grading). Silt fences shall be installed in the locations indicated on the drawings and field determined as required to control erosion. Final removal of silt fence barriers shall be upon approval by the Contracting Officer.

1.4.2.2 Straw Bales

The Contractor shall provide bales of straw as a temporary structural practice to minimize erosion and sediment runoff. Bales shall be properly placed to effectively retain sediment immediately after completing each phase of work (e.g., clearing and grubbing, excavation, embankment, and grading) in each independent runoff area (e.g., after clearing and grubbing in an area between a ridge and drain, bales shall be placed as work progresses; bales shall be removed/replaced/relocated as needed for work to

progress in the drainage area). Areas where straw bales are to be used are shown on the drawings and as field determined as required to control erosion. Final removal of straw bale barriers shall be upon approval by the Contracting Officer. At minimum, rows of bales of straw shall be provided as follows:

a. Along the downhill perimeter edge of all areas disturbed.

b. Perpendicular to the flow in the bottom of new drainage ditches, channels, and swales. Rows shall be spaced as shown on the drawings and field determined as required to control erosion.

c. At the entrance to storm receivers and culverts that receive runoff from disturbed areas.

1.4.2.3 Stabilized Construction Access

Contractor shall construct a stabilized construction access meeting the requirements of the Standard for Stabilized Construction Access, Ch.29 of the SCS Standards, for ingress and egress to the construction area.

PART 2 PRODUCTS

2.1 COMPONENTS FOR SILT FENCES

2.1.1 Filter Fabric

The geotextile shall comply with the requirements of ASTM D 4439, and shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. The filament shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of ester, propylene, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistance to deterioration due to ultraviolet and heat exposure. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0 to 120 degrees F. The fabric shall incorporate a drawstring in the top portion of the fence for added strength. The filter fabric shall meet the following requirements:

FILTER FABRIC FOR SILT SCREEN FENCE

PHYSICAL PROPERTY	TEST PROCEDURE	STRENGTH REQUIREMENT
Grab Tensile	ASTM D 4632	100 lbs. min.
Elongation (%)		30 % max.
Trapezoid Tear	ASTM D 4533	55 lbs. min.
Permittivity	ASTM D 4491	0.2 sec-1
AOS (U.S. Std Sieve)	ASTM D 4751	20-100

2.1.2 Silt Fence Stakes and Posts

The Contractor may use either wooden stakes or steel posts for fence construction. Wooden stakes utilized for silt fence construction, shall have a minimum cross section of 2 inches by 2 inches when oak is used and 4 inches by 4 inches when pine is used, and shall have a minimum length of 5

feet. Steel posts (standard "U" or "T" section) utilized for silt fence construction, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 5 feet.

2.1.3 Mill Certificate or Affidavit

A mill certificate or affidavit shall be provided attesting that the fabric and factory seams meet chemical, physical, and manufacturing requirements specified above. The mill certificate or affidavit shall specify the actual Minimum Average Roll Values and shall identify the fabric supplied by roll identification numbers. The Contractor shall submit a mill certificate or affidavit signed by a legally authorized official from the company manufacturing the filter fabric.

2.1.4 Identification Storage and Handling

Filter fabric shall be identified, stored and handled in accordance with ASTM D 4873.

2.2 COMPONENTS FOR STRAW BALES

The straw in the bales shall be stalks from oats, wheat, rye, barley, rice, or from grasses such as byhalia, bermuda, etc., furnished in air dry condition. The bales shall have a standard cross section of 14 inches by 18 inches. All bales shall be either wire-bound or string-tied. The Contractor may use either wooden stakes or steel posts to secure the straw bales to the ground. Wooden stakes utilized for this purpose, shall have a minimum dimensions of 2 inches x 2 inches in cross section and shall have a minimum length of 3 feet. Steel posts (standard "U" or "T" section) utilized for securing straw bales, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 3 feet.

PART 3 EXECUTION

3.1 INSTALLATION OF SILT FENCES

Silt fences shall extend a minimum of 24 inches above the ground surface and shall not exceed 34 inches above the ground surface. Filter fabric shall be from a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter fabric shall be spliced together at a support post, with a minimum 6 inch overlap, and securely sealed. A trench shall be excavated approximately 4 inches wide and 6 inches deep on the upslope side of the location of the silt fence. The 4-inch by 6-inch trench shall be backfilled and the soil compacted over the filter fabric. Silt fences shall be removed upon approval by the Contracting Officer.

3.2 INSTALLATION OF STRAW BALES

Straw bales shall be placed in paved areas where the excavation of an anchor trench is not feasible. Use sand bags on either side of the bales to secure them from movement.

3.3 MAINTENANCE

The Contractor shall maintain the temporary and permanent vegetation, erosion and sediment control measures, and other protective measures in good and effective operating condition by performing routine inspections to determine condition and effectiveness, by restoration of destroyed

vegetative cover, and by repair of erosion and sediment control measures and other protective measures. The following procedures shall be followed to maintain the protective measures.

3.3.1 Silt Fence Maintenance

Silt fences shall be inspected in accordance with paragraph INSPECTIONS. Any required repairs shall be made promptly. Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting. Should the fabric on a silt fence decompose or become ineffective, and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits shall be removed when deposits reach one-third of the height of the barrier. When a silt fence is no longer required, it shall be removed. The immediate area occupied by the fence and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall receive erosion control if required.

3.3.2 Straw Bale Maintenance

Straw bale barriers shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales. Necessary repairs to barriers or replacement of bales shall be accomplished promptly. Sediment deposits shall be removed when deposits reach one-half of the height of the barrier. Bale rows used to retain sediment shall be turned uphill at each end of each row. When a straw bale barrier is no longer required, it shall be removed. The immediate area occupied by the bales and any sediment deposits shall be shaped to an acceptable grade.

3.4 INSPECTIONS

3.4.1 General

The Contractor shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and area where vehicles exit the site at least once every seven (7) calendar days and within 24 hours of the end of any storm that produces 0.5 inches or more rainfall at the site. Where sites have been finally stabilized, such inspection shall be conducted at least once every month.

3.4.2 Inspections Details

Disturbed areas and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the Soil Erosion and Sediment Control Plan shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.

3.4.3 Inspection Reports

For each inspection conducted, the Contractor shall prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major

observations relating to the implementation of the Soil Erosion and Sediment Control Plan, maintenance performed, and actions taken. The report shall be furnished to the Contracting Officer within 24 hours of the inspection as a part of the Contractor's daily CQC REPORT. A copy of the inspection report shall be maintained on the job site.

-- End of Section --

SECTION 01420

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization, (e.g. ASTM B 564 Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the standards producing organization should be ordered from the source by title rather than by number.

AIR-CONDITIONING AND REFRIGERATION INSTITUTE (ARI)
4100 North Fairfax Drive, Suite 200
Arlington, VA 22203
Ph: 703-524-8800
Fax: 703-528-3816
E-mail: ari@ari.org
Internet: http://www.ari.org

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
444 North Capital Street, NW, Suite 249
Washington, DC 20001
Ph: 202-624-5800
Fax: 202-624-5806
E-Mail: info@aashto.org
Internet: http://www.aashto.org

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
1819 L Street, NW, 6th Floor
Washington, DC 20036
Ph: 202-293-8020
Fax: 202-293-9287
E-mail: info@ansi.org
Internet: http://www.ansi.org/

--- ANSI documents beginning with the letter "S" can be ordered from:

Acoustical Society of America (ASA)
2 Huntington Quadrangle, Suite 1NO1

Melville, NY 11747-4502
Ph: 516-576-2360
Fax: 516-576-2377
E-mail: asa@aip.org
Internet: http://asa.aip.org

AMERICAN PETROLEUM INSTITUTE (API)
1220 L Street, NW
Washington, DC 20005-4070
Ph: 202-682-8000
Fax: 202-682-8223
Internet: http://www.api.org

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555
E-mail: service@astm.org
Internet: http://www.astm.org

COMPRESSED GAS ASSOCIATION (CGA)
4221 Walney Road, 5th Floor
Chantilly, VA 20151-2923
Ph: 703-788-2700
Fax: 703-961-1831
E-mail: cga@cganet.com
Internet: http://www.cganet.com

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
Quincy, MA 02169-7471
Ph: 617-770-3000
Fax: 617-770-0700
E-mail: webmaster@nfpa.org
Internet: http://www.nfpa.org

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)
Mail Stop C-13
4676 Columbia Parkway
Cincinnati, OH 45226-1998
Ph: 800-356-4674
Fax: 513-533-8573
E-mail: pubstaff@cdc.gov
Internet: http://www.cdc.gov/niosh/homepage.html

NEW JERSEY ADMINISTRATIVE CODE (NJAC)
OFFICE OF ADMINISTRATIVE LAW
P.O. Box 049, Trenton, NJ 08625-0049
Ph: 1-800-833-9844 (via LexisNexis)

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP)

401 E. State St.
7th Floor, East Wing
P.O. Box 402
Trenton, NJ 08625-0402

Ph: 609-292-2885
Fax: 609-292-7695
Internet:

NEW JERSEY DEPARTMENT OF TRANSPORTATION (NJDOT)

P.O. Box 600
Trenton, NJ 08625-0600
Internet:

NEW JERSEY STATE SOIL CONSERVATION COMMITTEE (SCS)

New Jersey Department of Agriculture
PO Box 330, Trenton, New Jersey 08625
609-292-5540
609-633-7229 (fax)
E-mail: james.sadley@ag.state.nj.us
Internet:

NEW JERSEY STATUTES ANNOTATED (NJSA)

Internet:

UNDERWRITERS LABORATORIES (UL)
333 Pfingsten Road
Northbrook, IL 60062-2096
Ph: 847-272-8800
Fax: 847-272-8129
E-mail: northbrook@us.ul.com
Internet: http://www.ul.com/

U.S. ARMY CORPS OF ENGINEERS (USACE)
Order CRD-C DOCUMENTS from:
U.S. Army Engineer Waterways Experiment Station
ATTN: Technical Report Distribution Section, Services Branch, TIC
3909 Halls Ferry Road
Vicksburg, MS 39180-6199
Ph: 601-634-2664
Fax: 601-634-2388
E-mail: mtc-info@erdc.usace.army.mil
Internet: http://www.wes.army.mil/SL/MTC/handbook.htm

Order Other Documents from:
USACE Publications Depot
Attn: CEIM-IM-PD
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081
Fax: 301-394-0084
E-mail: pubs-army@usace.army.mil
Internet: http://www.usace.army.mil/publications
or http://www.hnd.usace.army.mil/techinfo/engpubs.htm

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Ph: 202-272-0167
Internet: http://www.epa.gov

--- Some EPA documents are available only from:
National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
Ph: 703-605-6585
Fax: 703-605-6900
E-mail: info@ntis.gov
Internet: http://www.ntis.gov

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
8601 Adelphi Road
College Park, MD 20740-6001
Ph: 866-272-6272
Fax: 301-837-0483
Internet: http://www.archives.gov

Order documents from:
Superintendent of Documents
U.S.Government Printing Office (GPO)
732 North Capitol Street, NW
Washington, DC 20401
Ph: 888-293-6498 or 202-512-1530
Fax: 202-512-1262
E-mail: gpoaccess.gov
Internet: http://www.gpoaccess.gov

-- End of Section --

SECTION 01450A

CHEMICAL DATA QUALITY CONTROL

PART 1 GENERAL

1.1 GENERAL

The Contractor is responsible for chemical data quality control and establishing an effective chemical data QC system that meets requirements for chemical and measurement DQOs applicable to the project. The chemical data QC system shall consist of a chemical Quality Management staff responsible for sampling and measurement plans, analytical procedures, data reporting requirements, and the organization necessary to produce the required chemical data. The system shall cover chemical measurements for both Contractor- and subcontractor-produced chemical data.

The Contractor is responsible for chemical sample acquisition, sample analysis, and instrument measurements of chemical parameters.

1.2 SCOPE OF WORK

This section covers requirements for chemical data quality control, sampling, testing, and measurements applicable to the remedial action of contaminated sites. This section is to be used for the preparation of a Sampling and Analysis Plan (SAP), including quality assurance (QA) and quality control (QC) procedures for the sampling, measurement, and testing addressed by the plans.

The sampling, measurement, and testing to be conducted for this project will include:

a. Characterization of debris and surface and subsurface soil to determine compliance with remedial action goals;

b. Air monitoring;

c. Water sampling;

d. Characterization of backfill materials and topsoil;

e. Characterization of site materials to comply with handling, transportation, and disposal requirements; and

f. Health and safety sampling and measurements.

1.3 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 200-1-1	(1994) Validation of Analytical Chemistry Laboratories

EM 200-1-2	(1998) Technical Project Planning Guidance for HTRW Data Quality Design
EM 200-1-3	(2001) Requirements for the Preparation of Sampling and Analysis Plans
EM 200-1-6	(1997) Chemical Quality Assurance for HTRW Projects
ER 1110-1-263	(1998) Chemical Data Quality Management for Hazardous, Toxic, Radioactive Waste Remedial Activities

NEW JERSEY ADMINISTRATIVE CODE (NJAC)

NJAC 7:9	Water Pollution Control, including 7:9B, Surface Water Quality Standards
NJAC 7:14	Water Pollution Control Act, including 7:14A, Pollutant Discharge Elimination System
NJAC 7:18	Regulations Governing Certification of Laboratories and Environmental Measures
NJAC 7:26D	(1992) Cleanup Standards for Contaminated Sites (proposed rule)
NJAC 7:26E	Technical Requirements for Site Remediation

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP)

NJDEP FSPM	NJDEP Field Sampling Procedures Manual (1992), including draft revised Chapter 12, Radiological Assessment (2000)

1.4 SUBMITTALS

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

SD-01 Preconstruction Submittals

Sampling and Analysis Plan(SAP); G.

The Contractor shall develop a Sampling and Analysis Plan and submit it to the Contracting Officer for approval prior to the Pre-Work Conference. The SAP shall address site-specific sampling and analysis and shall be submitted to the Contracting Officer for approval prior to the Pre-Work Conference. The SAP shall be prepared in accordance with CDQC requirements and EM 200-1-3 and include the Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP).

SD-06 Reports

Chemical Data Packages; G.

The chemical data packages shall be submitted to the Contracting Officer for approval within 2 weeks of sample collection for on-site laboratory analysis and 6 weeks of sample collection for off-site laboratory analysis.

Daily Chemical Quality Control Reports(DCQCRs).

Submit DCQCRs coincident with or included in the Daily CQC reports required in Section 01312A QUALITY CONTROL SYSTEM.

Quality Control Summary Report (QCSRs); G.

For each remedial area, submit QCSRs to the Contracting Officer for approval within 2 weeks following data validation and review.

1.5 DATA QUALITY OBJECTIVES (DQOS)

1.5.1 General

Perform sampling, analysis, and other data collection so that resulting data meet and support remedial action goals, project goals, and data use requirements. The Contractor shall be responsible for developing appropriate DQOs to ensure that this requirement is met.

1.5.2 Definition

DQOs are defined by USACE as qualitative and quantitative statements that clarify technical and quality objectives, define the appropriate type of data, and specify tolerable levels of potential decision errors that shall be used as the basis for establishing the quality and quantity of data needed for support decisions.

1.5.3 Development

DQOs shall clearly define the final uses of data. Contractor-developed DQOs shall be developed in accordance with EM 200-1-2, EM 200-1-3, EM 200-1-6, and NUREG-1575 (MARSSIM). Project-specific DQOs shall be included in the QAPP and consist of:

Data Use Background - Project-specific data needs, short-term decisions that will be made during the project planning phase, and long-term decisions that will be made prior to project closeout. A brief summary of types of samples and level of required analyses (screening versus definitive) should be included.

Measurement Quality Objectives for Data - Applicable QA elements to be applied to the project and measurement quality objectives (MQOs) established for key data quality indicator terms, including precision, accuracy, representativeness, completeness, and comparability, in accordance with EM 200-1-6 and EM 200-1-3.

DQOs shall also be specified at a minimum for method sensitivity (detection, quantification, and reporting limits) and Type I and Type II errors. For this project, the Type I error has been established as 0.05; the Type II error will be either 0.05 or 0.10.

1.6 RESPONSIBILITIES AND MINIMUM PERSONNEL QUALIFICATIONS

1.6.1 Contractor Chemical Quality Control Coordinator

The Chemical Quality Control Coordinator shall ensure that all site-specific chemical data-related objectives are attained, including QC responsibility for DQOs, sampling and analysis, data documentation and validation, and discussions of data in final project reports.

The Chemical Quality Control Coordinator need not be present on site during routine sampling, but shall be available for consultation with government and Contractor personnel.

At a minimum, the Chemical Quality Control Coordinator shall have the following qualifications:

A degree in chemistry or a related field with a minimum of 16 semester hours in chemistry and 2 years' experience in chemical contamination cleanup work; and

1.6.2 Project Chemist

The Project Chemist shall ensure that all chemistry-related goals of the site-specific program are attained. The Project Chemist shall be on site periodically during sampling events and shall be available for consultation with government personnel.

At a minimum, the Project Chemist shall have the following qualifications:

A degree in chemistry or radiochemistry and 3 years' experience related to analytical work for contamination cleanup projects; and

If the Project Chemist is the On-Site Laboratory Manager, then the requirements of Section 1.6.3 also will apply.

1.6.3 On-Site Laboratory Manager

The On-Site Laboratory Manager shall ensure that the on-site laboratory is operated such that all chemistry-related goals of the site-specific program are attained.

At a minimum, the On-Site Laboratory Manager shall have a degree in chemistry or radiochemistry and 3 years' experience in the performance of the chemical methods to be performed for this work.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 DATA QUALITY MANAGEMENT AND CONTROL

Chemical data quality management and control shall be accomplished in accordance with the requirements in ER 1110-1-263, EM 200-1-2, EM 200-1-3, and EM 200-1-6.

Chemical data quality control, as part of overall contractor quality control, shall be accomplished with the three-phase process described in

the above documents. All chemical data will be checked in accordance with this process.

3.2 SAMPLING AND ANALYSIS PLAN (SAP)

3.2.1 Purpose and Content

The Contractor shall develop a Sampling and Analysis Plan as a two-part document that contains an FSP and QAPP in accordance with EM 200-1-3. The Sampling and Analysis Plan (SAP) shall describe site-specific project requirements for all field and laboratory activities related to the acquisition of chemical samples, measurements, and data.

Incorporate requirements from the following as applicable during SAP preparation:

Data quality management requirements from ER 1110-1-263 and EM 200-1-6;

NJDEP requirements for quality assurance for sampling and laboratory analysis in NJAC 7:26E Subchapter 2; and

Relevant procedures in the NJDEP FSPM.

The SAP shall describe all parameter measurements for all matrices for all phases of the remediation contract. As a single interrelated document, provide the SAP to field and laboratory personnel.

When preparing the SAP, the Contractor should propose original/innovative approaches to chemical parameter measurements for cost reduction and remediation efficiency, such as abbreviated sampling, contingency sampling and/or contingency analysis, indicator or tracer analysis, on-site analytical services, and equivalency or screening methods. Clearly identify Contractor-obtained laboratories in the SAP.

The SAP shall have its own title page, distribution list, and table of contents for the FSP and QAPP that comprise it, in accordance with EM 200-1-3.

3.2.2 Field Sampling Plan (FSP)

The FSP shall contain all necessary technical detail and direction for field personnel to understand sampling and field data-gathering methods and requirements. The FSP shall provide a comprehensive description and full detail of all on-site activities required to attain project data quality objectives (DQOs), which will be established by the Contractor and defined in the QAPP.

The FSP shall contain, at a minimum, the following elements.

3.2.2.1 Title Page and Table of Contents

The FSP should have an abbreviated title page and a full table of contents.

3.2.2.2 Project Background

The project background shall include sufficient information to permit a technical person unfamiliar with the project to evaluate the sampling, measurement, and analytical approach presented. This section of the FSP should include information such as:

Site history and contaminants;

A summary of existing site data, including significant chemical data from previous site projects such as the NJDEP investigation and the RI; and

Site-specific definition of problems, including an assessment of the quality of the historical data (such as sample and matrix problems that resulted in analytical difficulties), problems previously encountered, and the site problem to be resolved.

3.2.2.3 Project Organization and Responsibilities

The FSP shall identify key personnel and organizations for field activities and pertinent planning activities, including an organizational chart showing lines of authority and points of contact. The chart should include all subcontractors and also should identify QC managers and personnel and their relationship to other project personnel.

This section of the FSP also should describe responsibilities of project personnel as well as special training requirements and certifications necessary to perform project work.

3.2.2.4 Project Scope and Objectives

This section of the FSP shall identify planned project activities, incorporating QA elements to be implemented to support those activities, any relevant regulatory standards, and the project schedule. The relationship between the project work and project DQOs shall be described.

3.2.2.5 Non Measurement Data Acquisitions

This section of the FSP shall describe data needed from non measurement sources, if applicable. This may include information from databases, literature, guidance documents, and other specific organizations.

3.2.2.6 Field Activities

The FSP shall describe field activities in detail and use diagrams, charts, and tables as applicable to specify the rationale and design and field procedures for each activity. This section should specify at a minimum:

All samples and field measurements and their locations, frequency, scheduling, and analytical parameters;

Field QC samples and measurements;

Sample containers, preservation, and holding times;

Sample and measurement procedures, including decontamination procedures;

Calibration and maintenance procedures for field equipment and instruments;

Unique sample identification numbers for each sampling/measurement point; and

Applicable DQOs.

As applicable, include Contractor SOPs for field activities in the FSP.

3.2.2.7 Field Operations and Documentation

This section of the FSP shall identify records used to document field operations, including those requiring periodic submittal to a USACE representative. This section of the FSP should address procedures for developing and maintaining project records including but not limited to:

Daily Contractor QC reports and chemical QC reports;

Logbooks and field sheets;

Field analytical and on-site laboratory records;

Sample labeling, documentation, and custody;

Manifests, waste profiles, and bills of lading; and

Corrective action reports.

3.2.2.8 Sample Packaging and Shipping Requirements

This section of the FSP shall include procedures for packaging and shipping samples in accordance with the U.S. Department of Transportation (DOT). The FSP shall include information for shipping companies that will be used and laboratories to which samples will be sent, including addresses, points of contact, telephone numbers, and business hours.

3.2.2.9 Investigation-Derived Wastes (IDW)

The FSP shall discuss procedures for collecting, labeling, storing, and disposing of IDW.

3.2.2.10 Field Assessment/Three-Phase Inspection Procedures

The FSP will address contractor quality control and the three-phase control process addressed by EM 200-1-3. This section should reference the Contractor Quality Control Plan, including required reports and activities.

3.2.2.11 Corrective Actions

The FSP shall describe corrective action procedures to be taken in the event of discrepancies in the field or analytical work.

3.2.3 Quality Assurance Project Plan (QAPP)

The QAPP shall describe chemical DQOs, analytical methods, other measurement methods, QA/QC protocols necessary to achieve the DQOs, and data assessment procedures for all samples and measurements collected under the project.

The QAPP shall contain, at a minimum, the following elements.

3.2.3.1 Title Page and Table of Contents

The QAPP should have an abbreviated title page and full table of contents.

3.2.3.2 Analytical Organization and Responsibilities

The QAPP shall identify key laboratory, analytical, and field data review personnel and organizations for each analytical or measurement activity, including an organizational chart showing lines of authority and points of contact. The chart should include all subcontractors and should identify QA managers and personnel and their relationship to other project personnel.

This section of the QAPP also should describe responsibilities of analytical personnel as well as special training requirements and certifications necessary to perform analytical work. Minimum analytical personnel requirements shall be in accordance with ER 1110-1-263.

3.2.3.3 Data Assessment Organization and Responsibilities

This section of the QAPP shall identify personnel or organizations that will be performing data assessment activities, in accordance with EM 200-1-6.

3.2.3.4 Data Quality Objectives (DQOs)

Project-specific DQOs shall be included in the QAPP and shall be as specified in paragraph: Data Quality Objectives (DQOS).

3.2.3.5 Sample Receipt, Handling, Custody, and Holding Time Requirements

The QAPP shall identify requirements for sample receipt condition verification, sample storage and handling, intra- and interlaboratory custody, and parameter holding times.

3.2.3.6 Analytical Methods

The QAPP shall describe analytical methods to be used for each sample and matrix by on-site and off-site laboratories, including:

A listing or tabulation of analytical methods per sample and matrix, including applicable detection limits;

Preventive maintenance procedures for analytical instruments and equipment to minimize equipment downtime;

Calibration procedures and frequencies for analytical instruments and equipment;

Laboratory QC procedures, including QC samples and internal QC checks;

Performance and system audits; and

Corrective action procedures, including actions that will be implemented if MQOs or other DQOs are not met.

3.2.3.7 Data Reduction and Calculation of Data Quality Indicators

The QAPP shall discuss how data are reduced by laboratories and define how precision, bias, sensitivity parameters (detection, quantification, and reporting limits), and completeness goals are to be calculated.

3.2.3.8 Laboratory Operations Documentation

The QAPP shall discuss data reporting procedures, such as data package and

electronic data deliverable format and content, reporting schedule, data archival, and records retention requirements.

3.2.3.9 Data Assessment Procedures

The QAPP shall discuss the data review, verification, and validation processes required to assure validity of data. This should include the DQO reconciliation process and a project completeness assessment in accordance with EM 200-1-6.

3.2.3.10 Appendices

The appendices to the QAPP shall contain, as applicable:

Standard forms;

Abbreviations and acronyms;

References;

Standard and nonstandard measurement methods and SOPs; and

Equivalency data.

3.3 SAMPLING AND MEASUREMENTS

3.3.1 General

Provide 24-hour notice (unless longer is specified) to the Contracting Officer prior to sampling. Sampling and analytical methods and procedures for sampling shall be in accordance with the approved SAP.

3.3.2 Backfill Samples

Off-site fill must meet NJDEP requirements in NJAC 7:26E-6.4 with regard to condition and quality, and be analyzed for site contaminants. Sampling frequency will be 1 sample per 5,000 cubic yards. Results of Chemical Sampling shall be to NJAC 7:26D Soil Cleanup Criteria - Residential Direct Contact for acceptance.

3.3.3 Water Sampling

Collect and analyze water removed from excavations and decontamination activities in accordance with federal, state, and local requirements prior to on-site discharge of treated water or off-site disposal. State regulations include NJAC 7:9, NJAC 7:14 f, and NJAC 7:26. There will be no on-site surface discharges unless a NJPDES permit or permit equivalent is in place (see Section 02320).

3.4 CHEMICAL DATA PACKAGES AND OTHER MEASUREMENT DATA

Produce and provide analytical data packages and other measurement data as an attachment to the Quality Control Summary Reports (QCSRs) and in accordance with EM 200-1-6. Data compilations shall be submitted to the Contracting Officer and to NJDEP, Bureau of Management, and shall contain information to demonstrate that the project's DQOs have been fulfilled.

3.5 SELECTION AND USE OF ANALYTICAL TESTING LABORATORIES

3.5.1 General

Propose on-site and off-site analytical laboratories to be used for sample analyses. Validate analytical laboratories as described below.

3.5.2 Laboratory Validation and Approval

Validate analytical laboratories in accordance with ER 1110-1-263 and EM 200-1-1. NJDEP approval pursuant to NJAC 7:18 also is required. All project laboratories performing definitive chemical analyses must be accredited by NELAP. The Contractor is responsible for the data quality of all chemical data. In addition, laboratories that analyze samples for disposal services must meet all of the requirements of the disposal facility, including disposal state certification or approval, as applicable.

Laboratory validation will include:

Submittal of Laboratory Quality Management Manuals by candidate laboratories, for review by the Contractor and USACE;

Successful analysis of performance audit samples submitted by USACE or a vendor approved by USACE and NJDEP;

A successful laboratory inspection by USACE personnel, including acceptable deficiency resolution and validation award by the USACE HTRW Mandatory Center of Expertise Laboratory Validation Committee; and

3.5.3 Laboratory Performance

Provide and/or require continued acceptable analytical performance and establish a procedure to address data deficiencies noted by review and/or quality assurance sample results. Provide and implement a mechanism for providing all analytical laboratories with the SAP, monitoring all laboratories' performance, and performing corrective action procedures. The Contractor is responsible for acquiring analytical services with additional NELAP-accredited (or USACE-certified) or validated laboratories in the event that a project laboratory loses its validation status during the project.

3.6 DAILY CHEMICAL QUALITY CONTROL REPORTS (DCQCRS)

3.6.1 General

DCQCRs shall be provided coincident with or included in the CQC reports required by Section 01110 SUMMARY OF WORK. The DCQCRs shall be generated by on-site personnel responsible for chemical measurements and sample acquisition and provide factual evidence that required chemical data QC activities have been performed.

3.6.2 Contents of DCQCRs

The DCQCRs shall contain at a minimum the following elements:

General identifying information as required of the Contractor for CQC reports;

Chemical data acquisition performed, including QA/QC samples and

measurements, in the field and in the laboratory;

Chemical data QC activities implemented as part of the three-phase control system;

Sample and measurement problems that may affect project DQO requirements;

Corrective actions and/or deviations from the approved SAP, including approvals;

A summary of the feedback procedure for any corrective actions taken; and

Confirmation that all deviations or actions jeopardizing project DQOs have been forwarded to project management.

3.7 QUALITY CONTROL SUMMARY REPORTS (QCSRS)

3.7.1 General

QCSRs shall be provided that include a summary of all chemical sampling and measurement activities. The summary must include an evaluation of the achievement of the chemical DQOs.

3.7.2 Contents of QCSRs

The QCSRs shall contain at a minimum the following elements:

Summary of project scope and description;

Summary of DCQCRs;

Summary of deviations from the design chemical sample and measurement specifications;

Summary of chemical samples and measurements performed as contingent measurements;

Summary discussion of resulting data including achieving minimum data reporting requirements;

Summary of achievement of project DQOs;

Presentation and evaluation of data, including an overall assessment of data quality and usability;

Internal QC data generated during the project, including summaries of QC information from blanks, matrix spikes, surrogates, duplicates, laboratory control samples, batch identifiers, and chemical yields;

A list of affected sample results, including appropriate data qualifier flag, where such results are negatively affected by adverse QC criteria;

A summary of field and laboratory oversight activities;

Conclusions and recommendations; and

Attachments, including final data packages required by Section 01450A

CHEMICAL DATA QUALITY CONTROL, and, if applicable, government-provided Chemical Quality Assurance Reports.

3.8 DOCUMENTATION

Documentation records are required to provide factual evidence that required chemical data have been produced and that chemical data quality has been achieved.

3.9 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, whether delivered to the Contractor on site or through the Contractor's management level, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been made. No part of the time lost or additional expenses incurred due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

SECTION 01451A

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM D 3740	(2001) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329	(2002) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.2 SUBMITTALS

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

SD-01 Preconstruction Submittals

Contractor Quality Control (CQC) Plan;G

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause titled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction design and construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The site project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times,

except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

3.2 CONTRACTOR QUALITY CONTROL PLAN

The Contractor shall furnish for review the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.1 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subContractors, fabricators, suppliers, and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by the Contracting Officer shall be used.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Pre-work Conference, before start of construction, Post-award Conference, before start of design or construction, and prior to acceptance by the Contracting Officer of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 7 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, design activities, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager, and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health Manager shall receive direction

and authority from the CQC System Manager and shall serve as a member of the CQC staff. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, shop drawing submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, graduate architect, or a graduate of construction management, with a minimum of 10 years construction experience on construction similar to this contract. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be assigned no other duties. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

3.4.3 Additional Requirement

In addition to the above experience and/or education requirements the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors".

3.4.4 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.

b. A review of the contract drawings.

c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. A review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government shall be notified at least 48 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Contracting Officer duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. The Contractor shall perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Contracting Officer, so that a Final inspection can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at the final acceptance inspection. Additional Government personnel may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection.

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that all required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

a. Contractor/subcontractor and their area of responsibility.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom.

d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.

g. Offsite surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and/or specifications.

j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Contracting Officer daily within 48 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

SECTION 01500A

TEMPORARY CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 Temporary Facilities Plan

The Contractor shall prepare a Temporary Facilities Plan indicating the proposed location and dimensions of any area to be fenced and used by the Contractor, the number of trailers to be used, avenues of ingress/egress to the fenced area and details of the fence installation. Any areas which may have to be graveled to prevent the tracking of mud shall also be identified. The Contractor shall also indicate if the use of a supplemental or other staging area is desired.

1.1.2 Identification of Employees

The Contractor shall be responsible for furnishing to each employee, and for requiring each employee engaged on the work to display, identification as approved and directed by the Contracting Officer. Prescribed identification shall immediately be delivered to the Contracting Officer for cancellation upon release of any employee. When required, the Contractor shall obtain and provide fingerprints of persons employed on the project. Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works.

1.1.3 Employee Parking

Contractor employees shall park privately owned vehicles in an area designated by the Contracting Officer. This area will be within reasonable walking distance of the construction site. Contractor employee parking shall not interfere with existing and established parking requirements of the military installation.

1.2 SUBMITTALS

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

SD-01 Preconstruction Submittals

Temporary Facilities Plan;G

1.3 AVAILABILITY AND USE OF UTILITY SERVICES

1.3.1 Payment for Utility Services

The Government will make all reasonably required utilities available to the

Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the Government or, where the utility is produced by the Government, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

1.3.2 Meters and Temporary Connections

The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall provide and maintain necessary temporary connections, distribution lines, and meter bases (Government will provide meters) required to measure the amount of each utility used for the purpose of determining charges. The Contractor shall notify the Contracting Officer, in writing, 5 working days before final electrical connection is desired so that a utilities contract can be established. The Government will provide a meter and make the final hot connection after inspection and approval of the Contractor's temporary wiring installation. The Contractor shall not make the final electrical connection.

1.3.3 Advance Deposit

An advance deposit for utilities consisting of an estimated month's usage or a minimum of $50.00 will be required. The last monthly bills for the fiscal year will normally be offset by the deposit and adjustments will be billed or returned as appropriate. Services to be rendered for the next fiscal year, beginning 1 October, will require a new deposit. Notification of the due date for this deposit will be mailed to the Contractor prior to the end of the current fiscal year.

1.3.4 Final Meter Reading

Before completion of the work and final acceptance of the work by the Government, the Contractor shall notify the Contracting Officer, in writing, 5 working days before termination is desired. The Government will take a final meter reading, disconnect service, and remove the meters. The Contractor shall then remove all the temporary distribution lines, meter bases, and associated paraphernalia. The Contractor shall pay all outstanding utility bills before final acceptance of the work by the Government.

1.3.5 Sanitation

The Contractor shall provide and maintain within the construction area minimum field-type sanitary facilities approved by the Contracting Officer. Government toilet facilities will not be available to Contractor's personnel.

1.3.6 Telephone

The Contractor shall make arrangements and pay all costs for telephone facilities desired.

1.4 BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

1.4.1 Bulletin Board

Immediately upon beginning of work, the Contractor shall provide a

weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

1.5 PROTECTION AND MAINTENANCE OF TRAFFIC

During construction the Contractor shall provide access and temporary relocated roads as necessary to maintain traffic. The Contractor shall maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. The Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads. The Contractor shall be responsible for the repair of any damage to roads caused by construction operations. The Contractor shall allow site tenants access to their buildings at all times; any interruptions to such access shall be coordinated through the Contracting Officer.

1.5.1 Haul Roads

The Contractor shall, at its own expense and only if necessary, construct access and haul roads necessary for proper prosecution of the work under this contract. Haul roads shall be constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control, although optional, shall be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer. Lighting shall be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations. Upon completion of the work, haul roads designated by the Contracting Officer shall be removed.

1.5.2 Barricades

The Contractor shall erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

1.6 CONTRACTOR'S TEMPORARY FACILITIES

1.6.1 Administrative Field Offices

The Contractor shall provide and maintain administrative field office facilities within the construction area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel.

1.6.2 Storage Area

The Contractor shall construct a temporary 6 foot high chain link fence around trailers and materials in addition to the temporary fence constructed around each cluster being demolished. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Trailers, materials, or equipment shall not be placed or stored outside the fenced area unless such trailers, materials, or equipment are assigned a separate and distinct storage area by the Contracting Officer away from the vicinity of the construction site but within the military boundaries. Trailers, equipment, or materials shall not be open to public view with the exception of those items which are in support of ongoing work on any given day. Materials shall not be stockpiled outside the fence in preparation for the next day's work. Mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment, shall be parked within the fenced area at the end of each work day.

1.6.3 Supplemental Storage Area

Upon Contractor's request, the Contracting Officer will designate another or supplemental area for the Contractor's use and storage of trailers, equipment, and materials. This area may not be in close proximity of the construction site but shall be within the military boundaries. Fencing of materials or equipment will not be required at this site; however, the Contractor shall be responsible for cleanliness and orderliness of the area used and for the security of any material or equipment stored in this area. Utilities will not be provided to this area by the Government.

1.6.4 Appearance of Trailers

Trailers utilized by the Contractor for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in a state of good repair. Trailers which, in the opinion of the Contracting Officer, require exterior painting or maintenance will not be allowed on the Site.

1.6.5 Maintenance of Storage Area

Fencing shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion. Grass located within the boundaries of the construction site shall be mowed for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers shall be edged or trimmed neatly.

1.6.6 New Building

New buildings shall not be constructed on the Site.

1.6.7 Security Provisions

Adequate outside security lighting shall be provided at the Contractor's temporary facilities. The Contractor shall be responsible for the security of its own equipment; in addition, the Contractor shall notify the appropriate law enforcement agency requesting periodic security checks of the temporary project field office.

1.7 GOVERNMENT FIELD OFFICE

[note to reviewers: USCACE-NY, please confirm these requirements are adequate.]

1.7.1 Resident Engineer's Office

The Contractor shall provide the Government Resident Engineer with an office, approximately 200 square feet in floor area, located where directed and providing space heat, electric light and power, and toilet facilities consisting of one lavatory and one water closet complete with connections to water and sewer mains. A mail slot in the door or a lockable mail box mounted on the surface of the door shall be provided. At completion of the project, the office shall remain the property of the Contractor and shall be removed from the site. Utilities shall be connected and disconnected in accordance with local codes and to the satisfaction of the Contracting Officer.

1.7.2 Trailer-Type Mobile Office

The Contractor may, at its option, furnish and maintain a trailer-type mobile office acceptable to the Contracting Officer and providing as a minimum the facilities specified above. The trailer shall be securely anchored to the ground at all four corners to guard against movement during high winds.

1.7.2.1 Minimum Services

One hardwire telephone service connection to external phone system (i.e. not the plant telephone system) located in existing Main Equipment Building. Pay all local and long distance charges up to a maximum of $400 per month. Include Internet Connection.

1.7.2.2 Minimum Services

a. Provide the following hardware:

(1) Two laptop computers with minimum Pentium 4 or equivalent with 20 GB hard drive, modem, IBM Think Pad A30 P with floppy disk and combination CD/RW/DVD drive or equal.

(2) Two desktop computers with minimum Pentium 4 with 20 GB hard drive, 19 inch LCD monitors, modems with 50 X CD, floppy disk, 12X/24X record / play drive, Micron Clientpro computer or equal

b. Provide the following software installed on each machine:

(1) Windows XP Professional, Microsoft Office 2003 (including Excel, Word, Outlook, Powerpoint), and Project Scheduler

c. Provide AUTOCAD release 2004 installed on one desktop computer including all licenses for a stand alone AUTOCAD terminal.

d. Install all machines in Engineer's field office, including all connections to and interconnections with telephone system.

e. Provide the services of a trained technician to load all software, setup, test interconnect all computers and peripherals by peer to peer network protocol and demonstrate the system operation to the Government Resident Engineer.

f. Provide one laser printer HP Laserjet 4050 T with two auxiliary paper trays or equal with three cases of 81/2" x 11" and one case of 81/2" x 14" paper.

1.7.2.3 Office Peripheral Equipment

a. Provide one flatbed scanner connected to desktop computers HP Scanjet 5470C 8"X14"

b. Provide Fax machine Canon LASER CLASS 2050 with two cases of paper.

c. Provide one XEROX Model 460 ST copier machine with six cases of paper.

1.7.2.4 Maintenance

a. Continuous maintenance of office and services. Cleaned not less than once per week.

b. Repair immediately any damage, leaks or defective service.

1.7.2.5 Removal

a. Remove office upon final acceptance or when directed by the Government Resident Engineer.

1.8 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

1.9 RESTORATION OF STORAGE AREA

Upon completion of the project and after removal of trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including top soil and seeding as necessary.

-- End of Section --

SECTION 01550

SURVEYING

PART 1 GENERAL

1.1 SCOPE OF WORK

Contractor shall develop and make detail surveys and measurements required for demolition, including preconstruction, postconstruction, and topographic surveys.

1.2 SUBMITTALS

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

SD-04 Drawings

Initial Site Drawings; G

Record Topographic Maps; G

Record topographic maps after slab restoration and paving.

SD-07 Certificates

Surveyor Elevation/Location Certifications; G

SD-11 Closeout Submittals

Surveyor Field Notes Data; G

Submit original and one copy of Surveyor's field book, calculations, and graphical layouts to the Contracting Officer upon completion of each phase of survey work. Include an accurate log of control and survey work as it progresses, all field notes, notations, and descriptions used and compiled during the field survey.

Surveyor in Place Volume Calculations For Aggregate Base And Backfill Material

1.3 QUALITY CONTROL

Maintain responsibility for all surveying performed at the site. The surveyor shall be a qualified and Registered Land Surveyor in the State of New Jersey. The surveyor shall have a minimum of two years of experience in construction surveying and layout and maintenance of record construction drawings, with a record of performing horizontal and vertical control requirements as stated in this section.

Submit Surveyor Elevation/Location Certifications verifying accuracy of

survey work to the Contracting Officer. Certificates signed by the Surveyor stating that elevations and locations of site construction features are in conformance, or nonconformance, with Contract Documents shall be submitted to the Contracting Officer at the completion of each phase of work requiring services of the Surveyor.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 GENERAL

Contractor shall provide all slope stakes, batter boards, and all other working lines, elevations and cut sheets.

Provide all material required for benchmarks, control points, batter boards, grade stakes, and structure and elevation stakes.

Contractor shall be solely responsible for all locations, dimensions and levels.

Safeguard all points, stakes, grade marks, monuments and benchmarks made or established for the work. Re-establish same if disturbed.

Keep transit and leveling instruments on the site at all times and a skilled instrument person available whenever necessary for layout of the work.

Keep professional, accurate, well organized, and legible notes of all measurements and calculations.

3.2 INSPECTION

3.2.1 Existing Conditions

Verify and define the existing conditions and location of structures within the construction limits.

3.2.2 Work Control Points

Establish the exact location of all work site reference and survey control points, which will be provided during the Pre-Work Conference, prior to the start of work. All work shall be referenced to and established from the control points (shown on the Contract Drawings), re-established where necessary, and maintained throughout the life of the contract. Horizontal and vertical control points shall be referenced to the permanent control monuments to an accuracy of one part in ten thousand. Any errors or apparent discrepancies found on the Contract Drawings or Specifications shall be called to the Contracting Officer's attention for interpretation prior to proceeding with the work. The Contracting Officer must be promptly notified of any discrepancies discovered. Provide control points at each location of work using closed traverse and leveling loops. Establish, place, and replace, as required, such additional stakes, markers, and other controls as may be necessary for control, intermediate checks, and guidance of construction operations.

3.3 RECORD INFORMATION

Plot required survey information on a reproducible map at a scale of 1-inch = 40 feet with 1-foot elevation contours. Mapping shall conform to the National Map Accuracy Specifications and shall bear the seal of a licensed land surveyor registered in New Jersey. The map shall contain a title block with the name and address of the Contractor and the signature of the registered surveyor. Record Drawings shall include labeled contour lines, property line locations including bearings and distances, horizontal grid systems, cross-sections and details, and any field changes of elevations, dimensions, and details. Indicate locations of physical features on site including: structures, utilities, roadways, driveways, garages, and fences. Indicate on a separate drawing excavation limits and verification of sampling points. Utilize AutoCAD Version 2004 compatible electronic files for all maps. Provide data on 3.5-inch diskettes or compact discs.

3.3.1 Initial Site Drawings

Prepare topographic maps of site properties, property boundary surveys, impacted streets, and utilities. Submit each property map to the Contracting Officer 30 days prior to the start of work on that particular property.

3.3.2 Record Topographic Maps

Prepare and submit within 30 days of completion of slab restoration, record topographic maps showing slab restoration and paving.

3.4 SAMPLE LOCATIONS

Prepare and submit within 10 days of completion, maps showing the location of all sample locations including excavation and documentation.

3.5 COORDINATE LIST

Compute the coordinates of each surveyed point on the New Jersey State Plane Coordinate System using the 1983 North American Datum.

3.6 SURVEY NOTES

Record all fieldwork in a clear, legible, and complete manner. The Field Notes shall contain a complete description of the nature and location of the new and existing points. Include a sketch of the point locations and monument witness points in the Field Notes. Submit original and one copy of the Surveyor Field Notes Data to the Contracting Officer upon completion of each phase of survey work. The Surveyor in Place Volume Calculations For Aggregate Base And Backfill Material shall also be submitted.

3.7 SURVEY REQUIREMENTS

Establish lines and levels and locate and layout, utilizing total station instrumentation or similar means, all site features to be constructed or executed. These include, but are not limited to support zone facilities layout and areas of contamination. Re-verify layouts and volumes periodically during construction by the same means.

3.8 UTILITIES

Scan the construction site with electromagnetic or sonic equipment and mark

the surface of the ground where existing underground utilities are discovered. Verify the locations, and if possible, elevations of existing piping, utilities, and record on the Record Drawings all type of underground obstructions not indicated or specified to be removed but indicated or discovered during scanning in locations to be traversed.

-- End of Section --

SECTION 01700

REMEDIAL PACKAGE CLOSEOUT AND RECORD DOCUMENTS

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 Remedial Closeout Package

Remedial closeout package shall consist of a Remedial Action Report that summarizes remedial activities at each remedial unit. A remedial unit is a single building or group of building remediated as a single cluster. The closeout package shall also contain administrative records for substantial completion and for final acceptance of each remedial unit, certification of decontamination of all equipment, and cleaning of the project site.

1.2 SUBMITTALS

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

SD-11 Closeout Submittals

Remedial Unit Closeout Information; G,

1.3 RECORD DOCUMENTS

Maintain at the site the items listed below:

a. Construction schedule and progress record
b. Record drawings showing progress of work
c. Contract Work Plans
d. Specifications
e. Addenda
f. Modifications to the Contract - Project Change Orders (PCOs)
g. Contracting Officer's Directives
h. Written reports of any significant Quality Assurance problems
i. Daily work activity summary reports, including:
   - Field test records
   - Photographs
   - Videotape
   - Reports on any emergency response actions
   - Manifest documents and variance reports
   - Records of all site work
   - Chain-of-custody documents
   - Truckload tickets and shipping papers (manifests)
   - All laboratory analytical results
   - Soil screening measurements
   - All safety and accident incidents
   - Reports on all spill incidents
   - Air monitoring reports and data
   - Other items as may be required by the Contracting Officer

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 REMEDIAL CLOSEOUT PACKAGE

The Remedial Unit Closeout Package shall consist of certification of decontamination of the entire site, removal of temporary facilities, and submittal of a Remedial Action Report that summarizes all remedial activities and that includes the Remedial Unit Summary Reports.

Submit the following Remedial Unit Closeout Information for each remedial unit, within 30 days of Final Acceptance Certification for the remedial unit:

a. Substantial Completion Notice (for each remedial unit)
b. Final Acceptance Certification (for each remedial unit)
c. Remedial Action Report (for each remedial package)
d. Remedial Unit Summary Reports (for each remedial unit)
e. Cluster Specific Summary Reports (for each cluster

Submit the Remedial Unit Closeout Package that summarizes remedial activities at each remedial unit, for all work under this contract within 30 days of Final Acceptance Certification for the last remedial unit.

3.1.1 Final Decontamination

Decontaminate, without exception, all facilities, equipment, and materials prior to final removal from the site. This includes waste and material, transport vehicles, and all site equipment. Pay special attention to the removal of material on and within the tracks and sprockets of crawler equipment and the tires and axles of trucks and rubber mounted equipment.

Tools and items for which decontamination is difficult or impossible to verify shall remain on site, until completion of the work, for subsequent disposal at an approved disposal facility. Examples of such equipment or materials may include wire, rope, lumber, some personnel protective equipment, etc.

3.2 REMEDIAL UNIT CLOSEOUT

Remedial Unit Closeout Package shall consist of clearing the remedial unit, certifying that the work is complete, and submitting a Remedial Unit Summary Report that summarizes remedial activities and includes Cluster Specific Summary Reports.

3.2.1 Clearing the Remedial Unit

Remove and dispose of all waste such as excess construction material, wood, bituminous concrete, debris, and any other foreign material. Disconnect all temporary site facilities, utilities, and signs. Remove all Contractor constructed access roads and parking areas, unless otherwise needed for additional remedial units. Restore the site to conditions that existed prior to construction.

3.2.2 Administrative Provision

Prior to substantial completion of a remedial unit, the Contracting Officer will present a punch list of work items to be completed in accordance with the Contract Documents. When this punch list is substantially complete, submit written notice with a list of items to be completed or corrected, and the estimated dates of the completion or correction. Should inspection by the Contracting Officer indicate that the work is not substantially complete, notification will be made in writing, listing observed deficiencies. Remedy the deficiencies and send a new written notice of substantial completion. This procedure shall continue until such time when the Contracting Officer is satisfied with such repairs and corrections. When the Contracting Officer finds the work to be substantially complete, he will prepare a Certification of Substantial Completion with a list of deficiencies which require timely correction in accordance with provisions of General Conditions.

3.2.3 Final Acceptance

Upon completion of work, submit to the Contracting Officer written notification that Contract Documents and approved plans have been reviewed, work has been inspected for compliance with Contract Documents and approved plans, work has been completed in accordance with Contract Documents and approved plans, deficiencies listed with Certificate of Substantial Completion have been corrected, and work is complete and ready for final inspection. Should the Contracting Officer find work incomplete, he will promptly provide written notification, listing observed deficiencies. Remedy the deficiencies and send a second request for certification of Final Completion. This procedure will continue until such time when the Contracting Officer is satisfied with such repairs and corrections. When the Contracting Officer finds work is complete, he will consider closeout submittals, and a Final Acceptance Certification will be issued. When the Final Acceptance Certification is received, submit the final invoice for final payment.

3.3 REMEDIAL ACTION REPORT

After successful completion of a remedial package, prepare a Remedial Action Report and submit it to the Contracting Officer. Remedial Action Report is a summary of Remedial Unit Summary Reports. The government will use the Remedial Action Report to document completion of a remedial package (contract) and indicate that the particular clusters have met cleanup objective as well as summary information for subsequent inclusion in the Superfund Site Close Out Report. Prepare the Remedial Action Report in accordance with EPA OSWER Directive 9320.2-09A-P. Include, as a minimum, the following essential elements in the Remedial Action Report:

a. Summary of Remedial Activities
   - Demolition/Restoration Activities Performed
   - Total Volume of Soil Excavated
   - Total Volume of Soil Disposed Off-Site (by facility)
   - Total Volume of Backfill Placed
   - Chronology of Significant Events
   - Performance Standards and Construction Quality Control
   - Disposal Facilities Used
   - Summary of Project Costs
   - Observations and Lessons Learned
   - Contract Information
   - Site Surveys, Maps, and Plans

- Final Inspection and Certification
- Contract Information

-- End of Section --

SECTION 02212

HANDLING AND DISPOSAL OF DRUMMED AND HAZARDOUS MATERIALS

PART 1 GENERAL

1.1 DESCRIPTION

This section covers the Contractor's requirements for materials, equipment, and personnel associated with handling and disposal of buried or above-grade drummed and hazardous materials when encountered during demolition. Above-grade drums are identified [TBD]. All activities conducted under this section shall be in accordance with the Contractor's Site Safety and Health Plan and Section 02220 DEMOLITION.[note to reviewers: this section will be updated during future submittal phases once additional information is obtained.]

1.2 REFERENCES

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

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
40 CFR 261	Identification and Listing of Hazardous Waste

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA SW-846.3-3	(1999, Third Edition, Update III-A) Test Methods for Evaluating Solid Waste: Physical/Chemical Methods
EPA 600/2-86/012	Drum Handling Procedures at Hazardous Waste Sites

1.3 DEFINITIONS

1.3.1 Drummed Materials

For this project, drummed materials are defined as the contents of any non-empty drum (i.e., container) encountered during demolition or excavation. As defined by 40 CFR 261.7, a drum is empty if: (1) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, aspirating, and (2a) No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or (2b) No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 100 gallons in size, or (2c) No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

a. Empty or crushed drums and/or drum parts are not classified as drummed material.

1.3.2 Hazardous Materials

For this project, hazardous materials are defined as any drummed material for which analytical test results indicate the material exhibits hazardous waste characteristics as described in paragraph Hazardous Characterization Determination of this section.

1.4 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. Submit the following in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Drummed and Hazardous Materials Handling Plan; G

The Contractor shall develop a Drummed and Hazardous Materials Handling Plan and submit it to the Contracting Officer for approval within 30 days of Contract Award.

SD-07 Certificates

Qualifications; G

The Contractor shall submit names, location, and phone numbers of properly licensed off-site disposal facilities to be used by the Contractor for the disposal of drummed hazardous material and drummed non-hazardous liquids.

Certificates of Disposal.

Shipping Documents and Packagings Certification.

Following disposal, the Contractor shall submit to the Contracting Officer shipping papers, receipt slips, and/or certificates for drummed material determined to be hazardous as defined herein.

SD-11 Closeout Submittals

Receipts

Receipts or bills of laden, as specified.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 HANDLING OF DRUMMED AND HAZARDOUS MATERIALS

3.1.1 Minimum Requirements

This subsection describes the minimum requirements for handling, sampling, staging, and disposal of drummed and hazardous materials to be followed by the Contractor. The Contractor's procedures shall be described in the Drummed and Hazardous Materials Handling Plan. Minimum requirements for drummed material sampling and analysis are specified in paragraph DRUM SAMPLING AND ANALYTICAL PROGRAM. The intent of this project is to optimize the material handling methodology to efficiently minimize costs of sampling and off-site disposal.

3.1.1.1 Drummed and Hazardous Materials Handling Plan

The Drummed and Hazardous Materials Handling Plan shall address, at a minimum:

a. Methods and equipment proposed for removal, assessment, loading, and handling of drummed and hazardous materials should they be encountered.

b. Storage provisions for drummed and hazardous materials including specified areas to be used as staging areas.

c. Protocol for opening and sampling drummed material, which has been determined to undergo analytical testing.

d. Material identification methods (e.g., labeling, marking containers) and procedures for identification and tracking.

e. Procedures for consolidating (i.e., bulking) similar and compatible drummed materials for sampling and for disposal.

f. Provisions for separation of incompatible drummed materials.

g. Protocol for overpacking damaged or bulging drums.

h. Construction methods for staging and storage areas.

i. Plans for handling liquids from leaking drums.

j. Special safety precautions. The Drummed and Hazardous Materials Handling Plan shall adhere to all relevant local, state, and federal regulations associated with drummed and hazardous materials handling and disposal.

k. Manifesting procedures including applicable land ban requirements.

3.1.1.2 Drum Handling

If drummed material is encountered, the Contractor shall segregate the drummed material from other on-site waste material. Prior to handling and removing the drummed material from the Work area, the Contractor shall visually assess the drummed material and its potential hazardous condition. Drum conditions shall be assessed to determine if it is leaking, bulging, crushed, or empty. Crushed, empty, and/or skeletal parts of drums are

excluded. In addition, signs of drums containing reactive waste shall be observed (e.g., bulging drum, specialty metal drum). For non-empty drums, the Contractor shall record any identification or markings on the drum. An information sheet shall be developed as part of the Contractor's Drummed and Hazardous Materials Handling Plan upon which the Contractor shall record information such as container type, size, condition, type of materials, and any identifying characteristics of the material. Leaking, damaged drums shall be overpacked or their contents transferred to new drums at the excavation area to minimize contamination due to transporting leaking drums. Drummed materials as defined in paragraph Drummed Materials, and not requiring special handling and shall be moved from the excavation area to the staging/sampling area. All Work shall proceed in a controlled manner so as to minimize the potential dangers associated with excavation and extraction of drummed materials. Excavation of drummed materials shall be conducted in accordance with OSHA Standard, 29 CFR 1910.120.

3.2 DRUM STAGING AREA

The Contractor shall construct a staging area. The Contractor's Drummed and Hazardous Materials Handling Plan shall provide construction details and location of the staging area for approval by the Engineer and Contracting Officer.

The staging area shall consist of a lined (i.e., polypropylene) area sloped to drain to a central collection sump connected to a storage tank having a minimum capacity of 50 gallons. The staging area subgrade shall be graded smooth and free of protruding objects that could puncture the liner. Water collected from the staging area shall be discharged at a permitted facility.

The staging area shall have the capacity to stage up to 10 individual drums. Individual drums shall be single stacked on pallets with identifying labels clearly visible.

The Contractor shall cover the area to minimize the amount of precipitation coming in contact with the drummed materials. The Contractor shall use only rubber tired equipment in this area. Drummed materials shall be staged such that cleaning, labeling, opening, sampling, bulking, and initial storage of materials may occur in a sampling portion of the area. The Contractor shall furnish the necessary monitoring, emergency, and material handling equipment for the staging area as required.

Drummed material determined to be hazardous shall be transferred to a storage portion of the area or their contents bulked into larger holding bins/tanks. The storage's portion of the area shall be used to manifest, label, mark, and placard drums or material designated for off-site disposal.

The Contractor shall submit for approval, as part of the Drummed and Hazardous Materials Handling Plan, a detailed description with drawings, if necessary, of the proposed location, construction, and covering procedures for the staging area.

After demolition activities are complete and the drummed materials are removed from the site, the staging area shall be dismantled and the materials shall be disposed of at an off-site permitted disposal facility at no additional cost to the Contracting Officer.

3.3 DRUMS SAMPLING AND ANALYTICAL PROGRAM

3.3.1 General

All sampling of liquids, sludges, and/or solids from excavated drummed materials shall be performed by the Contractor. Sampling procedures shall be in accordance with procedures set forth in the USEPA document EPA 600/2-86/012 Drum Handling Procedures at Hazardous Waste Sites. The Contractor shall provide all sample containers and be responsible for sample collection, packing, preservation, transport, and analysis. The Contractor shall maintain field log documentation of all drum sampling activities and a chain of custody for the samples collected.

3.3.2 Sampling and Analytical Program Objectives

3.3.2.1 Drummed Material Segregation

The Contractor shall visually segregate drummed material as it is encountered during construction activities. Drummed material as defined in paragraph DEFINITIONS shall be segregated based on visual observations and air monitoring readings. The rationale shall be to segregate and stage similar drummed material together to more effectively sample the drummed material. The Contractor shall bulk similar drummed materials prior to representative sampling for analytical testing, to the extent possible for efficient and cost-effective sampling, analysis, and disposal.

3.3.2.2 Drummed Material Sampling

After segregating the drummed material, the primary concern of the Contractor shall be to safely sample the drummed material. Drum opening and sampling procedures shall be in accordance with OSHA Standard 29 CFR 1910.120(j). Personnel in the immediate vicinity shall be upwind of the drum being opened. The Contractor shall be responsible for collection of a representative sample of each phase of the drummed material. Each phase shall be an individual sample.

3.3.2.3 Sampling Objectives

The Contractor shall describe the sampling procedures and equipment to sample drummed liquids, sludges, and solids in the Drummed and Hazardous Materials Handling Plan. The objective of this plan shall be to characterize the drummed material as required to:

a. Field screen drummed materials for staging using appropriate instrumentation and applicable field screening tests.
b. Determine material compatibility for safe drum staging, segregation, bulking, or recontainerization.
c. Sample and analyze drummed material for hazardous characteristics.
d. Determine treatment and disposal requirements for drummed material exhibiting hazardous characteristics.
e. Allow transportation of drummed material in accordance with regulatory requirements.
f. Identify potential RCRA permitted disposal facilities.

3.3.3 Hazardous Characterization Determination

a. The Contractor shall use the following USEPA methods from EPA SW-846.3-3 for characterizing tank material samples:
   (1) Ignitability: USEPA 1010.

(2) Corrosivity: USEPA 9040/9045.
(3) Reactivity:
6.4.3.1 Cyanide: USEPA 9012.
6.4.3.2 Sulfide: USEPA 9030.
(4) Free Liquids: USEPA 9095.
(5) Toxicity:
USEPA 1311-Toxicity Characteristic Leaching Procedure (TCLP) Preparation.
USEPA 8270-TCLP Semivolatiles.
USEPA 8240-TCLP Volatiles.
USEPA 8080-TCLP Pesticides.
USEPA 8150-TCLP Herbicides.
USEPA 6010 and 7470-TCLP Metals.
(6) Compatibility: The purpose of compatibility testing is to determine which materials for off-site disposal (i.e., classified as exhibiting characteristics of hazardous waste as defined by 40 CFR 261 can be safely consolidated (i.e., bulked) for disposal purposes. The Contractor shall bulk materials to the extent possible based on the characterization results and in field bulking tests. The Contractor shall describe the procedures to be followed for bulking (i.e., compatibility testing) in the Storage Tank Handling Plan.
(7) Partial TCLP Parameter: Analytical testing of solid materials (e.g., testing for the inorganic fraction only) will be allowed if it is apparent from visual observations that the likelihood of the sample containing any TCLP organic parameters is minimal. For example, a sample collected from a tank containing sand or gravel would be tested only for TCLP inorganic parameters and the other hazardous characteristic parameters.
(8) The Analytical Program: Shall be structured to provide data in a time frame that will allow expedient removal, off-site transportation and disposal of drummed materials exhibiting hazardous characteristics. At a minimum, the Contractor's sampling and analytical program to be described in the Drummed and Hazardous Materials Handling Plan shall address:
Sample identification and tracking procedures.
Waste compatibility testing procedures, protocols and analytical parameters.
Waste segregation criteria.
Waste sample collection procedures and methodology.
Information necessary to complete waste disposal application requirements for off-site disposal facilities.
Schedule of all activities including typical sample analysis response times (RCRA and disposal characterization), assessment of treatment/disposal options, waste consolidation if appropriate, and off-site disposal.

3.3.3.1 Disposal Samples

The Contractor shall follow the analytical methods necessary to satisfy off-site disposal facility requirements.

3.2.6 Data Reporting

Written results of the hazardous characterization testing performed by the Contractor shall be submitted to the Contracting Officer within 21 calendar days of sampling and at least 14 days prior to transportation of tank material off-site. Written results of the compatibility testing shall be submitted to the Contracting Officer within 2 days of performing the

compatibility testing and 14 days prior to transportation of the materials off-site. For materials which are determined to be Hazardous, the Contracting Officer will obtain provisional generator ID number for the site.

3.4 DISPOSAL OF DRUM MATERIALS

Results of the tests specified in Paragraph Hazardous Characterization Determination be used to determine if the drummed material exhibits characteristics of a hazardous waste as defined by 40 CFR 261.20.

3.4.1 Solid Drummed Material

Drummed material classified as hazardous shall be disposed of off-site in accordance with all local, state, and federal regulations. In addition, Contractor shall, to the extent possible, bulk compatible drummed materials classified for off-site disposal based on the characterization results and bench-scale compatibility tests. Solid drummed material that is determined to be not hazardous as defined herein shall be buried on-site at a location determined by Engineer or disposed off-site at an approved facility.

3.4.2 Liquid Drummed Material

Liquid drummed material classified as hazardous shall be disposed of off-site in accordance with all local, state, and federal regulations. In addition, Contractor shall, to the extent, possible bulk compatible drummed materials classified for off-site disposal based on the characterization results and bench-scale compatibility tests. Liquid drummed material that is determined to be not hazardous as defined herein shall be disposed off-site at an approved facility.

3.4.3 Off-Site Disposal

Drummed materials characterized as hazardous waste and drummed non-hazardous liquids to be disposed off-site shall be disposed in accordance with RCRA approved methods. Contractor is responsible for obtaining and furnishing the permits, royalties, taxes, equipment, materials, and labor required for sampling analysis, bulking, manifesting, loading, transportation, and disposal at a qualified facility of the drummed material that has been characterized as hazardous as defined herein. Shipping Documents and Packagings Certification including shipping papers, receipt slips, and/or certificates of disposal for drummed hazardous material and drummed non-hazardous liquids disposed off-site by the Contractor must be submitted to the Government's Field Engineer.

3.4.4 Minimizing Costs

The Contractor shall determine the method of disposal knowing that the intent of the Contracting Officer is to minimize cost of sampling and off-site disposal. The Contracting Officer reserves the right to direct revisions in the Contractor's disposal methodology.

SECTION 02220

DEMOLITION

PART 1 GENERAL

1.1 SCOPE OF WORK

Contractor shall provide all labor, materials, equipment and incidentals as shown, specified and required for demolition, removal and disposal work. Demolition includes structural concrete, foundations, walls, doors, windows, structural steel, metals, masonry, attachments, appurtenances, piping, electrical and mechanical equipment, paving, curbs, walks, fencing and similar existing facilities.

1.2 REFERENCES

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

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.6	(1990; R 1998) Safety Requirements for Demolition Operations

AIR-CONDITIONING AND REFRIGERATION INSTITUTE (ARI)

ARI Guideline K	(2005) Containers for Recovered Fluorocarbon Refrigerants

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2003) Safety -- Safety and Health Requirements

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 61-SUBPART M	National Emission Standard for Asbestos
40 CFR 82	Protection of Stratospheric Ozone

NEW JERSEY ADMINISTRATIVE CODE (NJAC)

NJAC 14.2	Board of Public Utilities Excavators Handbook

NEW JERSEY STATUTES ANNOTATED (NJSA)

NJSA 48:2-73	Underground Facility Protection Act

1.3 GENERAL REQUIREMENTS

Do not begin demolition until authorization is received from the Contracting Officer. Remove rubbish and debris from the project site; do not allow accumulations inside or outside the buildings. The work includes

demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Remove rubbish and debris from site daily, unless otherwise directed. Materials that cannot be removed daily shall be stored in areas specified by the Contracting Officer. In the interest of occupational safety and health, perform the work in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-07 Certificates

Demolition Plan; G

Notifications; G

Notification of Demolition and Renovation forms

SD-08 Statement

Pre-Demolition Survey;

SD-11 Closeout Submittals

Receipts

Receipts or bills of laden, as specified.

1.5 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," conform to the safety requirements contained in ANSI A10.6.

1.5.1 Notifications

1.5.1.1 General Requirements

Furnish timely notification of demolition projects to Federal, State, regional, and local authorities in accordance with 40 CFR 61-SUBPART M. Notify the the Contracting Officer in writing 10 working days prior to the commencement of work in accordance with 40 CFR 61-SUBPART M.

1.6 DUST AND DEBRIS CONTROL

Prevent the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Sweep pavements as often as necessary to control the spread of debris that may result in foreign object damage potential to aircraft.

1.7 PROTECTION

1.7.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Anchor barricades in a manner to prevent displacement. Notify the Contracting Officer prior to beginning such work. Contractor shall comply with all local ordinances for traffic control as required to complete the work.

1.7.2 Existing Work

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place or to be reused; any damaged items shall be repaired or replaced as approved by the Contracting Officer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. Do not overload structural elements or pavements to remain. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement, or structural replacement must have Contracting Officer approval.

1.7.3 Utility Service

Maintain existing utilities indicated to stay in service in adjacent clusters and buildings and protect against damage during demolition operations.

1.7.4 Facilities

Protect electrical and mechanical services and utilities to remain in place following demolition. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, must remain standing without additional bracing, shoring, or lateral support until demolished, unless directed otherwise by the Contracting Officer. Ensure that no elements determined to be unstable are left unsupported and place and secure bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

1.7.5 Protection of Personnel

Before, during and after the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and adjacent structures and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.8 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.9 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Items to be relocated which are damaged by the Contractor shall be repaired or replaced with new undamaged items as approved by the Contracting Officer.

1.10 REQUIRED DATA

The Demolition Plan shall include procedures for disposition of materials specified to be salvaged, coordination with other work in progress, a disconnection schedule of utility services, and a detailed description of methods and equipment to be used for each operation and of the sequence of operations. Provide procedures for safe conduct of the work in accordance with EM 385-1-1.

1.11 ENVIRONMENTAL PROTECTION

The work shall comply with the requirements of Section 01356A STORM WATER POLLUTION PREVENTION MEASURES, Section 01110 SUMMARY OF WORK, and Section 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST).

1.12 USE OF EXPLOSIVES

Use of explosives will not be permitted.

1.13 AVAILABILITY OF WORK AREAS

Areas in which the work is to be accomplished will be available in accordance with a schedule to be furnished to the Contractor by the Contracting Officer upon award of contract.

PART 2 PRODUCTS

2.1 FILL MATERIAL

Comply with excavating, backfilling, and compacting procedures for soils used as backfill material to fill basements, voids, depressions or excavations resulting from demolition of structures as specified in Section 02320 BACKFILL AND COMPACTION.

PART 3 EXECUTION

3.1 PRE DEMOLITION SURVEY

3.1.1 Asbestos

An asbestos materials survey was completed in the development of these documents. Any asbestos removal shall be conducted as specified in Section 13280A ASBESTOS HAZARD CONTROL ACTIVITIES, which contains the asbestos materials survey results. The Government does not guarantee the accuracy or completeness of the asbestos material survey; the Contractor shall be responsible for final delineation of asbestos.

3.2 DEMOLITION PLAN

Prepare a Demolition Plan that identifies all structures proposed for demolition based on pre-demolition surveys. Provide procedures for safe conduct of work, including procedures and methods to provide necessary supports; lateral bracing and shoring when required; careful removal and disposition of materials, packaging and temporary storage; protection of property and vegetation which is to remain undisturbed; coordination with other work in progress; timely disconnection of utility services; protecting adjacent property, structures and personnel; and dust control measures. Include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations in accordance with EM 385-1-1. Also include copies of all permits and licenses to perform demolition work. Submit the plan to the Contracting Officer 14 days prior to the start of demolition.

3.3 ASBESTOS ABATEMENT AND HAZARDOUS MATERIALS

Prior to demolition, remove and dispose of all hazardous materials in accordance with Section 02350 TRANSPORTATION AND DISPOSAL. Prior to demolition, conduct abatement for asbestos, if necessary, in accordance with Section 13280A ASBESTOS HAZARD CONTROL ACTIVITIES.

3.4 EXISTING FACILITIES TO BE REMOVED

3.4.1 Structures

a. A list of all existing buildings and structures to be removed is provided in Table 2, attached.

b. Remove existing structures indicated to be removed to the bottom of footing elevations. Interior walls, other than retaining walls and partitions, shall be removed to the bottom of footings. Basement slabs shall be removed. Sidewalks, curbs, gutters and light bases shall be removed as indicated. All excavation required as part of demolition shall be in accordance with Section 02310 EXCAVATION.

c. Demolish structures in a systematic manner from the top of the structure to the ground. Complete demolition work above each tier or floor before the supporting members on the lower level are disturbed. Demolish concrete and masonry walls in small sections. Remove structural framing members and lower to ground by means of derricks, platforms hoists, or other suitable methods as approved by the Contracting Officer.

d. Locate demolition equipment throughout the structure and remove materials so as to not impose excessive loads to supporting walls, floors, or framing.

e. Stockpile and stage demolition debris for sorting and disposal within the footprint of the demolished structure. Do not transport demolition material within the site unnecessarily.

3.4.2 Utilities and Related Equipment

Existing utilities may include but are not limited to: electric power, natural gas, telephone and communication cable, site water systems, building sanitary sewer, and drainage piping. Contact all local utility authorities prior to demolition activities and coordinate disconnection of

all utilities in the demolition area, as necessary. Maintain existing utilities in service where possible. Protect utilities from damage, including freezing. Coordinate utility interruptions with the Contracting Officer and provide temporary service as necessary.

Comply with NJSA 48:2-73 as directed in the State of New Jersey Board of Public Utilities, Excavation Handbook. Call 1-800-272-1000 for a utility mark-out three full business days before beginning excavation. Comply with NJAC 14.2.

Utility contacts for known utilities in the work area will be provided by the Contracting Officer.

Where utilities are to be removed or terminated, remove existing utilities as indicated or uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Contracting Officer. When utility lines are encountered that are not indicated on the drawings, the Contracting Officer shall be notified prior to further work in that area. Remove meters and related equipment and deliver to a location on the site in accordance with instructions of the Contracting Officer. If utility lines are encountered that are not shown on drawings, contact the Contracting Officer for further instructions.

3.4.3 Chain Link Fencing

Remove chain link fencing, gates and other related items scheduled for removal and transport to an approved disposal facility.

3.4.4 Paving and Slabs

Remove concrete and asphaltic concrete paving and slabs as indicated. Provide neat sawcuts at limits of pavement removal as indicated. Sawcut all pavement around the entire perimeter of each building and structure to be removed prior to beginning foundation removal.

3.4.5 Structural Steel

Remove and dispose of all structural steel offsite. Do not use flame cutting torches for dismantling.

3.4.6 Air Conditioning Equipment

Recover all refrigerants prior to removing air conditioning equipment and dispose of in accordance with the paragraph entitled "Disposal of Ozone Depleting Substance (ODS)."

3.4.7 Mechanical Equipment, Piping, Valves, Ducts and Fixtures

Disconnect mechanical hardware at the nearest connection to existing services to remain, unless otherwise noted. Mechanical equipment and fixtures must be disconnected at fittings. Remove service valves attached to the unit.

3.4.8 Waste Segregation

Perform demolition to allow proper waste segregation of contaminated and uncontaminated materials.

3.5 CONCURRENT EARTH-MOVING OPERATIONS

Do not begin excavation, filling, and other earth-moving operations that are sequential to demolition work in areas occupied by structures to be demolished until all demolition in the area has been completed and debris removed. Holes, open basements and other hazardous openings shall be filled.

3.6 DISPOSITION OF MATERIAL

3.6.1 Title to Materials

The Government does not intend to salvage materials from the Site. All materials and equipment removed shall become the property of the Contractor and shall be removed from the Site. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contracting Officer of the Contractor's demolition and removal procedures, and authorization by the Contracting Officer to begin demolition. The Government will not be responsible for the condition or loss of, or damage to, such property after contract award. Materials and equipment shall not be viewed by prospective purchasers or sold on the site.

3.6.2 Disposal of Ozone Depleting Substance (ODS)

Class I and Class II ODS are defined in Section, 602(a) and (b), of The Clean Air Act. Prevent discharge of Class I and Class II ODS to the atmosphere. Place recovered ODS in cylinders meeting ARI Guideline K suitable for the type ODS (filled to no more than 80 percent capacity) and provide appropriate labeling. Recovered ODS shall be remove from Government property and dispose of in accordance with 40 CFR 82. Products, equipment and appliances containing ODS in a sealed, self-contained system (e.g. residential refrigerators and window air conditioners) shall be disposed of in accordance with 40 CFR 82.

3.6.2.1 Special Instructions

No more than one type of ODS is permitted in each container. A warning/hazardous label shall be applied to the containers in accordance with Department of Transportation regulations. All cylinders including but not limited to fire extinguishers, spheres, or canisters containing an ODS shall have a tag with the following information:

a. Activity name and unit identification code

b. Activity point of contact and phone number

c. Type of ODS and pounds of ODS contained

d. Date of shipment

3.6.3 Unsalvageable Material

Concrete, masonry, and other noncombustible material shall be removed from and disposed of offsite at a facility to be approved by the Contracting Officer. Submit name and address for approval. Combustible material shall be disposed of in accordance with Section 02350 TRANSPORTATION AND DISPOSAL

3.6.4 Special Waste Handling

The following items require special waste handling as indicated:

a. Trash and debris in buildings

b. Buried debris from buildings

c. Buried metal debris

d. Uncontaminated buried concrete debris in addition to building footings

e. Buried underground storage tanks and contents

f. Batteries shall be removed from the site and properly disposed of at a battery recycling facility.

g. PCB contaminated lighting ballasts, PCB oil, and PCB transformers and capacitors shall be disposed of in accordance with Section 02350 TRANSPORTATION AND DISPOSAL.

h. Lead based paint coated items shall be handled in a manner which does not jeopardize the health of Demolition Workers.

i. Miscellaneous paints, solvents and like materials shall be collected in drums and disposed of off-site at a licensed facility.

3.7 CLEANUP

Debris and rubbish shall be removed from demolition areas. Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Apply local regulations regarding hauling and disposal.

-- End of Section --

Table of Structures to be Demolished				
Cluster Number	**Building Number**	**Type of Construction**	**Total Area of Building (Square Foot)**	**Former Building Designation per Drawing Cornell-Dubilier Electric Corp., ET AL, Dated March 17, 1954**
1	1A, 1B, 1C, & 1D	Single Story Masonry Structure with a Wood Roof	48,400	N/A
	6	Single Story Masonry Structure with a Concrete Roof	8,100	Wax Room
2	2, 2A, 3/4, & 4A	Single Story Masonry Structure with a Wood Roof	66,600	N/A
3	5 & 5A	Single Story Masonry Structure with a Wood Roof	43,900	N/A
4	8	Single Story Masonry Structure with a Concrete Roof	11,300	N/A
5	9, 9A, 9B, & 9C	Single Story Masonry Structure with a Wood Roof	47,400	N/A
	17	Single Story Masonry Structure with Stuco Exterior and a Wood Roof	500	N/A
6	10	Single Story, Steel Framing and Exterior Wall Panels with a Steel Roof	5,200	Oil House
	10A	Single Story, Steel Framing with a Steel Roof	800	Waste Shed
7	11 & 12	Single Story, Steel Arch with Corrugated Steel Exterior Panels	16,400	N/A
8	13	Single Story Masonry Structure with a Concrete Roof	4,400	Machine Shop
	15 & 16	Single Story Masonry Structure with a Wood Roof	5,500	N/A
	18	Single Story Masonry Structure with a Half Wood and Half Concrete Roof	600	Engine Room
9	7	Single Story Wood Framing with a Wood Roof	1,800	Carpenter Shop
10	N/A	Steel Water Tower	700	N/A
11	14	Single Story Wood Framing with a Wood Roof	5,200	N/A
12	N/A	Steel Oil Storage Tank	600	N/A

SECTION 02310

EXCAVATION

PART 1 GENERAL

1.1 SCOPE OF WORK

Contractor shall provide all labor, materials, equipment and incidentals required to perform all ancillary excavating and disposing of earth materials as shown, specified, and required for removal of buildings and structures. All temporary means needed to prevent discharge of sediment to water courses from dewatering systems or erosion are included. No classification of excavated materials will be made. Excavation includes all materials regardless of type, character, composition, moisture, or condition thereof.

Work may include excavation of contaminated soils; excavation dewatering; removal of existing stumps, roots, utilities, pipes, rocks and boulders, concrete, or other materials; provision of temporary utilities; provision of temporary support structures; soil sampling and analysis; and related work. Contaminated material excavation includes field surveys, removal and disposal of existing foundation rubble and debris. Quality of excavation shall be kept to a minimum.

Independent reviews will be completed by others. Independent reviews will include reviewing the Contractor's verification data, onsite surveys involving direct measurements, and sampling and sample analyses. The Contracting Officer and their representatives for independent reviews shall be provided with unrestricted access; access will be coordinated with the Contractor.

1.2 REFERENCES

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM-1110-2-2504	(1994) Engineering and Design - Design of Sheet Pile Walls)

NEW JERSEY ADMINISTRATIVE CODE (NJAC)

NJAC 14.2	Board of Public Utilities Excavators Handbook

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Excavation Support System Plan; G

Excavation Schedule; G

Dewatering Work Plan; G

Excavation and Material Handling Plan; G

Submit 15 days prior to starting work.

SD-03 Product Data

Notification of Opening of any Excavation

Notification of encountering rock in the project. Advance notice on the opening of excavation.

SD-06 Test Reports

Field Measurement Data; G

1.4 SURVEYS

Perform surveys in accordance with Section 01550 SURVEYING.

1.5 EXCAVATION SCHEDULE

Submit an Excavation Schedule and backfill operations schedule prior to commencing the work. Identify the sequence of areas to be excavated. This schedule shall be detailed and within the overall project schedule (see Section 01320 PROJECT SCHEDULE). Sequence the excavation such that areas already excavated are not recontaminated.

1.6 FIELD MEASUREMENT DATA

Submit collected Field Measurement Data to the Contracting Officer as part of a Closeout Package Report for each cluster. This Closeout Package Report shall contain data collection forms, maps, soil sample collection forms, soil sample analyses, surveying data, calibration sheets, quality control (QC) checklist cover sheets and Record Drawings. Blank master forms and base maps for each cluster are available from the Contracting Officer.

1.7 EXCAVATION AND MATERIAL HANDLING PLAN

Submit an Excavation and Material Handling Plan to the Contracting Officer for approval prior to the Pre-Work Conference. The Plan shall describe the methods and procedures for excavation of contaminated soil; debris decontamination procedures; procedures for working near, removing, and replacing utilities; and methods, materials, and procedures for backfilling, compacting and grading; and include design details for on-site stockpiling areas. Adverse conditions may be encountered during excavation operations and provisions should be made for such events.

The Excavation and Material Handling Plan shall address each of the major excavation areas separately, detailing the additional field sampling performed, work sequence, and volume estimates. Sections addressing specific excavation areas can be submitted for approval separately or together.

1.8 EXCAVATION SUPPORT SYSTEM PLAN

Prior to start of excavation operations, submit written plan to demonstrate

compliance with OSHA Standard 29 CFR Part 1926.650. As a minimum, Excavation Support System plan shall include:

a. Name of competent person.

b. Excavation method(s) or protective system(s) to be used.

c. Copies of "manufacturer's data" or other tabulated data if protective system(s) are designed on the basis of such data.

1.9 DEWATERING WORK PLAN

Submit a Dewatering Work Plan prior to construction that includes methods for handling, storage, treatment, and disposal of excavation-derived water.

1.10 SUBSURFACE DATA

Subsurface soil boring locations are shown on the drawing. These borings were taken for the purpose of determining contamination limits, and do not describe geotechnical conditions of the site.

1.11 Blasting

Blasting will not be permitted.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 JOB CONDITIONS

3.1.1 Existing Utilities

Locate existing underground utilities in the areas of the Work using geophysical methods in accordance with Section 01110 SUMMARY OF WORK. If utilities are to remain in place, provide adequate means of protection during all operations. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult Contracting Officer immediately for directions as to procedure. Cooperate with utility owners and business tenants in keeping services and facilities in operation. Repair damaged utilities to satisfaction of utility owner. In general, service lines to individual buildings are shown based on the best information available; the Government does not guarantee the accuracy of the information above.

Excavate test pits as required to verify the location and the depth of all existing utilities prior to the start of remedial excavation.

Do not perform excavation or intrusive work until site utilities have been field located and until local and private utility owners have been contacted and have located and marked their utilities. Prior to any excavation work, utility clearances shall be documented and field verified by the Contractor. Prevent damaging or disturbing utilities during construction. Utilities encountered within the excavation limits shall be removed or temporarily relocated. All damages to existing utilities resulting from the work shall be repaired in accordance with the specifications and to the satisfaction of the utility owner. Coordinate

physical removal of utilities to be performed by or according to local utility authorities.

Comply with New Jersey State's Underground Protection Act ("One Call Law" NJAC 14.2) as directed in the State of New Jersey Board of Public Utilities, Excavation Handbook. Call 1-800-272-1000 for a utility mark-out three full business days before beginning excavation. Comply with NJAC 14.2 (see State of New Jersey, Board of Public Utilities Excavator Handbook).

3.1.2 Roadways and Walks

Unless otherwise approved by the Contracting Officer, excavated material and materials of construction shall be so deposited, and the Work shall be so conducted, as to leave open and free for pedestrian traffic all crosswalks, and for vehicular traffic a roadway not less than ten feet in width. All hydrants, valves, fire alarm boxes, letter boxes, and other facilities which may require access during construction shall be kept accessible for use. During the progress of the Work, Contractor shall maintain such crosswalks, sidewalks, and roadways in satisfactory condition and the Work shall at all times be so conducted as to cause a minimum of inconvenience to public travel, and to permit safe and convenient access to private and public property along the line of the Work.

3.1.3 Clearing and Grubbing

Clear and grub trees, stumps, roots, brush or other vegetation as necessary for building and structural demolition and removal.

3.2 GENERAL EXCAVATION

The Contractor shall perform excavation of every type of material encountered to the lines, grades, and elevations indicated and as specified. The Contractor shall provide Notification of Opening of any Excavation to Contracting Officer sufficiently in advance to permit elevations and measurements of the undisturbed ground surface to be taken.

3.2.1 Water Handling

3.2.1.1 Excavation Dewatering

Provide for the collection and disposal of surface and subsurface water encountered during construction. All surface and subsurface water that comes into contact with contaminated soil is considered impacted water and shall be collected, tested, and treated, as necessary. All water that has been in trenches and the decontamination pad is considered impacted water. The Contractor shall establish/construct storm drainage features at the earliest stages of site development, and throughout construction grade the construction area to provide positive surface water runoff away from the construction activity and contaminated areas and/or provide temporary ditches, swales, and other drainage features and equipment as required to maintain dry soils. Contractor shall make every effort and shall employ the necessary means and methods to prevent surface and subsurface water from coming into contact with contaminated soil and surfaces so as to minimize the generation of impacted water which must be treated prior to disposal. It is the responsibility of the Contractor to assess the soil and ground water conditions presented by the plans and specifications and to employ necessary measures to permit construction to proceed.

Groundwater flowing toward or into excavations shall be controlled to

prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. French drains, sumps, ditches or trenches will not be permitted within 3 feet of the foundation of any structure, except with specific written approval, and after specific contractual provisions for restoration of the foundation area have been made. Control measures shall be taken by the time the excavation reaches the water level in order to maintain the integrity of the in situ material. While the excavation is open, the water level shall be maintained at or below the bottom of the excavation at all times. Submit performance records weekly.

The Contractor shall minimize area of open excavation so as to limit the volume of dewatering required for the project. The maximum allowable excavation area open shall vary by property/property grouping. The Contractor shall not be permitted to extend the open area of excavation greater than this unless directed by the Contracting Officer.

3.2.1.2 Water Treatment

Treat and discharge water to the Bound Brook in accordance with the site NJPDES permit requirements and subsequent permit modifications. The Contractor shall utilize the most current approved Wastewater Treatment Design and Wastewater Treatment Operations and Maintenance Plan.

Discharge of water from the system will not be permitted without written approval from the Contracting Officer and all necessary permit equivalencies.

3.2.2 Trench Excavation Requirements

Trench walls more than 4 feet high shall be shored, cut back to a stable slope, or provided with equivalent means of protection for employees who may be exposed to moving ground or cave in. Vertical trench walls more than 4 feet high shall be shored. Trench walls which are cut back shall be excavated to at least the angle of repose of the soil. Special attention shall be given to slopes which may be adversely affected by weather or moisture content. The trench width below the top of pipe shall not exceed 24 inches plus pipe outside diameter (O.D.) for pipes of less than 24 inches inside diameter and shall not exceed 36 inches plus pipe outside diameter for sizes larger than 24 inches inside diameter. Where recommended trench widths are exceeded, redesign, stronger pipe, or special installation procedures shall be utilized by the Contractor.

3.2.3 Underground Utilities

Existing and abandoned utilities shall be excavated as per the Contract Drawings and the direction of the Contracting Officer. If the utility is to remain in service, decontaminate the utility as described in Decontamination of Subsurface Structures and as per the direction of the utility owner. If the utility is to be removed, disconnect the utility line from service as per the direction of the utility owner and excavate with the surrounding contaminated soil.

Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Contractor's risk. Perform work adjacent to utilities as indicated in accordance with procedures outlined by utility company. Excavation made with power-driven equipment is not permitted within two feet of known utilities or subsurface construction. For work immediately adjacent to or for excavations exposing a utility or

other buried obstruction, excavate by hand. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing work affected by the contract excavation until approval for backfill is granted by the Contracting Officer. Report damage to utility lines or subsurface construction immediately to the Contracting Officer.

3.3 SHORING

3.3.1 General Requirements

The Contractor shall submit an Excavation Support Plan for approval 15 days prior to starting work. Submit drawings and calculations, certified by a registered professional engineer, describing the methods for shoring and sheeting of excavations. Shoring, including sheet piling, shall be furnished and installed as necessary to protect workmen, banks, adjacent paving, structures, and utilities to remain in place. Shoring, bracing, and sheeting shall be removed as excavations are backfilled, in a manner to prevent caving.

The Contractor shall design, provide, and maintain the excavation support system as shown on the contract drawings and as required to complete the work. The Contractor shall provide all necessary sheeting, bracing, and sloping as required by federal, state, and local safety requirements; to support the sides of excavations; to prevent any movement which could diminish the width of the excavation below that necessary for proper construction to minimize soil cut volumes and groundwater infiltration; and to protect adjacent structures from undermining or other damage.

The design of shoring methods and sheet piles shall conform to the USACE engineering design manual EM-1110-2-2504 and other applicable standards and be stamped by an engineer licensed in the State of New Jersey. The design shall account for anticipated groundwater elevations indicated on the contract drawings, boiling conditions, etc. Design loads included shall account for live loads outside of the excavation area including HS-20 load on any adjacent streets.

3.3.2 Sheeting, Shoring and Bracing

Used material shall be in good condition, not damaged or excessively pitted. All steel or wood sheeting designated to remain in place shall be new. New or used sheeting may be used for temporary work.

All timber used for breast boards (lagging) shall be new or used, meeting the requirements for Douglas Fir Dense Construction grade with a bending strength not less than 1500 psi or Southern Pine No. 2 Dense.

All steel work for sheeting, shoring, bracing etc., shall be designed in accordance with the provisions of the "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings", of the AISC, except that field welding will be permitted.

Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.

Unless otherwise shown, specified, or directed, all materials used for temporary construction shall be removed when Work is completed. Such

removal shall be made in a manner not injurious to the structure or its appearance or to adjacent Work.

The clearances and types of the temporary structures, insofar as they affect the character of the finished Work, and the design of sheeting to be left in place, will be subject to the approval of Engineer; but Contractor shall be responsible for the adequacy of all sheeting, shoring, bracing, etc.

Safe and satisfactory sheeting, shoring and bracing shall be the entire responsibility of Contractor.

All municipal, County, State, and Federal ordinances, codes, regulations and laws shall be observed.

3.3.3 Removal of Sheeting and Bracing

Remove sheeting and bracing from excavations, unless otherwise directed by the Contracting Officer, in writing. Removal shall be done so as to not cause injury to the Work. Removal shall be equal on both sides of excavation to ensure no unequal loads on pipe or structure.

3.4 CONTAMINATED MATERIAL REMOVAL

3.4.1 Excavation of Contaminated Material

The Contractor shall excavate and remove all foundation walls and footings and place the excavated materials on prepared stockpile areas for subsequent verification sampling and analysis as specified below. All soil materials clinging to the concrete surfaces shall be removed as required for disposal. The Contractor shall limit the length of trench which is opened at any time to a maximum of 200 linear feet. Schedule backfill materials deliveries and stockpile sufficient quantities in advance to backfill a minimum of one week's production. It is the Government's intent to reduce the quantity of contaminated soils produced as a result of demolition activities. The Contractor is to utilize equipment and techniques for excavation and removal of footings which minimize excavated soils generation. Sawcutting of all pavements adjacent to foundation walls to reduce lateral extent of disturbance, reduction of foundation wall segments to the minimum size practical in-situ and scraping and vibrating foundation segments in-place prior to removal are some of the methods which shall be employed to accomplish this goal. The Contractor's Excavation Plan shall be prepared to facilitate excavated soil volume minimization.

3.4.2 Excavated Material Setback

Place excavated and stockpiled materials and equipment at a safe distance from the edge of the excavation to prevent excessive loading on the face of the excavation.

3.4.3 Temporary Barricades

Place barricades around the excavation in such a manner to alert personnel to the danger and prevent them from falling into the excavation if the excavation must be left open during periods when the work site is unoccupied.

3.5 CONTAMINATED MATERIAL STORAGE

Place material in temporary storage immediately after excavation. Storage units shall be in good condition and constructed of materials that are compatible with the material or liquid to be stored. If multiple storage units are required, clearly label each unit with an identification number. Keep a written log to track the source of contaminated material in each temporary storage unit.

3.5.1 Stockpiles

Construct stockpiles to isolate stored contaminated material from the environment. Locations of stockpiles shall be included as part of the Contractor's Excavation and Material Handling Plan. Construct stockpiles to include the following or equal:

a. A chemically-resistant 30 millimeter polyehtylene sheet on the bottom suitable for HTRW or other suitable staging pad. The ground service on which the 30 millimeter polyehtylene sheet is to be placed shall be free of objects that could damage the membrane. Existing grade of area selected for stockpile area shall be sufficient such as to facilitate storm water control and collection.

b. 30 millimeter polyehtylene cover to prevent precipitation from entering the stockpile and dust from leaving the stockpile. The cover material shall be anchored to prevent it from being removed by wind.

c. Berms of sufficient height surrounding the stockpile to prevent runoff of liquid and sediment. Vehicle access points shall also be bermed. Berms shall be covered with the stockpile polyehtylene cover.

d. Store, remove, and dispose of liquid that collects in the stockpile.

3.5.2 Roll-Off Units

To provide flexibility, roll-off units may be used to temporarily store contaminated material. Water-tight roll-off units used to temporarily store contaminated material shall have an impermeable cover placed over the units to prevent precipitation from contacting the stored material and dust from leaving. Remove and store liquid that collects inside the units in accordance with paragraph Liquid Storage.

3.6 SUBSURFACE STRUCTURES

3.6.1 Excavation of Subsurface Structures

The Contractor is notified that the site soils contain PCB and other organic and inorganic contamination. A separate program is scheduled to delineate the extent of that contamination. Initial Government data suggests that certain soil areas adjacent to the buildings scheduled for demolition may be contaminated. Accordingly, the Contractor shall be prepared to handle both contaminated and non-contaminated soils while removing below-grade building components and other debris. As additional soil contamination data is obtained by the Government, the Government will provide that data to the Contractor. Subsurface structures have not been

sampled by the Government; the Contractor shall be responsible for determining chemical content of structures to be removed.

Building foundations and other subsurface anomalies that are encountered within the limits of excavation shall be removed. The Contractor shall determine which is more economical; disposal of the foundations and anomalies with surrounding soils with-out additional testing or segregation and sampling in accordance with Section 01450A CHEMICAL DATA QUALITY CONTROL. Final disposal shall be as approved by the Contracting Officer.

If segregation and sampling is selected, contaminated material shall be segregated from any non-contaminated materials and decontaminated as per Decontamination of Subsurface Structures paragraph. Conduct Building and Debris Material Surveying and Sampling as specified in Section 01450A CHEMICAL DATA QUALITY CONTROL. If the building material can be decontaminated, dispose of C&D waste as in Section 02350 TRANSPORTATION AND DISPOSAL. If the building materials cannot be decontaminated (i.e. the building material itself is contaminated), then dispose of the building material in the same manner as the surrounding soils.

3.6.2 Excavation of Underground Storage Tanks

Underground Storage Tanks (USTs) encountered in the excavation shall be reported immediately to the Contracting Officer. The Contracting Officer shall determine if encountered USTs are to be remediated. Storage tank removal shall be in accordance with Section 02650 STORAGE TANK REMOVAL.

3.6.3 Decontamination of Subsurface Structures

Structures and utilities that are determined to be contaminated shall undergo decontamination in an attempt to meet the requirements for disposal as uncontaminated material.

Remove mud and other loose material adhering to the surface of utility lines, pipes, manholes, catch basins, foundations, or other surfaces utilizing a trowel, scraper, wire brush or other method approved by the Contracting Officer.

Following removal of contaminated material, the surface shall remain exposed until the entire surface area is dry. The Contractor may utilize drying techniques to accelerate the process, such as heaters or blowers, if approved by the Contracting Officer. The Contracting Officer will inspect the wall or surface and approve the condition of drying prior to removal of remaining material.

When the surfaces are dry, and upon authorization from the Contracting Officer, any adhered material remaining shall be removed utilizing nylon power brush with vacuum shroud (to minimize generation of dust), or similar method if approved by the Contracting Officer. Methods which result in the significant generation of water will not be acceptable. The surface shall be brushed and cleaned until all visible soil material is removed.

Following removal and disposal of all visible material adhering to the surface, the cleaned area shall be completely dried and the surface shall be tested as per Section 01450A CHEMICAL DATA QUALITY CONTROL. A determination will then be made by the Contracting Officer as to what additional decontamination activities may be required, if any.

Continue to decontaminate surfaces as directed by the Contracting Officer.

Techniques using a wide blade chisel, scraper or other methods, approved by the Contracting Officer, may be used to complete this work. Structures that are determined to be contaminated internally shall be demolished and disposed off site as contaminated waste, as directed by the Contracting Officer.

-- End of Section --

SECTION 02320

BACKFILL AND COMPACTION

PART 1 GENERAL

1.1 SCOPE OF WORK

Contractor shall provide all labor, materials, equipment, and incidentals to furnish, place, and compact all backfill, fill, and other materials required for structures, pipelines, roads, and site restoration, and to provide finish grades as shown, specified and ordered.

1.2 REFERENCES

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

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO T 180	(2001) Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and an 457-mm (18-in) Drop
AASHTO T 224	(2001) Correction for Coarse Particles in the Soil Compaction Test

ASTM INTERNATIONAL (ASTM)

ASTM D 1556	(2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(2002) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu.m.))
ASTM D 2487	(2000) Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2922	(2001) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 3017	(2001) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
ASTM D 422	(1963; R 2002) Particle-Size Analysis of Soils

NEW JERSEY ADMINISTRATIVE CODE (NJAC)

NJAC 7:26E	Technical Requirements for Site Remediation
NJAC 7:26D	(1992) Cleanup Standards for Contaminated

Sites (proposed rule)

NEW JERSEY DEPARTMENT OF TRANSPORTATION (NJDOT)

NJDOT 901.04	Aggregates - Broken Stone
NJDOT 901.05	Aggregates - Washed Gravel
NJDOT 901.08	Aggregates - Dense-Graded Aggregate

1.3 MEASUREMENT

Not Used

1.4 PAYMENT

Not Used

1.5 DEFINITIONS

1.5.1 Satisfactory Materials

Soils classified by ASTM D 2487 as GW, GP, GM, GP-GM, GW-GM, SW, SP, SM, SC, SW-SM, SW-SC, SP-SM, and SP-SC; free of rock or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter. Satisfactory materials shall not contain manmade fills, trash, refuse, backfills from previous construction, or chemically contaminated materials exceeding the limits indicated in Section 01450A CHEMICAL DATA QUALITY CONTROL. Soils shall be certified clean fill, the certification shall be submitted in the Excavation and Material Handling Plan in accordance with Section 02310 EXCAVATION. Off-site soils shall be from a government-approved source. The source shall not be a former industrial site. Soils shall be sampled in accordance with Section 01450A CHEMICAL DATA QUALITY CONTROL.

1.5.2 Unsatisfactory Materials

Uncontaminated materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills; trash; refuse; backfills from previous construction; and material classified as satisfactory which contains root and other organic matter or frozen material.

1.5.3 Degree of Compaction

Degree of compaction required, except as noted in the second sentence, is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557 abbreviated as a percent of laboratory maximum density. Since ASTM D 1557 applies only to soils that have 30 percent or less by weight of their particles retained on the 3/4 inch sieve, the degree of compaction for material having more than 30 percent by weight of their particles retained on the 3/4 inch sieve shall be expressed as a percentage of the maximum density in accordance with AASHTO T 180 Method D and corrected with AASHTO T 224. To maintain the same percentage of coarse material, the "remove and replace" procedure as described in the NOTE 8 in Paragraph 7.2 of AASHTO T 180 shall be used.

1.5.4 Topsoil

Material suitable for topsoil obtained from offsite areas is defined as: Natural, friable soil capable of supporting vegetative growth.

1.5.5 Hard/Unyielding Materials

Weathered rock, dense consolidated deposits, or conglomerate materials which are not included in the definition of "rock" with stones greater than 30 inches in any dimension or as defined by the pipe manufacturer, whichever is smaller. These materials usually require the use of heavy excavation equipment, ripper teeth, or jack hammers for removal.

1.5.6 Unstable Material

Unstable material shall consist of materials too wet to properly support the utility pipe, conduit, or appurtenant structure.

1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Proposed source of borrow material.

SD-06 Test Reports

Testing

Borrow Site Testing

Off-Site Soils Chemical Testing

Within 24 hours of conclusion of tests, 6 copies of test results, including calibration curves and results of calibration tests. Results of testing at the borrow site.

SD-07 Certificates

Commercial Testing Laboratory Qualifications

Qualifications of the commercial testing laboratory or Contractor's testing facilities.

PART 2 PRODUCTS

2.1 REQUIREMENTS FOR OFF-SITE SOILS

Off-site soils brought in for use as backfill and topsoil shall meet the NJDEP requirements of NJAC 7:26E-6.4 and NJAC 7:26D with regard to condition and quality. Sample potential backfill materials at each source for chemical contaminants in accordance with Section 01450A CHEMICAL DATA QUALITY CONTROL. The contractor shall submit results from Off-Site Soils Chemical Testing. Provide a written backfill material certification/source for all backfill materials proposed to be used on site including a written

historical summary of the site the fill materials are coming from. Material shall not be brought on site until test results have been evaluated and the soils approved by the Contracting Officer.

2.2 SUBBASE COURSE (ROAD GRAVEL)

Subbase material shall be used for all backfill on-site including beneath all paved areas. Subbase material shall be sound and will be accepted on the basis of a magnesium sulfate soundness loss after 4 cycles of 20 percent or less. Subbase material shall consist of stone, sand, and gravel or blends of these materials. Dense graded aggregate conforming to NJDOT 901.08, broken stone confirming to NJDOT 901.04, and crushed gravel conforming to NJDOT 901.05. Blast furnace slag shall not be used. The moisture content of the dense graded aggregate shall be 4 to 8% immediately prior to placement based on dry weight. The dense graded aggregate shall have the the following gradation:

Sieve Size	**Percent Passing by Weight**
1.5 inch	100
3/4 inch	55 to 90
No. 4	25 to 60
No. 50	5 to 25
No. 200	3 to 12

When tested according to AASHTO T-90, the portion passing the No. 40 sieve shall be non-plastic. Recycled concrete aggregate may not be used. RAP produced dense aggregate may not be used.

PART 3 EXECUTION

3.1 GENERAL

Backfill materials shall come from an approved source.

3.2 GROUND SURFACE PREPARATION

3.2.1 General Requirements

Unsatisfactory material in surfaces to receive fill or in excavated areas shall be removed and replaced with satisfactory materials as directed by the Contracting Officer. For areas with steep slopes, the surface shall be scarified to a depth of 6 inches before the fill is started. Sloped surfaces steeper than 1 vertical to 4 horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When subgrades are less than the specified density, the ground surface shall be broken up to a minimum depth of 6 inches, pulverized, and compacted to the specified density. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill.

3.2.2 Frozen Material

Material shall not be placed on surfaces that are muddy, frozen, or contain frost. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, or other approved equipment well suited to the soil being compacted. Material shall be moistened or

aerated as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction with the equipment used. Minimum subgrade density shall be as specified in paragraph TESTING.

3.3 BACKFILLING

Furnish, place, and compact all backfill materials following foundation and slab removal for grading, pavement subgrades and other areas as shown and specified. Backfill shall be placed to the lines and grades shown. No backfill shall be placed without prior approval from the Contracting Officer. Backfill excavations as promptly as work permits but not before acceptance by the Contracting Officer of construction below finished grade, including all inspections and testing. The lift thickness and compaction moisture content range given herein is approximate. These values shall be finally determined from the laboratory test results on the fill materials. Compaction requirements for backfill materials shall also conform to the applicable portions of paragraph SUBGRADE PREPARATION and COMPACTION. Place fill in 8 inches (max) lifts prior to compaction except when hand-operated compactors are used, in which case maximum uncompacted lift thickness shall be 6 inches.

All fill must be wetted and thoroughly mixed to achieve optimum moisture content.

Natural undisturbed soils or compacted soil subsequently disturbed or removed by construction operations shall be replaced with materials compacted as specified above.

3.3.1 Trench Backfill

Trenches shall be backfilled to the grade shown. The trench shall not be backfilled until all specified tests are performed.

3.3.1.1 Replacement of Unyielding Material

Unyielding material removed from the bottom of the trench shall be replaced with select granular material or initial backfill material.

3.3.1.2 Replacement of Unstable Material

Unstable material removed from the bottom of the trench or excavation shall be replaced with select granular material placed in layers not exceeding 6 inches loose thickness.

3.4 COMPACTION

3.4.1 General

Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibrating compactors, or other approved equipment. Compact soil and subgrade to not less than the following percentages of maximum dry unit weight and optimum moisture according to ASTM D 1557:

a. Foundation and slab removal areas near and under pavements, compact each layer of backfill to 95 percent;

b. Plus or minus 2.5 percent of optimum moisture;

c. If a moisture content of plus or minus 2.5 percent falls outside the compaction curve for achieving 95 percent degree of compaction, then the allowable moisture range shall be reduced such that it falls within the compaction curve specific to the material being compacted.

3.5 SUBGRADE PREPARATION

3.6 FINISHING

3.6.1 Grading Around Structures

Areas within 5 feet outside of each building and structure line shall be constructed true-to-grade, shaped to drain, and shall be maintained free of trash and debris until final inspection has been completed and the work has been accepted.

3.7 TESTING

Testing shall be performed by an approved commercial testing laboratory or by the Contractor subject to approval. The Contractor shall submit the Commercial Testing Laboratory Qualifications if a commercial testing laboratory will be used. If the Contractor elects to establish testing facilities, no work requiring testing will be permitted until the Contractor's facilities have been inspected and approved by the Contracting Officer. Field in-place density shall be determined in accordance with ASTM D 2922. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted using only the sand cone method as described in ASTM D 1556. ASTM D 2922 results in a wet unit weight of soil and when using this method ASTM D 3017 shall be used to determine the moisture content of the soil. The calibration curves furnished with the moisture gauges shall also be checked along with density calibration checks as described in ASTM D 3017; the calibration checks of both the density and moisture gauges shall be made at the beginning of a job on each different type of material encountered and at intervals as directed by the Contracting Officer. When test results indicate, as determined by the Contracting Officer, that compaction is not as specified, the material shall be removed, replaced and recompacted to meet specification requirements. Tests on recompacted areas shall be performed to determine conformance with specification requirements. Inspections and test results shall be certified by a registered professional civil engineer. These certifications shall state that the tests and observations were performed by or under the direct supervision of the engineer and that the results are representative of the materials or conditions being certified by the tests. The following number of tests, if performed at the appropriate time, will be the minimum acceptable for each type operation.

3.7.1 Fill and Backfill Material Gradation

One test per 5,000 cubic yards stockpiled or in-place source material, whenever a change of material occurs, or at the direction of Contracting Officer. Gradation of fill and backfill material shall be determined in accordance with ASTM D 422.

3.7.2 In-Place Densities

a. One test per 500 cubic yards or fraction thereof, of each lift of fill or backfill areas compacted by other than hand-operated machines (no less than one sample per lift).

b. One test per 300 square feet, or fraction thereof, of each lift of fill or backfill areas compacted by hand-operated machines.

3.7.3 Check Tests on In-Place Densities

If ASTM D 2922 is used, in-place densities shall be checked by ASTM D 1556. Perform one check test per day at a location approved by the Contracting Officer.

3.7.4 Moisture Contents

In the stockpile, excavation, or borrow areas, a minimum of two tests per day per type of material or source of material being placed during stable weather conditions shall be performed. During unstable weather, tests shall be made as dictated by local conditions and approved by the Contracting Officer. The Contractor shall submit all Borrow Site Testing results.

3.7.5 Optimum Moisture and Laboratory Maximum Density

Tests shall be made for each type material or source of material including borrow material to determine the optimum moisture and laboratory maximum density values in accordance with ASTM D1557. One representative test per 5,000 cubic yards of fill and backfill, when any change in material occurs which may affect the optimum moisture content or laboratory maximum density, or as directed by the Contracting Officer.

3.7.6 Tolerance Tests for Subgrades

Continuous checks on the degree of finish specified in paragraph SUBGRADE PREPARATION shall be made during construction of the subgrades.

-- End of Section --

SECTION 02350

TRANSPORTATION AND DISPOSAL

PART 1 GENERAL

1.1 SCOPE OF WORK

Contractor shall provide all labor, materials, tools, and equipment to transport and dispose Hazardous and Toxic Waste (HT) materials. Included are all plans, manifests, record keeping, and any other supporting documentation necessary for shipment and disposal of HT materials.

1.2 REFERENCES

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

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA OSWER Directive 9834.11	Close Out Procedures for National Priorities List Sites

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 61	National Emission Standards for Hazardous Air Pollutants
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans

49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 178	Specifications for Packagings

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

Waste Management Plan and Addendum; G

Prior to start of work, the Contractor shall develop a Waste Management Plan. The Waste Management Plan shall detail the manner in which all material/wastes shall be managed both on and off site for the remediation activities. This plan shall include the relevant requirements for handling, transportation, storing, treatment and/or disposal of all nonhazardous and hazardous materials and wastes as required by the applicable laws and regulations. Contractor shall prepare a cluster-specific addendum to the approved Waste Management Plan for each building or cluster to be remediated.

Security Plan for Hazardous Materials Shipments; G

Traffic Control Plan; G

Notices of Non-Compliance and Notices of Violation

Notices of non-compliance or notices of violation by a federal, state, or local regulatory agency issued to the Contractor in relation to any work performed under this contract. Provide copies of such notices to the Contracting Officer. Also furnish all relevant documents regarding the incident and any information requested by the Contracting Officer, coordinate its response to the notice with the Contracting Officer prior to submission to the notifying authority. Also furnish a copy to the Contracting Officer of all documents submitted to the regulatory authority, including the final reply to the notice, and all other materials, until the matter is resolved.

Hazardous Waste Manifest; G

EPA Form 8700-12, Notification of Hazardous Waste Activity; G

SD-06 Reports

Hazardous Waste Manifest Annual and/or Biennial Reports

State Reporting Requirements; G

Transportation and Disposal Tracking Form

Discrepancy Reports

Exception Reports

Toxic Substance Control Act PCB Reporting Requirements; G

Final Disposal Report; G

SD-07 Certificates

Qualifications; G

Regulatory specialist and transportation and disposal coordinator; G

Off-Site Policy Compliance Certification

A letter certifying that USEPA Region 2 considers the facilities to be used for all off-site disposal to be acceptable in accordance with the Off-Site policy in 40 CFR 300.440. This certification shall be provided for wastes from Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901 et seq., sites as well as from Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 U.S.C. 9601 et seq., responses. See Attachment A, Sample Certification, at the end of this section.

Certificates of Disposal

Shipping Documents and Packagings Certification

The Complete Manifest Package consists of, at a minimum, all hazardous waste manifests, PCB manifests, hazardous material shipping papers, waste profile sheets, the land disposal restriction notification and certification forms, and all other supporting documentation. Supporting documentation shall include waste disposal history, all analytical results, Material Safety Data Sheets available, and any other information received in identifying the proper waste code. The Contractor shall also include as part of the supporting documentation, the specific type of inner and outer packaging, markings, labeling, and placards offered to the transporter.

1.4 QUALIFICATIONS

1.4.1 Regulatory Specialist and Transportation and Disposal Coordinator

Designate, by position and title, one person to act as the Regulatory Specialist and Transportation and Disposal Coordinator (TDC) for this contract. The TDC:

shall have a minimum of three (3) years working experience in federal, state, and local laws and regulations, and guidance associated with HTRW investigations, studies, designs, and remediations;

shall have the capability and experience to identify all required permits;

shall have specialized training in Hazardous Materials Transportation;

shall meet the requirements for DOT certification;

shall have membership in a professional environmental organization;

shall serve as the single point of contact for all environmental regulatory matters;

shall have overall responsibility for total environmental compliance at the site including accurate identification and classification of hazardous waste and hazardous materials; determination of proper shipping names; identification of marking, labeling, packaging and placarding requirements; completion of waste profiles, hazardous waste manifests, asbestos waste shipment records, PCB manifests, bills of lading, exception and discrepancy reports; and all other environmental documentation; and,

1.4.2 Training

The Contractor's employees transporting hazardous materials or preparing hazardous materials for transportation shall be trained, tested, and certified in accordance with 49 CFR 172.

1.4.3 Certification

The Contractor and/or subcontractors transporting hazardous materials shall possess a current certificate of registration issued by the Research and Special Programs Administration (RSPA), U.S. Department of Transportation, when required by 49 CFR 107, Subpart G.

Submit an Off-Site Policy Compliance Certification letter certifying that EPA considers the facilities to be used for all off-site disposal to be acceptable in accordance with the Off-Site policy in 40 CFR 300.440. This certification shall be provided for wastes from Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901 et seq., sites as well as from Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 U.S.C. 9601 et seq., responses. See Attachment A, Sample Certification, at the end of this section.

1.5 LAWS AND REGULATIONS REQUIREMENTS

Work shall meet or exceed the minimum requirements established by federal, state, and local laws and regulations that are applicable. These requirements are amended frequently and the Contractor shall be responsible for complying with amendments as they become effective. In the event that compliance exceeds the scope of work or conflicts with specific requirements of the contract, the Contractor shall notify the Contracting Officer immediately.

Determine the state reporting requirements (i.e., generator state and/or disposal state) and obtain current state reporting forms. A completed draft of all required forms, with applicable attachments, shall be submitted to the CO for approval prior to submission to the federal or state regulator. The state reporting forms shall also be included within the Final Disposal Report.

1.6 DEFINITIONS

1.6.1 Hazardous Material

A substance or material determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated pursuant to the Hazardous Materials Transportation Act, 49 U.S.C. 1801. The term includes materials designated as hazardous materials under the provisions of 49 CFR 172.101 and 49 CFR 172.102 and materials that meet the defining criteria for hazard classes and divisions in 49 CFR 173. EPA designated hazardous wastes are also hazardous materials. Materials that meet the criteria established in the Toxic Substances Control Act (TSCA) in 15 U.S.C. 2601 et seq. are also hazardous materials.

1.6.2 Hazardous Waste

A waste that meets criteria established in RCRA or specified by the EPA in 40 CFR 261 or meets criteria established in TSCA or which has been designated as hazardous by a RCRA authorized state program.

Waste shall be segregated into the six types detailed below. Material segregation shall also be based on the disposal facility's waste acceptance criteria.

a. TSCA Waste Greater Than 500 ppm: Site material exhibiting concentrations of PCBs greater than 500 ppm and requiring thermal destruction.

b. TSCA Waste Less Than 500 ppm: Site material exhibiting concentrations of PCBs less than 500 ppm and greater than 50 ppm.

c. RCRA Waste: Site material that has failed the TCLP test and/or contains a RCRA characteristic.

d. Mixed Waste Both RCRA and TSCA Greater Than 500 ppm: Site material exhibiting concentrations of PCBs greater than 500 ppm and has failed the TCLP test and/or contains a RCRA characteristic.

e. Mixed Waste Both RCRA and TSCA Less Than 500 ppm: Site material exhibiting concentrations of PCBs less than 500 ppm and greater than 50 ppm, and has failed the TCLP test and/or contains a RCRA characteristic.

f. Subtitle D (Construction and Demolition Debris (C & D)): Debris resulting from the work at the site that is neither TSCA nor RCRA waste (i.e. is uncontaminated). This includes disposal of demolition debris from structures, pavement, existing site fencing not to be reused, and other site features to be demolished.

PART 2 PRODUCTS

2.1 MATERIALS

Provide all of the materials required for the packaging, labeling, marking, placarding and transportation of hazardous wastes and hazardous materials in conformance with Department of Transportation standards. Details in this specification shall not be construed as establishing the limits of the Contractor's responsibility.

2.1.1 Packagings

Provide bulk and non-bulk containers for packaging hazardous materials/wastes consistent with the general packaging requirements of

Subpart B of 49 CFR 173 referenced in the Hazardous Materials Table in 49 CFR 172.101, Column 8;

49 CFR 178 at the specified packing group performance level; and,

40 CFR 262.

Provide bulk and non-bulk containers for non-hazardous materials/wastes. Provide other packaging related materials such as materials used to cushion or fill voids in overpacked containers, etc. Sorbent materials shall not be capable of reacting dangerously with, being decomposed by, or being ignited by the hazardous materials being packaged. Additionally, sorbents used to treat free liquids to be disposed of in landfills shall be non-biodegradable as specified in 40 CFR 264.314.

2.1.2 Markings

Provide markings for each hazardous material/waste package, freight container, and transport vehicle consistent with the requirements of 49 CFR 172, Subpart D and 40 CFR 262.32 for hazardous waste, 40 CFR 761.45 for PCBs, 40 CFR 61.149(d) for asbestos. Markings shall be capable of withstanding, without deterioration or substantial color change, a 180-day exposure to conditions reasonably expected to be encountered during container storage and transportation.

2.1.3 Labeling

Provide primary and subsidiary labels for hazardous materials/wastes consistent with the requirements in the Hazardous Materials Table in 49 CFR 172.101, Column 6. Labels shall meet design specifications required by 49 CFR 172, Subpart E including size, shape, color, printing, and symbol requirements. Labels shall be durable and weather resistant and capable of withstanding, without deterioration or substantial color change, a 180-day exposure to conditions reasonably expected to be encountered during container storage and transportation.

2.1.4 Placards

For each off-site shipment of hazardous material/waste, provide primary and subsidiary placards consistent with the requirements of 49 CFR 172, Subpart F. Provide placards for each side and each end of bulk packaging, freight containers, transport vehicles, and rail cars requiring such placarding. Placards may be plastic, metal, or other material capable of withstanding, without deterioration, a 30-day exposure to open weather conditions and shall meet design requirements specified in 49 CFR 172, Subpart F.

2.1.5 Spill Response Materials

Provide spill response materials including containers, adsorbent, shovels, and personal protective equipment. Spill response materials shall be available at all times in which hazardous materials/wastes are being handled or transported. Spill response materials shall be compatible with the type of material being handled.

2.2 EQUIPMENT AND TOOLS

Provide miscellaneous equipment and tools necessary to handle hazardous materials and hazardous wastes in a safe and environmentally sound manner.

PART 3 EXECUTION

3.1 ON-SITE HAZARDOUS WASTE MANAGEMENT

These paragraphs apply to government-owned waste only. Contractors are prohibited by 10 U.S.C. 2692 from storing contractor-owned waste on site for any length of time. The Contractor shall be responsible for ensuring compliance with all federal, state, and local hazardous waste laws and regulations and shall verify those requirements when preparing reports, waste shipment records, hazardous waste manifests, or other documents.

Identify hazardous wastes using criteria set forth in 40 CFR 261 or all applicable state and local laws, regulations, and ordinances.

When accumulating hazardous waste on site, comply with generator requirements in 40 CFR 262 and any applicable state or local laws or regulations. On-site accumulation times shall be restricted to applicable time frames referenced in 40 CFR 262.34, and any applicable state or local law or regulation. Accumulation start dates shall commence when waste is first generated (i.e., containerized or otherwise collected for discard).

Immediately mark all hazardous waste containers with the words "hazardous waste" and other information required by 40 CFR 262.32, and any applicable state or local laws or regulations as soon as the waste is containerized. Only use containers in good condition and compatible with the waste to be stored. Ensure containers are closed except when adding or removing waste. Inspect containers for signs of deterioration and respond to any spills or leaks. Inspect all hazardous waste areas weekly and provide written documentation of the inspection. Inspection logs shall contain date and time of inspection, name of individual conducting the inspection, problems noted, and corrective actions taken.

[note to reviewers: this section will be updated during future submittal phases with specific PCB transportation and disposal information.]

3.1.1 Hazardous Waste Classification

Characterize the waste stream to determine the most cost-effective TSDF facility that is in compliance with federal, state, and local laws and regulations.

The Contractor shall have a single Transportation and Disposal Coordinator review the complete classification, manifest package, and shipping documents and packagings certification. The Transportation and Disposal Coordinator shall certify as correct the Hazardous Waste Manifest, Waste Profile Sheets, and Land Disposal Restriction Notification and Certification forms and supporting documentation. Once the review is completed, the Contractor shall submit these documents to the Contracting Officer for approval.

The Contractor shall perform TCLP sampling on the potentially RCRA or mixed waste material in accordance with Section 01450A CHEMICAL DATA QUALITY CONTROL.

3.1.2 Waste Management Plan and Addendum

The Contractor shall prepare and submit a Waste Management Plan. The Waste Management Plan shall detail the manner in which nonhazardous and hazardous material will be managed both on and off site for the remedial activities. The plan shall also describe the types and volumes of wastes, including construction debris, soil, excavated water, and vegetation anticipated to be managed and the management practices to be utilized. Identify the following in the onsite portion of the plan:

the method to be used to ensure accurate quantity counts and/or weights of shipments;

waste minimization methods;

the loading method that prevents the spreading of contaminated material and minimizes production of dust and spillage;

proposed facilities to be utilized for storage and disposal;

areas onsite where nonhazardous and hazardous materials are to be handled;

whether transfer facilities are to be utilized; and if so, how the materials/wastes will be manifested to ultimate disposal; and, procedures to minimize the onsite holding times for waste.

The Contractor shall prepare a cluster-specific addendum to the approved Waste Management Plan for each building or cluster to be remediated.

3.1.3 Measurement of Transported Waste

Record the weight of waste shipped offsite in each container as measured by the onsite scale at the transshipment facility. The Onsite Measurement of Transported Waste and Scale Calibrations shall be recorded and submitted to the Contracting Officer daily. Included on the documentation for will be the date and time of shipment, total weight measured, and name of scale operator.

The scale used to weigh the shipped waste shall be calibrated twice per day, as per the scale manufacturer's recommendations. Submit records of the calibration of the scale to the Contracting Officer within 2 days of the date of calibration.

The Contractor is required to comply with all requirements set forth by the receiving facility and transportation systems pertaining to the weight of shipments. Satisfying the weight requirements based on the measurements of the onsite scale does not relieve the Contractor of the responsibility to comply with receiving or transporting facility requirements.

3.2 OFF-SITE HAZARDOUS WASTE MANAGEMENT

The off-site handling, transportation, and disposal of hazardous wastes and materials shall comply with applicable DOT regulations, CFR, and state and local laws. Dispose of the hazardous materials/hazardous waste only in government-approved facilities. Provide the date of the proposed disposal facility's last compliance inspection. List all active compliance orders, enforcement notices, or Notices of Non-Compliance and Notices of Violation issued against proposed transporters and disposal facilities. State the

source and nature of the cause of violation, if known. If applicable, drawings may be provided.

3.2.1 Offsite Disposal Plan

Submit as part of the Waste Management Plan an Offsite Disposal Section that includes the following:

all proposed government-approved transporters AND transfer and disposal facilities for all hazardous materials and wastes generated during construction;

proposed methods of siting and permit requirements of the local authorities to set up and operate a transshipment facility;

a material unloading and loading procedure;

all aspects and considerations for transportation hazards that will be involved during material/waste hauling operations; and,

procedures for incident response, methods to contain and clean up spills, details of manpower and equipment available, the coordination necessary to mobilize forces in an emergency, and traffic maintenance/warning procedures to be implemented within one hour following any accident or release of contaminated material.

3.2.2 Traffic Control Plan

Traffic Control Plan shall detail the local haul routes, street closure requirements, signage requirements, and repair and maintenance of haul routes. Coordinate with local emergency response and highway/road departments. The Traffic Control Plan shall be in accordance with Section 01500A TEMPORARY CONSTRUCTION FACILITIES and Section 02220 DEMOLITION.

3.2.3 Description of TSD Facility and Transporter

Provide the Contracting Officer with General Information on Transporters and all Offsite Disposal Facilities. At minimum, provide the following:

a. Name and USEPA identification number. Complete EPA Form 8700-12, Notification of Hazardous Waste Activity, and submit to the Contracting Officer for review and approval. Allow a minimum of 30 days for processing the application and assigning the EPA ID number. Shipment shall be made not earlier than one week after receipt of the EPA ID number;

b. Address;

c. Name of responsible contact for the facility;

d. Telephone and fax number for the contact;

e. Signed letter of agreement to accept waste as specified in this Contract; and,

f. Unit of measure utilized for costing purposes.

This information shall be contained in the Waste Management Plan for approval prior to waste disposal.

3.2.4 Shipping Documents and Packagings Certification

Prior to shipment of any hazardous material off-site, TDC shall provide written certification to the Contracting Officer that hazardous materials have been properly packaged, labeled, and marked in accordance with Department of Transportation and EPA requirements.

Provide Certificates of Disposal documenting the ultimate disposal of contaminated material, hazardous waste, PCBs, and/or ACM within 180 days of initial shipment. Receipt of these certificates will be required for final payment and shall be included in the Final Disposal Report.

3.2.5 Transportation

Transportation to an approved disposal facility shall comply with all requirements in the Department of Transportation referenced regulations in the 49 CFR series. Use manifests for transporting hazardous and contaminated wastes as required by 40 CFR 263 or any applicable state or local law or regulation. Ensure that all operations for loading and hauling of wastes comply with Federal and State Department of Transportation (DOT) regulations, 40 CFR 262, 40 CFR 263, EPA OSWER Directive 9834.11 and all other applicable federal, state and local requirements. The Contractor shall be responsible for obtaining permits and authorizations necessary to use the selected shipping routes. Comply with restrictions imposed by local governmental agencies regarding use of the routes.

3.2.5.1 Security Plan for Hazardous Materials Shipments

Security Plan for Hazardous Materials Shipments shall be submitted in accordance with the regulatory requirements issued 25 March 2003 by the Research and Special Programs Administration (RSPA) of the Department of Transportation (DOT). The Security Plan for Hazardous Materials Shipments shall meet the requirements of 49 CFR 172 and must be approved prior to shipment of any hazardous materials.

3.2.5.2 Transportation of Wastes and Materials

All vehicles used for transporting hazardous waste shall be in good working order, watertight, and have current inspections. The Contracting Officer shall inspect all the vehicles at the site prior to loading. At minimum, the following will be verified:

Demonstrate to the Contracting Officer that the tailgates are sealed watertight during operation. Any vehicle bed not providing an adequate leakproof seal shall be repaired or replaced as required.

Tarpaulin covers shall be placed over all vehicle beds during waste material transport to the transshipment facility to prevent any spillage of the waste material during transport. Waterproof tarpaulins shall be nylon, vinyl-coated on both sides with a tearing strength of 70 lbs (ASTM D1117-01), or equal. All edges shall be hemmed, with reinforced grommets on maximum four-foot centers.

Covers shall be placed over trucks, trailers or other conveyances used for bulk shipment. The covers shall completely enclose the bulk shipment with no open areas along the sides or openings on the top.

Containers shall be sealed such that the material meets the requirements of the government-approved disposal site's permit. The containers shall conform to the requirements of 49 CFR 173.

The vehicles designated by the Contractor to haul contaminated material/waste shall be used exclusively for this purpose until released by the Contracting Officer for "unrestricted use" based on the decontamination protocols defined in the Contractor's approved SSHP.

Failure of the shipping container, liner, seals, hatches, doors, or tarpaulin system to meet the above requirements that cause material to be rejected by the government-approved disposal site shall be addressed at no additional expense to the government.

Transportation routes to and from project areas shall be included in the Waste Management Plan. No deviation from transportation routes shall be allowed without prior written approval from the Contracting Officer.

Provide transportation of the waste directly to the disposal facility. If containerized, the waste may be transferred from one transportation vehicle to another, (e.g., from a truck to a rail car). Shipments of contaminated material shall remain packaged after leaving the project site. Coordinate recording quantities of waste leaving the site with the Contracting Officer.

3.2.5.3 Decontamination

Monitor vehicles for external contamination prior to leaving the excavation sites. In the event a vehicle becomes muddy or soil-covered, decontaminate in accordance with the Site Health and Safety Plan prior to leaving the site.

3.2.5.4 Accidental Spills and Cleanup

Any and all spills shall be cleaned up immediately. The Contractor shall be responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off site. This cleanup shall be accomplished at no additional expense to the government. If a truck is contaminated during unloading operations, clean the contaminated material from the truck, load it into an approved container, and dispose of the material as contaminated. Maintain all haul and access roads in a clean condition so that no dirt or contamination is tracked onto clean areas or public roads and highways.

3.2.6 Disposal of Hazardous Materials/Hazardous Wastes

Transport the hazardous materials/hazardous waste to a government-approved hazardous waste storage or disposal facility within 90 days of the accumulation start date on each container.

Use the disposal facilities identified in the approved Waste Management Plan for the performance of the work. Substitutions or additions will not be permitted without prior written approval from the Contracting Officer. Confirm that such facility provided the appropriate disposal services.

3.2.6.1 Staging Areas

Staging areas, if needed, shall be located onsite. The staging area shall be constructed in accordance with Section 02310 EXCAVATION. The equipment staging areas shall be sampled prior to the start of work to determine

background contamination levels. Equipment staging areas shall be sampled post-remediation to verify contamination has not spread to previously uncontaminated areas.

3.2.6.2 Non-Hazardous Waste Disposal

Dispose of miscellaneous household items and uncontaminated demolition debris resulting from the work at an approved landfill facility pursuant of NJAC 7:26-1 et seq.

Do not salvage debris resulting from the work.

a. Disposal of Aboveground Structures

Structures shall be disposed of off-site in accordance with Section 02220 DEMOLITION.

b. Disposal of Debris Encountered During Excavation

Debris encountered during excavation for removal of buildings and structures shall be sampled and characterized as in Section 01450A CHEMICAL DATA QUALITY CONTROL. Dispose of characterized debris accordingly. Do not recycle the debris.

c. Wastewater

Collect, store, treat, sample, and dispose of wastewater including run off which enters excavations generated as part of the work in accordance with Section 01450A CHEMICAL DATA QUALITY CONTROL.

d. Asbestos Containing Materials

Except as specified herein, handling and disposal of asbestos containing materials shall meet the requirements of Section 13280A ASBESTOS HAZARD CONTROL ACTIVITIES.

3.3 HAZARDOUS MATERIALS MANAGEMENT

Evaluate, in consultation with the Contracting Officer, prior to shipment of any material off-site, whether the material is regulated as a hazardous waste in addition to being regulated as a hazardous material; do this for the purpose of determining proper shipping descriptions, and marking and disposal requirements.

3.3.1 Documentation

Prepare and submit all information necessary to file the Hazardous Waste Manifest Annual and/or Biennial Reports to the Contracting Officer for each Task Order to meet all federal or state laws and regulations as a part of the Final Disposal Report. These report sections shall contain all the information necessary for the filing of the formal report in the form and format required by the governing federal or state regulatory agency, including the Contract number; Contractor name; USACE Task Order number and project name; location of project; report type; and date of submittal.

Complete the Transportation and Disposal Tracking Form provided by the Government. This form allows the tracking of key Transportation and Disposal milestones throughout the performance of the work. The form lists all waste materials going off site including quantities, destination, and

waste classification. When tracking the waste, identify the date that the transporter accepts the waste by their signature on the manifest.

Discrepancy Reports shall be provided to the Contracting Officer when differences occur between the quantities or types of hazardous waste designated on the manifest or shipping papers, and the quantity or type of hazardous waste a facility actually receives. Report and rectify discrepancies within 15 days after receiving the waste. This information shall be presented in the Final Disposal Report.

Verify if the generator or generator's representative has received a copy of the signed manifest from the TSDF on or before the 35th day after transporter signature. If the generator or generator's representative has failed to receive a signed copy of the manifest by the 44th day, the Contractor shall prepare a draft EPA Exception Reports for CO approval. The Final Exception Report shall be submitted to the Contracting Officer no later than the 45th day after transporter signature. This information shall also be presented in the Final Disposal Report. Prior to official submittal of Exception Report, a draft copy of the report shall be submitted to the Contracting Officer for review.

Toxic Substance Control Act PCB Reporting Requirements: If specified in the Task Order, or in the event of discovery of equipment or containers, or any media including soil or water with PCB-contaminated fluid impacted by the work in Task Order notify the Contracting Officer immediately and report the findings in writing as soon as possible and complete and submit all necessary logs and reports in accordance with federal and state laws and regulations. Report all information concerning the incident, and include copies of all related documents in the Final Disposal Report.

Final Disposal Report: Provide all requirements mentioned above in paragraph Hazardous Materials Management.

3.4 WASTE MINIMIZATION

Minimize the generation of hazardous waste to the maximum extent practicable. Take all necessary precautions to avoid mixing clean and contaminated wastes.

3.5 EMERGENCY CONTACTS

Comply with the emergency contact provisions in 49 CFR 172.604. Whenever shipping hazardous materials, provide a 24-hour emergency response contact and the phone number of a person knowledgeable about the hazardous materials being shipped. This person will have comprehensive emergency response and incident mitigation information for that material, or immediate access to a person who possesses such knowledge and information. The telephone must be monitored on a 24-hour basis when the hazardous materials are in transport, including during storage incidental to transportation. Ensure that information regarding this emergency contact and telephone number is placed on all hazardous material shipping documents. Designate an emergency coordinator and post the following information where hazardous wastes are managed:

a. The name of the emergency coordinator.

b. Telephone number through which the emergency coordinator can be contacted on a 24-hour basis.

c. The telephone number of the local fire department.

d. The location of fire extinguishers and spill control materials.

Provide all spill information to the Contracting Officer within 2 hours of a spill.

Attachment A
SAMPLE OFF-SITE POLICY CERTIFICATION MEMO

Project/Contract #:_____
Waste Stream:_____
Primary TSD Facility, EPA ID # and Location: _____
Alter. TSD Facility, EPA ID # and Location:_____

EPA Region	Primary Contact	Secondary Contact
I	(617) 565-9446	(617) 573-1754
II	(212) 637-4139	(212) 264-2638
III	(814) 566-3450	(215) 597-8338
IV	(404) 562-8589	(404) 347-7603
V	(312) 886-3587	(312) 886-4445
VI	(214) 665-2282	(214) 655-2281
VII	(913) 551-7883	(913) 551-7667
VIII	(303) 312-6419	(303) 293-1506
IX	(415) 744-2091	(415) 744-2114
X	(206) 553-1061	(206) 553-1061

EPA representative contacted: _____
EPA representative phone number: _____
Date contacted: _____

Comment: _____
The above EPA representative was contacted on _____. As of that date the above sites were considered acceptable in accordance with the Off-Site Policy in 40 CFR 300.440.

Signature: _____ Date: _____
Phone number: _____

3.6 TRANSPORTATION USING ON-SITE RAIL SPUR

The Contractor is notified that the Government is currently working towards construction of a rail sour at the site of the transportation of site soils under a future aspect of OU-2 remedial action. Should that rail sour be constructed and activated during the course of the building demolition activities outlined in these contract documents, the Government will require the Contractor to evaluate utilizing the rail spur for transportation of building materials to off-site disposal facilities. Operation of the rail spur by the Contractor will be under a separate contract.

-- End of Section --

SECTION 02373

GEOTEXTILE

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM D 4354	(1999) Sampling of Geosynthetics for Testing
ASTM D 4355	(2002) Deterioration of Geotextiles from Exposure to Light, Moisture and Heat in a Xenon-Arc Type Apparatus
ASTM D 4533	(2004) Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	(1991; R 2003) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(2004) Determining Apparent Opening Size of a Geotextile
ASTM D 4759	(2002) Determining the Specification Conformance of Geosynthetics
ASTM D 4833	(2000e1) Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
ASTM D 4873	(2002) Identification, Storage, and Handling of Geosynthetic Rolls and Samples

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. 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-04 Samples

Manufacturing Quality Control Sampling And Testing

Quality Assurance Samples and Tests

Samples for quality assurance testing; 7 days shall be allotted

in the schedule to allow for testing.

SD-07 Certificates

Geotextile

A minimum of 7 days prior to scheduled use, manufacturer's certificate of compliance stating that the geotextile meets the requirements of this section. The certificate of compliance shall be attested to by a person having legal authority to bind the geotextile manufacturer.

1.3 DELIVERY, STORAGE AND HANDLING

Delivery, storage, and handling of geotextile shall be in accordance with ASTM D 4873.

1.3.1 Delivery

The Contracting Officer shall be notified a minimum of 24 hours prior to delivery and unloading of geotextile rolls. Rolls shall be packaged in an opaque, waterproof, protective plastic wrapping. The plastic wrapping shall not be removed until deployment. If quality assurance samples are collected, rolls shall be immediately rewrapped with the plastic wrapping. Geotextile or plastic wrapping damaged during storage or handling shall be repaired or replaced, as directed. Each roll shall be labeled with the manufacturer's name, geotextile type, roll number, roll dimensions (length, width, gross weight), and date manufactured.

1.3.2 Storage

Rolls of geotextile shall be protected from construction equipment, chemicals, sparks and flames, temperatures in excess of 160 degrees F, or any other environmental condition that may damage the physical properties of the geotextile. To protect geotextile from becoming saturated, rolls shall either be elevated off the ground or placed on a sacrificial sheet of plastic in an area where water will not accumulate.

1.3.3 Handling

Geotextile rolls shall be handled and unloaded with load carrying straps, a fork lift with a stinger bar, or an axial bar assembly. Rolls shall not be dragged along the ground, lifted by one end, or dropped to the ground.

PART 2 PRODUCTS

2.1 RAW MATERIALS

2.1.1 Geotextile

Geotextile shall be a nonwoven pervious sheet of polymeric material and shall consist of long-chain synthetic polymers composed of at least 95 percent by weight polyolefins, polyesters, or polyamides. The use of woven slit film geotextiles (i.e. geotextiles made from yarns of a flat, tape-like character) will not be allowed. Stabilizers and/or inhibitors shall be added to the base polymer, as needed, to make the filaments resistant to deterioration by ultraviolet light, oxidation, and heat exposure. Regrind material, which consists of edge trimmings and other scraps that have never reached the consumer, may be used to produce the

geotextile. Post-consumer recycled material may also be used. Geotextile shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other, including the edges. Geotextiles shall meet the requirements specified in Table 1. Where applicable, Table 1 property values represent minimum average roll values (MARV) in the weakest principal direction. Values for AOS represent maximum average roll values.

TABLE 1
MINIMUM PHYSICAL REQUIREMENTS FOR DRAINAGE GEOTEXTILE

PROPERTY	UNITS	ACCEPTABLE VALUES	TEST METHOD
GRAB STRENGTH	LBS	160	ASTM D 4632
PUNCTURE	LBS	95	ASTM D 4833
TRAPEZOID TEAR	LBS	60	ASTM D 4533
MASS/ UNIT AREA	G/SQ M	246	ASTM D 4751
ULTRAVIOLET DEGRADATION	PERCENT	70 AT 500 HRS	ASTM D 4355

2.2 MANUFACTURING QUALITY CONTROL SAMPLING AND TESTING

The Manufacturer shall be responsible for establishing and maintaining a quality control program to assure compliance with the requirements of the specification. Documentation describing the quality control program shall be made available upon request. Manufacturing quality control sampling and testing shall be performed in accordance with the manufacturer's approved quality control manual. As a minimum, geotextiles shall be randomly sampled for testing in accordance with ASTM D 4354, Procedure A. Acceptance of geotextile shall be in accordance with ASTM D 4759. Tests not meeting the specified requirements shall result in the rejection of applicable rolls.

PART 3 EXECUTION

3.1 QUALITY ASSURANCE SAMPLES AND TESTS

3.1.1 Quality Assurance Samples

The Contractor shall provide assistance to the Contracting Officer in the collection of quality assurance samples. Samples shall be collected upon delivery to the site for quality assurance testing at the request of the Contracting Officer. and in accordance with ASTM D 4354, Procedure B. Lot size for quality assurance sampling shall be considered to be the shipment quantity of the product or a truckload of the product, whichever is smaller. The unit size shall be considered one roll of geotextile. Samples shall be identified with a waterproof marker by manufacturer's name, product identification, lot number, roll number, and machine direction. The date and a unique sample number shall also be noted on the sample. The outer layer of the geotextile roll shall be discarded prior to sampling a roll. Samples shall then be collected by cutting the full-width

of the geotextile sheet a minimum of 3 feet long in the machine direction. Rolls which are sampled shall be immediately resealed in their protective covering.

3.1.2 Quality Assurance Tests

The Contractor shall provide quality assurance samples to an Independent Laboratory. Samples will be tested to verify that geotextile meets the requirements specified in Table 1. Test method ASTM D 4355 shall not be performed on the collected samples. Geotextile product acceptance shall be based on ASTM D 4759. Tests not meeting the specified requirements shall result in the rejection of applicable rolls.

3.2 INSTALLATION

3.2.1 Subgrade Preparation

The surface underlying the geotextile shall be smooth and free of ruts or protrusions which could damage the geotextile. Subgrade materials and compaction requirements shall be in accordance with Section 02310 Backfill and Compaction.

3.2.2 Placement

The Contractor shall notify the Contracting Officer a minimum of 24 hours prior to installation of geotextile. Geotextile rolls which are damaged or contain imperfections shall be repaired or replaced as directed. The geotextile shall be laid flat and smooth so that it is in direct contact with the subgrade. The geotextile shall also be free of tensile stresses, folds, and wrinkles.

3.3 SEAMS

3.3.1 Overlap Seams

Geotextile panels shall be continuously overlapped a minimum of 12 inches at all longitudinal and transverse joints.

3.4 PROTECTION

The geotextile shall be protected during installation from clogging, tears, and other damage. Damaged geotextile shall be repaired or replaced as directed. Adequate ballast (e.g. sand bags) shall be used to prevent uplift by wind. The geotextile shall not be left uncovered for more than 14 days after installation.

3.5 REPAIRS

Torn or damaged geotextile shall be repaired. Repairs shall be performed by placing a patch of the same type of geotextile over the damaged area. The patch shall extend a minimum of 12 inches beyond the edge of the damaged area. Geotextile rolls which cannot be repaired shall be removed and replaced. Repairs shall be performed at no additional cost to the Government

3.6 COVERING

Geotextile shall not be covered prior to inspection and approval by the Contracting Officer. Cover soil shall be placed in a manner that prevents

soil from entering the geotextile overlap zone, prevents tensile stress from being mobilized in the geotextile, and prevents wrinkles from folding over onto themselves. Cover soil shall not be dropped onto the geotextile from a height greater than 3 feet. No equipment shall be operated directly on top of the geotextile without approval of the Contracting Officer. Equipment with ground pressures less than 7 psi shall be used to place the first lift over the geotextile.

-- End of Section --

SECTION 02650

STORAGE TANK REMOVAL

PART 1 GENERAL

1.1 DESCRIPTION

This section includes the requirements for materials, equipment, and personnel for uncovering, handling and disposal of either above ground or underground storage tanks which will be encountered during demolition activities. All tanks which are encountered at the site will be closed and removed from the site. In-place closure will not be permitted.

The Contractor is advised that aboveground tanks exist in Clusters 10 and 12. An approximately 25 foot diameter elevated (approximately 110 feet) water storage tank exists in Cluster 10 and a 27 foot diameter by 30 feet high fuel oil storage tank exists in Cluster 12. Each tank constitutes a single discrete cluster. The fuel oil tank in Cluster 12 can be removed at any time independently of demolition in other clusters. The elevated tank removal requires relocation of several cellular telephone transmitters mounted on the tank and demolition of adjacent structures. Draining and cleaning of the fuel oil storage tank will be necessary prior to demolition. The water storage tank has been drained by the Site Owner. Both known tanks are out of service. The fuel oil storage tank was reportedly drained several years ago and cleaned and left in place. The Contractor is advised that the oil tank (Cluster 12) may contain fuel oil. The Contractor shall reclean and drain the tank prior to demolition. The tank contents and volumes have not been verified.

It is possible that additional tanks may be uncovered as the demolition Work proceeds. The Contractor shall properly handle all tanks that are discovered according to the requirements of this section. For the purposes of preparing bids, a bid item for each Cluster Nos. 1 through 11 has been included for removal of 5000 gallon capacity underground storage tank which is exposed during excavation for demolition.

All Storage Tank closure activities including registration and preparation of Tank Closure Reports, sampling, monitoring, testing, excavation and backfill, disposal of residuals and providing all documentation shall be performed by a Certified Tank Handler.

It has been assumed that all tanks are coated with lead-based paint. The Contractor shall conduct demolition activities to protect workers and the public from lead exposure in accordance with Section 13281A LEAD BASED PAINT AWARENESS.

1.2 REFERENCES

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

AMERICAN PETROLEUM INSTITUTE (API)

API PUBL 2217A (1997) Guidelines for Work in Inert

	Confined Spaces in the Petroleum Industry
API PUBL 2219	(1999) Safe Operation of Vacuum Trucks in Petroleum Service
API RP 1604	(1996; R 2001) Closure of Underground Petroleum Storage Tanks
API RP 2003	(1998) Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents
API Std 2015	(2001) Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks

ASTM INTERNATIONAL (ASTM)

ASTM D 1556	(2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(2002e1) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu.m.))
ASTM D 2167	(1994; R 2001) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2922	(2004) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 3017	(2004) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 266	Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
40 CFR 268	Land Disposal Restrictions
40 CFR 279	Standards for the Management of Used Oil
40 CFR 280	Technical Standards and Corrective Action

Requirements for Owners and Operators of Underground Storage Tanks (UST)

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA SW-846.3-3 (1999, Third Edition, Update III-A) Test Methods for Evaluating Solid Waste: Physical/Chemical Methods

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-03 Product Data

Storage Tank Handling Plan; G.

The Storage Tank Handling Plan within 30 days after notice to proceed. The Contractor shall allow 30 days in the schedule for the Government's review and approval. No adjustment for time or money will be made for resubmittals required as a result of noncompliance.

Qualifications; G

A document indicating that the Contractor meets the specified requirements.

Salvage Rights.

A record of the disposition of salvaged materials at the end of the contract.

SD-06 Test Reports

Backfill Material; G.

Tank Sampling And Analytical Program

The Contractor shall maintain field log documentation of all sampling activities and a chain of custody for the samples collected.

Tank Contents Verification; G.

Contaminated Water Disposal; G.

Soil Examination, Testing, and Analysis; G

Reports including the chain-of-custody records.

Backfilling; G.

Copies of all laboratory and field test reports.

Tank Closure Report.

Five (5) copies of the report for each tank site opened, prepared in a standard 3-ring binder, within 14 days of completing work at each site. Each binder shall be labeled with contract number, project name, location and tank number; each binder shall be indexed. A copy of the report shall be furnished to the Installation Environmental Coordinator.

1.4 QUALIFICATIONS

The Contractor shall have a minimum of 5 years of tank removal experience and shall be certified by the State of New Jersey for tank removal work.

1.4.1 Laboratory Services

For laboratory services the Contractor shall be validated in accordance with state certification requirements and Section 01450A CHEMICAL DATA QUALITY CONTROL.

1.4.2 Support Staff

The Contractor shall identify all staff involved for the various components, including personnel collecting and shipping samples. The qualifications of these staff members shall be detailed by the Contractor.

1.5 REGULATORY REQUIREMENTS

1.5.1 Permits and Licenses

The Contractor, as required or as directed by the Contracting Officer, shall obtain local, state, or federal permits and licenses that directly impact the Contractor's ability to perform the work prior to commencing removal operations.

1.5.2 Statutes and Regulations

Tank closures shall be carried out in accordance with 40 CFR 280, 40 CFR 262, 40 CFR 264, and 40 CFR 265 as well as the applicable local and State of New Jersey regulations. Hazardous waste shall be transported in accordance with Section 02350 TRANSPORTATION AND DISPOSAL.

1.6 Sequencing and Scheduling

The Contractor shall notify the Contracting Officer 3 days prior to tank removal.

1.7 Storage Tank Handling Plan

The Contractor shall develop, implement, maintain, and supervise as part of the work, a comprehensive plan for tank removal and related operations. As a minimum the plan shall include, but not be limited to, excavation, removal, and ultimate disposal of the tank, its contents, and any contaminated materials. The Storage Tank Handling Plan shall be based on work experience, on the requirements of this specification, and on the following references:

a. API RP 1604.

b. API Std 2015.

c. API RP 2003.

d. API PUBL 2217A.

e. API PUBL 2219.

No work at the site, with the exception of site inspections and mobilization, shall be performed until the Storage Tank Handling Plan is approved. At a minimum, the Storage Tank Handling Plan shall include:

a. Discussion of the removal approach, tank cleaning, and tank cutting procedures.

b. A Sampling and Analysis Plan prepared in accordance with Section 01450A CHEMICAL DATA QUALITY CONTROL.

c. Methods to be employed for product, sludge, vapor, and pumpable liquid removal; purging and inerting; and storage methods proposed for control of surface water.

d. Treatment options.

e. Identification of waste, tank and contaminated soil transporters and means of transportation.

f. Treatment, disposal, and alternate facilities, and means of treatment, disposal or remediation.

g. Borrow source.

h. Spill prevention plan.

i. Spill contingency plan.

j. Decontamination procedures, shoring plan, and safety measures in accordance with Section 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST).

PART 2 PRODUCTS

2.1 BACKFILL MATERIAL

Backfill material shall be obtained from off-site sources and consist of Dense-Graded Aggregate in accordance with Section 02320 Backfill and Compaction.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

3.1.1 Safety Guidelines

Personnel shall abide by the safety guidelines specified in Section 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST).

3.1.2 Burning and Explosives

Use of explosives or burning debris will not be allowed.

3.1.3 Protection of Existing Structures and Utilities

The Contractor shall take all necessary precautions to avoid damage to existing structures, their appurtenances, monitoring wells, or utilities that may be affected by work activities. Any damage to utilities resulting from the Contractor's operations shall be repaired at no expense to the Government. The Contractor shall coordinate with site management and the Contracting Officer to locate underground utilities prior to beginning construction. Utilities encountered which were not previously shown or otherwise located shall not be disturbed without approval from the Contracting Officer.

3.1.4 Shoring

Shoring requirements shall be provided in accordance with Section 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST).

3.2 TANK SAMPLING AND ANALYTICAL PROGRAM

3.2.1 General

All sampling of liquids, sludges, and/or solids from storage tanks shall be performed by the Contractor. The Contractor shall provide all sample containers and be responsible for sample collection, packing, preservation, transport, and analysis. The Contractor shall maintain field log documentation of all sampling activities and a chain of custody for the samples collected.

3.2.2 Objectives

a. The Contractor shall segregate tank contents as they are encountered during construction activities based on visual observations and air monitoring readings. The rationale shall be to consolidate and stage similar tank contents together to more effectively sample the contents. The Contractor shall bulk similar materials prior to representative sampling for analytical testing, to the extent possible for efficient and cost-effective sampling, analysis, and disposal. The Analytical Program shall be structured to provide data in a time frame that will allow expedient removal, off-site transportation and disposal of tank materials exhibiting hazardous characteristics.

b. Tank opening and sampling procedures shall be in accordance with current OSHA Standards for protection of tank sampling personnel. Personnel in the immediate vicinity shall be upwind of the tank being opened. The Contractor shall be responsible for collection of a representative sample.

c. The Contractor shall describe the sampling procedures and equipment to sample tank liquids, sludges, and solids in the Storage Tank Handling Plan. The objective of this plan shall be to characterize the tank material as required to:

(1) Field screen materials for staging using appropriate instrumentation and applicable field screening tests.
(2) Determine material compatibility for safe staging,

segregation, bulking, or recontainerization.
(3) Sample and analyze tank material for hazardous characteristics.
(4) Determine treatment and disposal requirements for tank material exhibiting hazardous characteristics.
(5) Allow transportation of tank material in accordance with regulatory requirements.
(6) Identify potential RCRA permitted disposal facilities.

3.2.3 Sampling and Analytical Plan Contents

a. The Contractor's sampling and analytical program to be described in the Storage Tank Handling Plan shall address:
(1) Sample identification and tracking procedures.
(2) Waste compatibility testing procedures, protocols and analytical parameters.
(3) Waste segregation criteria.
(4) Waste sample collection procedures and methodology.
(5) Information necessary to complete waste disposal application requirements for off-site disposal facilities.
(6) Schedule of all activities including typical sample analysis response times (RCRA and disposal characterization), assessment of treatment/disposal options, waste consolidation if appropriate, and off-site disposal.

3.2.4 Hazardous Characterization Determination

a. The Contractor shall use the following USEPA methods from EPA SW-846.3-3 for characterizing tank material samples [note to reviewers: this section will be confirmed during future submittal phases.] :
(1) Ignitability: USEPA 1010.
(2) Corrosivity: USEPA 9040/9045.
(3) Reactivity:
6.4.3.1 Cyanide: USEPA 9012.
6.4.3.2 Sulfide: USEPA 9030.
(4) Free Liquids: USEPA 9095.
(5) Toxicity:
USEPA 1311-Toxicity Characteristic Leaching Procedure (TCLP) Preparation.
USEPA 8270-TCLP Semivolatiles.
USEPA 8240-TCLP Volatiles.
USEPA 8080-TCLP Pesticides.
USEPA 8150-TCLP Herbicides.
USEPA 6010 and 7470-TCLP Metals.
(6) Compatibility: The purpose of compatibility testing is to determine which materials for off-site disposal (i.e., classified as exhibiting characteristics of hazardous waste as defined by 40 CFR 261) can be safely consolidated (i.e., bulked) for disposal purposes. The Contractor shall bulk materials to the extent possible based on the characterization results and in field bulking tests. The Contractor shall describe the procedures to be followed for bulking (i.e., compatibility testing) in the Storage Tank Handling Plan.
(7) Partial TCLP Parameter: Analytical testing of solid materials (e.g., testing for the inorganic fraction only) will be allowed if it is apparent from visual observations that the likelihood of the sample containing any TCLP organic parameters is minimal. For example, a sample collected from a tank containing sand or gravel.

would be tested only for TCLP inorganic parameters and the other hazardous characteristic parameters.

3.2.5 Disposal Samples

The Contractor shall follow the analytical methods necessary to satisfy off-site disposal facility requirements.

3.2.6 Data Reporting

Written results of the hazardous characterization testing performed by the Contractor shall be submitted to the Contracting Officer within 21 calendar days of sampling and at least 14 days prior to transportation of tank material off-site. Written results of the compatibility testing shall be submitted to the Contracting Officer within 2 days of performing the compatibility testing and 14 days prior to transportation of the materials off-site. For materials which are determined to be Hazardous, the Contracting Officer will obtain provisional generator ID number for the site.

3.3 CLEARING, GRUBBING AND REMOVALS

Clearing and grubbing shall be as completed as required and directed by the Contracting Officer shall be cleared of all trees, stumps, down timber, brush, rubbish, roots larger than 3 inches in diameter, and matted roots prior to commencing operations. Concrete or asphalt pavement shall be saw cut at the limits of removal, broken and removed with the resulting debris disposed off Government Property. Chain link fence shall be disposed of off-site.

3.4 PREPARATIONS FOR DEMOLITION OF TANK

Before demolition the Contractor shall drain product piping back to the tank and remove all product from the tank; and the tank shall be purged and vented in accordance with API RP 1604, and as specified herein.

3.4.1 Removal of Product, Pumpable Liquids, and Sludge

Tank product, pumpable liquids, and sludge shall be contained, and stored onsite, prior to disposal. Contaminated water shall be treated as specified. Tank product, pumpable liquids, and sludge shall be removed and disposed of by the Contractor. No Government facilities shall be used for permanent storage or disposal of the wastes. Temporary storage on the site Government facilities will be allowed only until testing is complete, manifests (if necessary) are complete, and transportation is arranged. The Contractor shall be responsible for complying with all required permits. The Contractor shall provide approved containers, vehicles, equipment, labor, signs, labels, placards and manifests and associated land disposal restriction notices and notifications, necessary for accomplishment of the work, including materials necessary for cleaning up spills that could occur from tank removal operations.

3.4.2 Contaminated Water Disposal

3.4.2.1 Sampling, Analysis, and Containment

Contaminated water shall be sampled and analyzed both prior to and after treatment. Contaminated water produced from excavation operations and tank pumping treated onsite, shall be analyzed for pH; benzene, ethylbenzene,

toluene, and xylene (BETX); total lead; oil and grease; and total petroleum hydrocarbons (TPH). Sampling and analysis shall be performed prior to disposal for every 50,000 gallons of contaminated water treated. Analysis for contaminated water to be taken to an off-site treatment facility shall conform to the requirements of the treatment facility with documentation of all analyses performed furnished to the Contracting Officer in accordance with paragraph RECORDS. Contaminated water shall be contained, stored onsite, and analyzed prior to being transported to the approved treatment, storage and disposal facility and disposed of by the Contractor in accordance with applicable Federal and state disposal regulations. The Contractor shall provide approved containers, vehicles, equipment, labor, signs, labels, placards and manifests and associated land disposal notices and notifications, necessary for accomplishment of the work. Sampling and analyses of contaminated water and treated water and the Contractor and laboratory quality assurance program shall be in accordance with Section 01450A CHEMICAL DATA QUALITY CONTROL.

3.4.2.2 Treatment

Contaminated water shall be treated off-site by oil water separation or other means as approved by the Contracting Officer. If contaminated water is to be treated onsite, the proposed treatment shall be specified in the Storage Tank Handling Plan and submitted for approval. Temporary storage and treatment equipment shall be installed in the general vicinity of the tanks at a location approved by the Contracting Officer. Treated effluent shall be sampled and analyzed and the results approved by the Contracting Officer before discharge to disposal. Effluent shall be treated and discharged in accordance with the discharge permit.

3.5 HANDLING OF ABOVEGROUND TANKS

During demolition operations, any aboveground tank that may be encountered shall be removed. This subsection describes the minimum requirements for handling, sampling, staging, and disposal to be followed by the Contractor. The Contractor's procedures shall be described in the Storage Tank Handling Plan. Minimum requirements for sampling and analysis are specified in the Tank Sampling and Analytical Program. The intent of the specified approach is to optimize the material handling methodology to efficiently minimize costs of sampling and off-site disposal.

3.5.1 Handling

During demolition operations, if aboveground tanks are encountered, the Contractor shall segregate them from other on-site waste material. Prior to handling and removing the tank from the Work area, the Contractor shall visually assess the tank contents and its potential hazardous condition. The Contractor shall submit Tank Contents Verification. Conditions shall be assessed to determine if the tank is leaking, bulging, crushed, or empty. For non-empty tanks, the Contractor shall record any identification or markings on the tank. An information sheet shall be developed as part of the Contractor's Storage Tank Handling Plan upon which the Contractor shall record information such as container type, size, condition, type of materials, and any identifying characteristics of the material. Contents of leaking, damaged tanks shall be transferred to new tanks at the Work area to minimize contamination due to transporting leaking tanks. All Work shall proceed in a controlled manner so as to minimize the potential dangers associated with extraction of tank materials.

3.6 ABOVEGROUND TANK DISPOSAL

Aboveground tanks shall be rendered unfit for further use by the Contractor. This shall be accomplished by cutting a sufficient number (as determined by the Contracting Officer) of holes in the tank or by other acceptable methods as approved by the Contracting Officer Before cutting operations are performed on the excavated tanks, additional explosimeter readings shall be taken inside the tanks to confirm an atmosphere of less than 10 percent LEL.

The Contractor shall dispose of the scuttled tanks following approval of the Contracting Officer, at a scrap metal salvage yard or a solid waste management facility permitted to receive wastes of this type. A letter from the Contractor certifying the final disposition of each tank shall be provided to the Contracting Officer.

The Contractor shall follow the guidelines published in API Std 2015and API RP 1604 for the safe handling, transportation and disposal of the tanks removed from the site(s).

3.7 UNDERGROUND TANK REMOVAL AND DISPOSAL

At this time, the presence of underground tanks is unknown. Any such tanks uncovered during the building demolition process shall be handled in accordance with this section.

Tanks shall be drained and cleaned.

The Contractor shall excavate the soil and fill along the top of each tank to expose all fittings and piping on and connected to the tank.

All product suction and return piping and level instrumentation conduits shall be disconnected, drained and removed.

Excavate and remove soils within three feet of the tank and segregate them based upon visual determination or use of using a photoionization detector (PID) or other Contracting Officer approved device into obviously contaminated and not believed soil piles.

For soils which are obviously contaminated, including but not limited to: product staining or saturation, ponded product in the excavation, or free product or sheen in the excavation, the Contracting Officer must be notified.

Remove the tank from the excavation for offsite disposal and complete confirmatory sampling for the tank and fill and delivery piping in accordance with the Closure Requirements for Underground Storage Tank Systems.

3.8 PURGING AND INERTING

3.8.1 Purging

Tanks shall be purged for confined space entry. The flammable vapors shall be reduced to less than 10% of the LFL and the oxygen content shall be between 19.5% and 23.5%. Confined space entry into the tanks shall not be attempted unless absolutely necessary, as for example, to remove sludge from the tank. Flammable vapors may be exhausted from the tank by any of the methods from API RP 1604 listed below, or any method approved by the

Contracting Officer. The APP/SSHP shall specify the purging method to be used.

a. Ventilation by Eductor-Type Air Movers: The eductor-type air mover shall be properly bonded and grounded to prevent the generation and discharge of static electricity. When using this method, the fill (drop) tube shall remain in place to ensure ventilation at the bottom of the tank. Tanks equipped with fill (drop) tubes that are not removable shall be purged by this method. An eductor extension shall be used to discharge vapors a minimum of 12 feet above grade or 3 feet above adjacent roof lines, whichever is greater. If this is not possible, alternative methods shall be proposed and approved prior to purging. Noise levels generated by these devices as a result of high airflow may exceed OSHA PELs. Noise levels shall be evaluated and appropriate hearing protection shall be provided.

b. Ventilation by Diffused Air Blowers: When using this purging method, the air-diffusing pipe is properly bonded and grounded to prevent the discharge of a spark. Fill (drop) tubes shall be removed to allow proper diffusion of the air in the tank. Air supply shall be from a compressor that has been checked to ensure that Grade D breathing air is being supplied. Air pressure in the tank shall not exceed 5 psi gauge to avoid tank failure.

c. Commercial Emulsifiers and Volatile Fuel Encapsulators: These products are completely miscible in water, aid in the elimination of flammable vapors, and are biodegradable. Regulatory requirements for treatment and disposal of the water shall be determined prior to using this method. Standing outside the tank, the operator shall rinse the tank with a 3-to-6 percent solution of the product using a pressure sprayer through a tank opening. Explosive concentrations shall be measured at several levels (top, middle, and bottom) within the tank. If readings are greater than 10% of the LFL, the tank shall be rinsed again. When LFL readings are acceptable, the water in the tank shall be pumped out for disposal.

3.8.2 Tank Inerting

Following the removal of tank contents but prior to excavation of the tanks and tank preparation activities, the tanks shall be inerted only by introducing an inert gas, carbon dioxide (CO_2) or liquid nitrogen (N_2), to remove flammable vapors. Before inerting, all openings in the tanks shall be plugged with threaded or expansion type plugs except the vent tube and the opening to be used for introducing the inert gas. Within 30 minutes prior to initiating any activities (e.g., excavating, preparation, removal, opening, demolition, transportation, or other similar activities) involving a tank which has been inerted, the inerted nature of the tank (oxygen levels less than 8%) shall be verified.

a. CO_2 fire extinguishers shall not be used for inerting the tank interiors. If a compressed gas (e.g., CO_2 or N_2) is introduced into the tank the following requirements shall be met to prevent the buildup of static electricity:

(1) The UST and the compressed gas supply tank shall be bonded together and grounded.

(2) The compressed gas shall be supplied only at low flows.

(3) The liquid or gas shall be released at the tank bottom so that static electricity is not generated by liquid falling to the bottom of the tank. The tank shall be slowly filled from the bottom up.

b. Dry ice, which evolves CO_2 gas as it evaporates, if used, shall be introduced in the amount of at least 3 lbs per 100 gallons of tank capacity. Skin contact with dry ice shall be prevented by wearing heavy cloth gloves.

c. Sufficient quantities of inert gas (CO_2 or N_2) shall be introduced into the tanks to lower the oxygen content to less than 8%. Pressure inside the tank shall not exceed 5 psi. Prior to proceeding with additional activities on the tank (e.g., excavating), the oxygen content of the tanks shall be monitored to confirm that it is less than 8%. Additional oxygen level monitoring shall be conducted at least hourly while activities involving the tanks are underway but prior to decontamination of tank interiors; at least daily during periods in which the tanks are not being disturbed but prior to decontamination of their interiors; or as directed by the Contracting Officer. If monitoring of tank interiors indicates that oxygen levels are not remaining below 8%, additional inert gas shall be introduced and more frequent oxygen monitoring shall be initiated.

d. During inerting procedures, an extension vent tube a minimum of 12 feet above grade or 3 feet above any adjacent (within 75 feet) roof lines, whichever is greater shall be used to discharge tank vapors. If this is not possible, alternative methods shall be proposed and approved prior to inerting. Continuous combustible gas/oxygen monitoring shall be conducted at the vent and inert gas introduction holes.

3.8.3 Tank Atmosphere Testing

The air within the storage tanks shall be monitored to ensure the space is either adequately purged and safe for personnel entry, or to ensure the tank has been adequately inerted and the oxygen content is less than 8%. In both instances, monitoring shall be performed at the top, bottom, and middle areas of the tanks to ensure stratification has not occurred. Monitoring results shall be reported to project personnel to ensure safe operations. Data shall be recorded as specified in paragraph EXPOSURE MONITORING/AIR SAMPLING PROGRAM.

3.8.4 Monitoring to Ensure Purging

When monitoring to ensure purging, both oxygen content and LFL readings are required. Prior to obtaining LFL readings, the Contractor shall monitor the oxygen content of the space and verify that the combustible gas indicators are operating within the oxygen limits identified by the CGI manufacturer. Personnel shall not be permitted to enter spaces with oxygen levels less than 19.5%, except in emergencies, and then only when equipped with the proper PPE and when following permit-required confined space entry procedures. Toxic air contaminants shall be monitored as specified in paragraph EXPOSURE MONITORING/AIR SAMPLING PROGRAM.

3.8.5 Monitoring to Ensure Inerting

Inerted tanks shall be monitored to ensure oxygen readings remain below a maximum allowable percentage of 8% by volume.

3.9 TANK CLEANING

3.9.1 General

Safety practices and procedures for the cleaning of the storage tanks shall conform to API Std 2015. Opening of the tanks to permit decontamination shall be conducted utilizing only methods approved in the APP/SSHP. The interior and exterior of the tank shall be decontaminated prior to removing it from the work site unless the tank is being transported directly to a state certified tank destruction facility. Plans and procedures, including materials and supplies, for safely and effectively opening the tanks, cleaning surfaces of the interior and exterior of the tanks, and disposing of the decontamination fluids shall be submitted in the SSHP. Volatile organic solvents shall not be permitted to be utilized for decontamination procedures. Personnel shall not enter any of the storage tanks as a part of this project, except when following permit-required confined space entry procedures. Decontamination fluids shall be collected and disposed. Upon completion of this project, written certification shall be made that the tank was properly decontaminated prior to being removed from the site.

3.9.2 Exterior

Soil shall be removed from the exterior of the tank, piping, and associated equipment to eliminate soil deposition on roadways during transportation to a temporary storage area, ensure markings will adhere to the surfaces, and simplify tank cutting. Soil shall be removed using non-sparking tools. Removed uncontaminated soil and soil not regulated by the state as a hazardous waste shall be recovered and used as backfill in the former tank excavation or disposed of onsite. Soil believed to be contaminated shall be removed and containerized, or if the site is a RCRA designated CAMU, collected on an impermeable 30 millimeter polyethylene sheeting and stockpiled with other contaminated soil removed from the excavation as specified in Section 02310 EXCAVATION.

3.9.3 Temporary Storage

If the tank is stored after the tank exterior is cleaned and ancillary equipment is removed, and prior to being cut into sections, the tank shall be labeled as directed in API RP 1604, placed on blocks, and temporarily stored on a flat area adjacent to the excavation. Prior to cleaning the tank interior the tank atmosphere shall be monitored for combustible vapors and purged or inerted if combustible vapors are detected.

3.9.4 Interior

The tank interior shall be cleaned using a high pressure (greater than 500 psi), low volume (less than 2 gpm) water spray or steam cleaned until all loose scale and sludge is removed, and contamination, in the form of a sheen, is no longer visible in the effluent stream. The interior surfaces of piping shall also be cleaned, to the extent possible, using the same method used for cleaning the tank. Contaminated water generated from interior cleaning operations (of both piping and tank) shall not exceed the following quantities for each UST cleaned:

UST VOLUME (GALLONS)	PERCENT OF UST VOLUME
1,000 or less	5
10,000 or less	5 or 100 gal., whichever is less

UST VOLUME (GALLONS)	PERCENT OF UST VOLUME
20,000 or less	1 or 150 gal., whichever is less
greater than 20,000	1 or 250 gal., whichever is less

All contaminated water resulting from cleaning operations shall be collected and stored on site and then discharged to the installation sanitary sewer after passing through an oil water separator. Cleaning shall be accomplished eliminating, to the greatest extent possible, the need for personnel to enter the tank. Cleaning shall be done using specially designed tank cleaning equipment which allows the tank to be cleaned prior to cutting into sections without requiring personnel to enter the tank or, if less specialized equipment is used, the tank shall be partially dissected to overcome confined space entry hazards. This work shall be accomplished in accordance with Section 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST).

3.10 EXCAVATION

Excavation areas, as well as work near roadways, shall be marked in accordance with Section 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST).

3.10.1 Exploratory Trenches

Exploratory trenches shall be excavated as necessary to determine the tank location, limits and the location of ancillary equipment.

3.10.2 Tank Excavation

Excavation around the perimeter of the tank shall be performed limiting the amount of potentially petroleum contaminated soil that could be mixed with previously uncontaminated soil. Petroleum contaminated soil shall be segregated in separate stockpiles. The Contractor shall maintain around the tank an excavation of sufficient size to allow workers ample room to complete the work, but also protect the workers from sliding or cave-ins. Sheeting, bracing, or shoring shall be installed in the absence of adequate side slopes if there is a need for workers to enter the excavated area. Surface water shall be diverted to prevent direct entry into the excavation. Dewatering of the excavation may require a discharge permit by the State and shall be limited to allow adequate access to the tank and piping, to assure a safe excavation, and to ensure that compaction and moisture requirements are met during backfilling. Dewatering may result in the production of petroleum contaminated water and/or free product. Free product shall be recovered from the groundwater only as part of necessary dewatering.

3.10.3 Piping Excavation

Excavation shall be performed as necessary to remove tank piping and ancillary equipment in accordance with paragraphs: Shoring, Tank Excavation, and Open Excavations.

3.10.4 Open Excavations

Open excavations and stockpile areas shall be secured while awaiting confirmation test results from the soil beneath the tank. The excavation shall be backfilled as soon as possible after tank and contaminated soil removals have been completed and confirmation samples have been taken. The

Contractor shall divert surface water around excavations to prevent water from directly entering into the excavation.

3.10.5 Stockpiles

Uncontaminated excavated soil shall be reused onsite. Petroleum contaminated soil that is not a state-regulated hazardous waste shall be disposed of off-site. Excavated material that is regulated by the state as a hazardous waste which is visibly stained and which has an obvious petroleum odor or as required by the State of New Jersey or implementing agency shall be considered contaminated and shall be stockpiled if the site is a RCRA-designated CAMU or placed in containers such as drums, roll-offs or dumpsters for sampling in accordance with paragraph Stockpiled Material Sampling. Uncontaminated soil shall be stockpiled separately from the contaminated soil, a safe distance away from, but adjacent to, the excavation. Allowable stockpiles of contaminated soil shall be placed on an impermeable 30 millimeter polyethylene sheeting as specified in Section 02310 EXCAVATION. The sheeting shall be placed to prevent the stockpiled soil from coming into contact with surface water run-off. The sheeting cover shall prevent rain or surface water from coming into contact with the contaminated soil, as well as limit the escape of the volatile constituents in the stockpile.

3.11 REMOVAL OF PIPING, ANCILLARY EQUIPMENT, AND TANK

3.11.1 Piping and Ancillary Equipment

All piping and ancillary equipment shall be disconnected from the tank. The piping shall be removed completely (interior and exterior of the tank) to the exterior surface of the tank, where it shall be capped and abandoned in place or as directed by the Contracting Officer. All tank ancillary equipment and piping connections shall be capped, except those connections necessary to inert the tank within the excavation zone. The piping exterior and ancillary equipment shall be cleaned to remove all soil and inspected for signs of corrosion and leakage. The Contractor shall ensure no spillage of the piping contents occurs, as specified in the Storage Tank Handling Plan, and as required in paragraph SPILLS. If the soil under and around the tank pad is contaminated, the tank pad shall be removed and disposed of off-site at an approved hazardous waste facility.

3.11.2 Tank Lifting

Tanks shall be lifted using equipment with a rated capacity greater than the load to be lifted. Tanks shall be lifted by lifting eyes or by straps under the ends of the tanks. Tanks shall not be lifted by the manhole flange or by removing the bungs. Personnel shall be directed to remain away from the ends of the tanks and tanks shall be positioned, whenever possible, with the ends oriented away from occupied or traveled areas, due to potential for rupture. During transportation, the tanks shall be secured to prevent movement.

3.11.3 Tank Demolition

Excavated tanks shall be demolished before being removed from the site unless they are transported directly to a state certified tank destruction facility. Demolition will not be permitted until a decontamination of the interiors and exteriors is complete. Demolition shall involve opening the tanks sufficiently to permanently prohibit further use as containers of liquids. Tanks shall be inerted and tested before they are opened. Plans

and procedures, including a list of materials and supplies, for safely and effectively demolishing the tanks shall be submitted in the APP/SSHP.

3.11.4 Contaminated Soil, Tank and Piping Excavation Examination

After the tank has been removed from the ground, the adjacent and underlying soil shall be examined for any evidence of leakage. The soil shall be visually inspected for staining after removal of all obviously contaminated soil, then screened for the presence of volatile and/or semi-volatile contamination using a real time vapor monitoring instrument. Petroleum contaminated soil not regulated by the state as hazardous waste shall be stockpiled onsite per paragraph Stockpiles and transported off-site for disposal. Contaminated soil or suspected contaminated soil shall be containerized, or, if the site is a RCRA-designated CAMU, stockpiled until further disposition. The Contracting Officer shall determine the extent of the contaminated soil to be removed from each site but shall not exceed 100 cubic yards. The Contractor shall report any evidence indicating that the amount of contaminated soil may exceed the individual site limit specified, to the Contracting Officer the same day it is discovered. If minimal additional excavation is required, the Contracting Officer may allow the Contractor to proceed. If extensive contamination is encountered, the excavation shall be sampled and backfilled in accordance with paragraph BACKFILLING. After the known contaminated soil is removed, the excavation shall be sampled and analyzed in accordance with Section 01450A CHEMICAL DATA QUALITY CONTROL.

3.12 SOIL EXAMINATION, TESTING, AND ANALYSIS

3.12.1 Tank Excavation Sampling Procedures

After soil known to be contaminated has been removed or after soil excavation is complete, the excavation shall be sampled with procedures, number, location, and methodology in accordance with state regulations and Section 01450A CHEMICAL DATA QUALITY CONTROL. Samples may be obtained from the pits using a backhoe with a Shelby tube attached to the bucket. Sample preservation and analytical procedures shall conform to Section 01450A CHEMICAL DATA QUALITY CONTROL.

3.12.2 Stockpiled Material Sampling

Stockpiled contaminated soil shall be sampled and preserved in accordance with the approved Sampling and Analysis Plan, and Section 01450A CHEMICAL DATA QUALITY CONTROL. Sampling locations, number and specific procedures shall be as required by the State of New Jersey and the disposal facility.

3.12.3 Analysis

Soil samples from the excavation and stockpiled material shall be tested in accordance with the approved Sampling and Analysis Plan, and Section 01450A CHEMICAL DATA QUALITY CONTROL for the following parameters: total petroleum hydrocarbon (TPH), benzene, ethylbenzene, toluene, xylene (BETX), and toxicity characteristic leaching procedure (TCLP). Copies of all test results shall be provided to the Contracting Officer.

3.13 BACKFILLING

The tank area and any other excavations shall be backfilled as soon as possible after tank and contaminated soil removals have been completed and confirmation samples have been taken and after the soil test results have

been approved. Contaminated soil removal shall be complete after the bottom of the tank excavation is determined to have soil contamination levels below the state standards of 100 ppm TPH and approval by the Contracting Officer. The excavation shall be dewatered if necessary. Stockpiled material subjected to chemical confirmation testing shall be used as backfill if it is found to conform to the requirements of clean fill per appropriate state and local regulations and contain less than 100 ppm of total petroleum hydrocarbons (TPH) and contain less than 10 ppm of BETX. Backfill consisting of clean fill or alternatively dense graded aggregate shall be placed in layers with a maximum loose thickness of 8 inches, and compacted to 95 percent maximum density for cohesive soils and 95 percent maximum density for cohesionless soils in accordance with Section 02320 BACKFILL AND COMPACTION. Density tests shall be performed by an approved commercial testing laboratory or by facilities furnished by the Contractor. Test results shall be attached to Contractor's Quality Control Report. A minimum of 1 density test shall be performed on each lift. Laboratory tests for moisture density relations shall be determined in accordance with ASTM D 1557, Method B, C, or D, or ASTM D 3017. A mechanical tamper may be used provided that the results are correlated with those obtained by the hand tamper. Field in-place density shall be determined in accordance with ASTM D 1556, ASTM D 2922, or ASTM D 2167.

3.14 DISPOSAL REQUIREMENTS

3.14.1 Treatment, Disposal, and Recycling

Disposal of hazardous or special wastes shall be in accordance with all local, State, and Federal solid and hazardous waste laws and regulations; the RCRA; Section 02350 TRANSPORTATION AND DISPOSAL; and conditions specified herein. This work shall include all necessary personnel, labor, transportation, packaging, detailed analyses (if required for disposal, manifesting or completing waste profile sheets), equipment, and reports. Product and pumpable liquids removed from the tank shall be recycled to the greatest extent practicable. The tanks removed shall be disposed of at state approved facilities. Each tank disposed of in this manner shall be manifested as required by the State of New Jersey to document delivery and acceptance at the disposal facility.

3.14.2 Tank and Ancillary Equipment Disposal

After the tank, piping, and ancillary equipment have been removed from the excavation and the tank cleaned, the tank shall be cut into sections with no dimension greater than 5 feet. Tank and piping sections shall be recycled or disposed of in a USEPA Region 2 approved off-site disposal facility. The tank shall be cut into sections prior to being taken from the tank removal site. The Contractor shall not sell the tank intact. Ancillary equipment shall be disposed of at an approved off-site disposal facility. Piping shall be disconnected from the tank and removed to a distance of 6 feet north of the tank foundation wall. Remaining piping beyond 6 feet North of the tank foundation shall be grouted with a cement and water slurry consisting of 6 gallons of clean water per 94 pound sack of portland cement, thoroughly mixed and free of lumps unless otherwise indicated.

3.14.3 Transportation of Wastes

Transportation shall be provided in accordance with Department of Transportation (DOT) Hazardous Material Regulations and State and local requirements, including obtaining all necessary permits, licenses, and

approvals. Evidence that a State licensed waste transporter is being used shall be included in the SUBMITTALS.

3.14.4 Salvage Rights

The Contractor shall retain the rights to salvage value of recycled or reclaimed product and metal, so long as the requirements of 40 CFR 266 and 40 CFR 279, or the applicable State requirements are met. At the end of the contract, the Contractor shall provide documentation on the disposition of salvaged materials.

3.14.5 Records

Records shall be maintained of all waste determinations, including appropriate results of analyses performed, substances and sample location, the time of collection, and other pertinent data as required by 40 CFR 280, Section 74 and 40 CFR 262 Subpart D, and Section 01450A CHEMICAL DATA QUALITY CONTROL. Transportation, treatment, disposal methods and dates, the quantities of waste, the names and addresses of each transporter and the disposal or reclamation facility, shall also be recorded and available for inspection, as well as copies of the following documents:

a. Manifests.

b. Waste analyses or waste profile sheets.

c. Certifications of final treatment/disposal signed by the responsible disposal facility official.

d. Land disposal notification records required under 40 CFR 268for hazardous wastes.

Records shall be provided in accordance with Section 02350 TRANSPORTATION AND DISPOSAL. Following contract close out, the records shall become the property of the Government.

3.14.6 Hazardous/Special Waste Manifests

Manifesting shall conform to the requirements specified in Section 02350 TRANSPORTATION AND DISPOSAL.

3.14.7 Documentation of Treatment or Disposal

The wastes, other than recyclable or reclaimable product or metal, shall be taken to a treatment, storage, or disposal facility which has EPA or appropriate state permits and hazardous or special waste identification numbers and complies with the provisions of the disposal regulations. Documentation of acceptance of special waste by a facility legally permitted to treat or dispose of those materials shall be furnished to the Contracting Officer not later than 5 working days following the delivery of those materials to the facility; and a copy shall be included in the Tank Closure Report. A statement of agreement from the proposed treatment, storage or disposal facility and certified transporters to accept hazardous or special wastes shall be furnished in the Storage Tank Handling Plan and to the Contracting Officer not less than 14 days before transporting any wastes. If the Contractor selects a different facility than is identified in the Storage Tank Handling Plan, documentation shall be provided for approval to certify that the facility is authorized and meets the standards specified in 40 CFR 264.

3.15 SPILLS

Immediate containment actions shall be taken as necessary to minimize effect of any spill or leak. Cleanup shall be in accordance with applicable Federal, State, local laws and regulations, and district policy at no additional cost to the Government. Refer to Section 02350 TRANSPORTATION AND DISPOSAL for spill response and reporting requirements.

3.16 TANK CLOSURE REPORT

Tank Closure Reports shall be provided for the oil tank (Cluster 12) and any discovered underground storage tanks. Each Tank Closure Report shall include the following information as a minimum:

a. A narrative report describing what was encountered at the site, including:

(1) condition of the tank.

(2) any visible evidence of leaks or stained soils.

(3) results of vapor monitoring readings.

(4) actions taken including quantities of materials treated or removed.

(5) reasons for selecting sample locations.

(6) sample locations.

(7) collection data such as time of collection and method of preservation.

(8) reasons for backfilling site.

(9) whether or not groundwater was encountered.

c. Copies of all analyses performed for disposal.

d. Copies of all waste analyses or waste profile sheets.

e. Copies of all certifications of final disposal signed by the responsible disposal installation official.

f. Information on who sampled, analyzed, transported, and accepted all wastes encountered, including copies of manifests, waste profile sheets, land disposal restriction, notification and certification forms, certificates of disposal, and other pertinent documentation.

g. Copies of all analyses performed for confirmation that underlying soil is not contaminated, with copies of chain-of-custody for each sample. Analyses shall give the identification number of the sample used. Sample identification numbers shall correspond to those provided on the one-line drawings.

h. Progress Photographs. The Contractor shall take a minimum of 4 views of the site showing such things as the location of each

tank, entrance/exit road, and any other notable site condition before work begins. After work has been started at the site, the Contractor shall photographically record activities at each work location daily. Photographs shall be 3 x 5 inches and shall include:

(1) Soil removal, handling, and sampling.

(2) Unanticipated events such as discovery of additional contaminated areas.

(3) Soil stockpile area.

(4) Tank.

(5) Site or task-specific employee respiratory and personal protection.

(6) Fill placement and grading.

(7) Post-construction photographs. After completion of work at each site, the Contractor shall take a minimum of four (4) views of the site. Prints shall illustrate the condition and location of work and the state of progress. The photographs shall be mounted and enclosed back-to-back in a double face plastic sleeve punched to fit standard three ring binders. Each color print shall show an information box, 1-1/2 x 3-1/2 inches. The information box for the 3 x 5 inch photographs shall be scaled down accordingly, or taped to the bottom of the photo. The box shall be typewritten and arranged as follows:

Project No.	Contract No.
Location Contractor/Photographer	
Photograph No.	Date/Time:
Description	
Direction of View	

-- End of Section --

SECTION 02742

HOT MIX BITUMINOUS PAVEMENT

PART 1 GENERAL

1.1 SCOPE OF WORK

Contractor shall provide all labor, materials, tools, and equipment to install all temporary and permanent paving as shown, specified, and ordered.

1.2 REFERENCES

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

NEW JERSEY DEPARTMENT OF TRANSPORTATION (NJDOT)

NJDOT STANDARD SPECIFICATIONS	(1996) New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction

ASTM INTERNATIONAL (ASTM)

ASTM C 117	(2003) Materials Finer Than 75 micrometer (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 131	(2003) Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C 136	(2001) Sieve Analysis of Fine and Coarse Aggregates
ASTM D 1559	(1989) Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus
ASTM D 2172	(2001e1) Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D 4867/D 4867M	(1996) Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D 546	(1999e1) Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures
ASTM D 75	(2003) Sampling Aggregates
ASTM D 979	(2001) Sampling Bituminous Paving Mixtures
ASTM D 3666	(2004) Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-05 Design Data

Mix Design

SD-06 Test Reports

Specific gravity of asphalt

Specific gravity of mineral filler

Aggregates tests

Bituminous Mix Tests

Pavement Courses Testing

1.4 QUALITY ASSURANCE

1.4.1 Required Data

The Mix Design shall show the following:

a. Source and proportions, percent by weight, of each ingredient of the mixture;

b. Correct gradation, the percentages passing each size sieve listed in the specifications for the mixture to be used, for the aggregate and mineral filler from each separate source and from each different size to be used in the mixture and for the composite mixture;

c. Amount of material passing the No. 200 sieve determined by dry sieving;

d. Number of blows of hammer compaction per side of molded specimen;

e. Temperature viscosity relationship of the asphalt cement;

f. Stability, flow, percent voids in mineral aggregate, percent air voids, unit weight;

g. Asphalt absorption by the aggregate;

h. Effective asphalt content as percent by weight of total mix;

i. Temperature of the mixture immediately upon completion of mixing;

j. Asphalt performance grade; and

k. Curves for the leveling, binder, and wearing courses.

1.4.2 Charts

Plot and submit, on a grain size chart, the specified aggregate gradation band, the job-mix gradation and the job-mix tolerance band.

1.4.3 Selection of Optimum Asphalt Content

Base selection on percent of total mix and the average of values at the following points on the curves for each mix:

a. Stability: Peak

b. Unit Weight: Peak

c. Percent Air Voids: Median

1.5 DELIVERY, STORAGE, AND HANDLING

Inspect materials delivered to the site for damage and store with a minimum of handling. Store aggregates in such a manner as to prevent segregation, contamination, or intermixing of the different aggregate sizes.

1.6 ENVIRONMENTAL CONDITIONS

Place bituminous mixture only during dry weather and on dry surfaces. Place courses only when the surface temperature of the underlying course is greater than 45 degrees F for course thicknesses greater than one inch and 55 degrees F for course thicknesses one inch or less.

1.7 CONSTRUCTION EQUIPMENT

Calibrated equipment, such as scales, batching equipment, spreaders and similar equipment, shall have been recalibrated by a calibration laboratory approved by the Contracting Officer within 12 months of commencing work.

1.7.1 Testing Laboratory

Provide a testing laboratory for control and acceptance testing functions during periods of mix production, sampling and testing, and whenever materials subject to the provisions of these specifications are being supplied or tested. The laboratory shall provide adequate equipment, space, and utilities as required for the performance of the specified tests.

1.7.2 Surge and Storage Bins

Use surge and storage bins for temporary storage of hot bituminous mixtures will not be permitted.

1.7.3 Drum-Dryer Mixer

Do not use drum-dryer mixer if specified requirements of the bituminous mixture or of the completed bituminous pavement course cannot be met. If drum-dryer mixer is prohibited, use either batch or continuous mix plants meeting the specifications and producing a satisfactory mix.

1.7.4 Paving Equipment

1.7.4.1 Spreading Equipment

Self-propelled electronically controlled type, unless other equipment is authorized by the Contracting Officer. Equip spreading equipment of the self-propelled electronically controlled type with hoppers, tamping or vibrating devices, distributing screws, electronically adjustable screeds, and equalizing devices. Equipment shall be capable of spreading hot bituminous mixtures without tearing, shoving, or gouging and to produce a finished surface of specified grade and smoothness. Operate spreaders, when laying mixture, at variable speeds between 5 and 45 feet per minute. Design spreader with a quick and efficient steering device; a forward and reverse traveling speed; and automatic devices to adjust to grade and confine the edges of the mixture to true lines. The use of a spreader that leaves indented areas or other objectionable irregularities in the fresh laid mix during operations is prohibited.

1.7.4.2 Rolling Equipment

Self-propelled pneumatic-tired rollers supplemented by three-wheel and tandem type steel wheel rollers. The number, type and weight of rollers shall be sufficient to compact the mixture to the required density without detrimentally affecting the compacted material. Rollers shall be suitable for rolling hot-mix bituminous pavements and capable of reversing without backlash. Pneumatic-tired rollers shall be capable of being operated both forward and backward without turning on the mat, and without loosening the surface being rolled. Equip rollers with suitable devices and apparatus to keep the rolling surfaces wet and prevent adherence of bituminous mixture. Vibratory rollers especially designed for bituminous concrete compaction may be used provided rollers do not impair stability of pavement structure and underlying layers. Repair depressions in pavement surfaces resulting from use of vibratory rollers. Rollers shall be self-propelled, single or dual vibrating drums, and steel drive wheels, as applicable; equipped with variable amplitude and separate controls for energy and propulsion.

1.7.4.3 Hand Tampers

Minimum weight of 25 pounds with a tamping face of not more than 50 square inches.

1.7.4.4 Mechanical Hand Tampers

Commercial type, operated by pneumatic pressure or by internal combustion.

PART 2 PRODUCTS

2.1 PRODUCTS

2.1.1 Paving Materials (Job-Mix Designs)

Surface course (Mix I-4) shall conform to the NJDOT STANDARD SPECIFICATIONS, as amended.

Subbase shall be Dense Graded Aggregate, AASHTO No. 57, as shown on Table 901-1 of the NJDOT STANDARD SPECIFICATIONS.

Prime coat as per Section 404.13 of NJDOT STANDARD SPECIFICATIONS.

2.2 SOURCE QUALITY CONTROL

Employ a commercial laboratory approved by the Contracting Officer to perform testing. The laboratory used to perform all sampling and testing shall meet the requirements of ASTM D 3666 and NJDOT. A certification signed by the manager of the laboratory stating that it meets these requirements or clearly listing all deficiencies shall be submitted to the Contracting Officer prior to the start of construction. The certification shall contain as a minimum:

a. Qualifications of personnel; laboratory manager, supervising technician, and testing technicians.

b. A listing of equipment to be used in developing the job mix.

c. A copy of the laboratory's quality control system.

d. Evidence of participation in the AASHTO Materials Reference Laboratory (AMRL) program.

2.2.1 Tests

Perform testing in accordance with the NJDOT STANDARD SPECIFICATIONS Sections 301, 305, 404, and 903.

PART 3 EXECUTION

3.1 GENERAL

3.1.1 Subgrades

Subgrades shall be prepared in accordance with Section 02320 BACKFILL AND COMPACTION.

3.1.2 Base Course

Aggregate Base Course shall be constructed in accordance with NJDOT STANDARD SPECIFICATIONS Section 301.

3.1.3 Surface Course

Surface Course shall be constructed in accordance with NJDOT STANDARD SPECIFICATIONS Section 404.

3.2 TRANSPORTATION OF BITUMINOUS MIXTURES

Transport bituminous material from the mixing plant to the paving site in trucks having tight, clean, smooth beds that have been coated with a minimum amount of concentrated solution of hydrated lime and water or other approved coating to prevent adhesion of the mixture to the truck. Petroleum products will not be permitted for coating truck. If air temperature is less than 60 degrees F or if haul time is greater than 30 minutes, cover each load with canvas or other approved material of ample size to protect the mixture from the loss of heat. Make deliveries so that the spreading and rolling of all the mixture prepared for one day's run can be completed during daylight, unless adequate approved artificial lighting is provided. Deliver mixture to area to be paved so that the temperature at the time of dumping into the spreader is within the range specified herein. Reject loads that are below minimum temperature, that have crusts of cold

unworkable material, or that have been wet excessively by rain. Hauling over freshly laid material is prohibited.

3.3 SPRAYING OF CONTACT SURFACES

Spray surface of aggregate base course with a thin coat of emulsion or other approved bituminous material prior to placing the bituminous mixture.

3.4 PLACEMENT

3.4.1 Machine Spreading

TABLE VI

MINIMUM SPREADING TEMPERATURES

Base Temp. in Degrees F (*)	Wearing, Binder, or Leveling Course Thickness, Inches							
	1/2	3/4	1	1 1/2	2	3	3 1/2	4
20-32 (**)	---	---	---	---	---	---	275 (**)	260 (**)
+32-40 (**)	---	---	---	---	295	280	270	260
+40-50	---	---	---	300	285	275	265	255
+50-60	---	---	300	295	280	270	260	255
+60-70	---	300	290	285	275	265	255	250
+70-80	300	290	285	280	270	265	255	250
+80-90	290	280	275	270	265	260	250	250
+90	280	275	270	265	265	255	250	250

* Note: Base on which mix is placed.

** Note: Increase by 15 degrees when placement is on base or subbase containing frozen moisture. Normally, hot mix paving is not allowed on base temperatures below 45 degrees F.

The range of temperatures of the mixtures at the time of spreading shall be between 250 degrees F and 300 degrees F. Bituminous concrete having temperatures less than minimum spreading temperature when dumped into the spreader will be rejected. Adjust spreader and regulate speed so that the surface of the course is smooth and continuous without tears and pulling, and of such depth that, when compacted, the surface conforms with the cross section, grade, and contour indicated. Unless otherwise directed, begin the placing along the centerline of areas to be paved on a crowned section or on the high side of areas with a one-way slope. Place mixture in consecutive adjacent strips having a minimum width of 10 feet, except where the edge lanes require strips less than 10 feet to complete the area. Construct longitudinal joints and edges to true line markings. Establish lines parallel to the centerline of the area to be paved, and place string lines coinciding with the established lines for the spreading machine to follow. Provide the number and location of the lines needed to accomplish proper grade control. When specified grade and smoothness requirements can be met for initial lane construction by use of an approved long ski-type device of not less than 30 feet in length and for subsequent lane construction by use of a short ski or shoe, in-place string lines for grade control may be omitted. Place mixture as nearly continuous as possible and adjust the speed of placing as needed to permit proper rolling.

3.4.2 Shoveling, Raking, and Tamping After Machine-Spreading

Shovelers and rakers shall follow the spreading machine. Add or remove hot mixture and rake the mixture as required to obtain a course that when completed will conform to requirements specified herein. Broadcasting or fanning of mixture over areas being compacted is prohibited. When segregation occurs in the mixture during placing, suspend spreading operation until the cause is determined and corrected. Correct irregularities in alignment left by the spreader by trimming directly behind the machine. Immediately after trimming, compact edges of the course by tamping laterally with a metal lute or by other approved methods. Distortion of the course during tamping is prohibited.

3.4.3 Hand-Spreading in Lieu of Machine-Spreading

In areas where the use of machine spreading is impractical, spread mixture by hand. The range of temperatures of the mixtures when dumped onto the area to be paved shall be between 250 and 300 degrees F. Mixtures having temperatures less than minimum spreading temperature when dumped onto the area to be paved will be rejected. Spread hot mixture with rakes in a uniformly loose layer of a thickness that, when compacted, will conform to the required grade, thickness, and smoothness. During hand spreading, place each shovelful of mixture by turning the shovel over in a manner that will prevent segregation. Do not place mixture by throwing or broadcasting from a shovel. Do not dump loads any faster than can be properly handled by the shovelers and rakers.

3.5 COMPACTION OF MIXTURE

Compact mixture by rolling. Begin rolling as soon as placement of mixture will bear rollers. Delays in rolling freshly spread mixture shall not be permitted. Start rolling longitudinally at the extreme sides of the lanes and proceed toward center of pavement, or toward high side of pavement with a one-way slope. Operate rollers so that each trip overlaps the previous adjacent strip by at least one foot. Alternate trips of the roller shall be of slightly different lengths. Conduct tests for conformity with the specified crown, grade and smoothness immediately after initial rolling. Before continuing rolling, correct variations by removing or adding materials as necessary. If required, subject course to diagonal rolling with the steel wheeled roller crossing the lines of the previous rolling while mixture is hot and in a compactable condition. Speed of the rollers shall be slow enough to avoid displacement of hot mixture. Correct displacement of mixture immediately by use of rakes and fresh mixture, or remove and replace mixture as directed. Continue rolling until roller marks are eliminated and course has a density of at least 90 percent but not more than 100 percent of that attained in a laboratory specimen of the same mixture prepared in accordance with ASTM D 1559. During rolling, moisten wheels of the rollers enough to prevent adhesion of mixture to wheels, but excessive water is prohibited. Operation of rollers shall be by competent and experienced operators. Provide sufficient rollers for each spreading machine in operation on the job and to handle plant output. In places not accessible to the rollers, compact mixture thoroughly with hot hand tampers. Skin patching of an area after compaction is prohibited. Remove mixture that becomes mixed with foreign materials or is defective and replace with fresh mixture compacted to the density specified herein. Roller shall pass over unprotected edge of the course only when laying of course is to be discontinued for such length of time as to permit mixture to become cold.

3.6 JOINTS

Joints shall present the same texture and smoothness as other portions of the course, except permissible density at the joint may be up to 2 percent less than the specified course density. Carefully make joints between old and new pavement or within new pavements in a manner to ensure a thorough and continuous bond between old and new sections of the course. Vertical contact surfaces of previously constructed sections that are coated with dust, sand, or other objectionable material shall be painted with a thin uniform coat of emulsion or other approved bituminous material just before placing fresh mixture.

3.6.1 Transverse

Roller shall pass over unprotected end of freshly laid mixture only when laying of course is to be discontinued. Cut back the edge of previously laid course to expose an even, vertical surface for the full thickness of the course. When required, rake fresh mixture against joints, thoroughly tamp with hot tampers, smooth with hot smoothers, and roll.

3.6.2 Longitudinal Joints

Space 6 inches apart. Adjust screed to permit compaction to produce a smooth dense joint. Remove and waste excess material. When edges of longitudinal joints are irregular, honeycombed, or poorly compacted, cut back unsatisfactory sections of joint and expose an even vertical surface for the full thickness of the course. When required, rake fresh mixture against joint, thoroughly tamp with hot tampers, smooth with hot smoothers, and roll while hot.

3.7 FIELD QUALITY CONTROL

3.7.1 Sampling

3.7.1.1 Aggregates At Source

Prior to production and delivery of aggregates, take at least one initial sample in accordance with ASTM D 75 at the source. Collect each sample by taking three incremental samples at random from the source material to make a composite sample of not less than 50 pounds. Repeat the sampling when the material source changes or when testing reveals unacceptable deficiencies or variations from the specified grading of materials.

3.7.1.2 Cold Feed Aggregate Sampling

Take two samples daily from the belt conveying materials from the cold feed. Collect materials in three increments at random to make a representative composite sample of not less than 50 pounds. Take samples in accordance with ASTM D 75.

3.7.1.3 Coarse and Fine Aggregates

Take a 50 pound sample from the cold feed at least once daily for sieve analyses and specific gravity tests. Additional samples may be required to perform more frequent tests when analyses show deficiencies, or unacceptable variances or deviations. The method of sampling is as specified herein for aggregates.

3.7.1.4 Mineral Filler

ASTM D 546. Take samples large enough to provide ample material for testing. Include the Specific Gravity of Mineral Filler.

3.7.1.5 Pavement and Mixture

Take plant samples for the determination of mix properties and field samples for thickness and density of the completed pavements. Furnish tools, labor and material for samples, and satisfactory replacement of pavement. Take samples and tests at not less than frequency specified hereinafter and at the beginning of plant operations; for each day's work as a minimum; each change in the mix or equipment; and as often as

directed. Accomplish sampling in accordance with ASTM D 979. Include the Specific Gravity of Asphalt.

3.7.2 Testing

3.7.2.1 Aggregates Tests

a. Gradation: ASTM C 136.

b. Mineral Filler Content: ASTM D 546.

c. Abrasion: ASTM C 131 for wear (Los Angeles test). Perform one test initially prior to incorporation into the work and each time the source is changed.

3.7.2.2 Bituminous Mix Tests

Test one sample for each 500 tons, or fraction thereof, of the uncompacted mix for extraction in accordance with ASTM D 2172; perform a sieve analysis on each extraction sample in accordance with ASTM C 136 and ASTM C 117. Test one sample for each 500 tons or fraction thereof for stability and flow in accordance with ASTM D 1559. Test one sample for each material blend for Tensile Strength Ratio in accordance with ASTM D 4867/D 4867M.

3.7.2.3 Pavement Courses Testing

Perform the following tests:

a. Density: Compare density of in-place material against laboratory specimen or certificates on same bituminous concrete mixture. Use nuclear devices to determine densities. A minimum of one in-place density test shall be performed for every 500 square yards of pavement and a minimum of one in-place density test for each property at which pavement is constructed.

   Minimum acceptable density of in-place course material will be 90 percent of the recorded laboratory specimen or certificate density. Maximum acceptable density will be 98 percent.

b. Thickness: Determine thickness of each course from samples taken for the field density test. The maximum allowable deficiency at any point shall not be more than 1/4 inch less than the thickness for the indicated course. Average thickness of course or of combined courses shall be not less than the indicated thickness. Where a deficiency exceeds the specified tolerances, correct each such representative area or areas by removing the deficient pavement and replacing with new pavement.

c. Smoothness: Straightedge test the compacted surface of each course as work progresses. Apply straightedge parallel with and at right angles to the centerline after final rolling. Unevenness of each course shall not vary more than 1/4 inch in 10 feet; variations in the wearing course shall not vary more than 1/8 inch in 10 feet. Correct each portion of the pavement showing irregularities greater than that specified.

d. Finished Grades: Finish grades of each course placed shall not vary from the finish elevations, profiles, and cross sections indicated by more than 1/4 inch. Finished surface of the final

wearing course will be tested by running lines of levels at intervals of 10 feet longitudinally and transversely to determine elevations of completed pavement. Within 45 days after completion of final placement, Correct deficient paved areas by removing existing work and replacing with new materials that meet the specifications. Skin patching for correcting low areas is prohibited.

e. Finish Surface Texture of Surface Course: Visually check final surface texture for uniformity and reasonable compactness and tightness. Final wearing course with a surface texture having undesirable irregularities such as segregation, cavities, pulls or tears, checking, excessive exposure of coarse aggregates, sand streaks, indentations, ripples, or lack of uniformity shall be repaired as directed by the Contracting Officer.

3.8 PROTECTION

Do not permit vehicular traffic, including heavy equipment, on pavement until surface temperature has cooled to at least 120 degrees F. Measure surface temperature by approved surface thermometers or other satisfactory methods.

3.9 PATCHING

As directed by Contracting Officer, in writing, remove and replace all defective areas. Cut out such areas and fill with fresh bituminous concrete. Compact to the required density.

3.10 CLEANING AND PROTECTION

3.10.1 Cleaning

After completion of paving operations, clean surfaces of excess or spilled bituminous materials and all foreign matter.

3.10.2 Cover Openings

Cover openings of drainage structures in the area of paving until permanent coverings are placed.

-- End of Section --

SECTION 02821A

FENCING

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM A 153/A 153M	(2005) Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 392	(2003) Zinc-Coated Steel Chain-Link Fence Fabric
ASTM A 824	(2001) Metallic-Coated Steel Marcelled Tension Wire for Use With Chain Link Fence
ASTM F 1043	(2004) Strength and Protective Coatings on Metal Industrial Chain-Link Fence Framework
ASTM F 1083	(2004) Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures
ASTM F 1184	(2003) Industrial and Commercial Horizontal Slide Gates
ASTM F 626	(1996a; R 2003) Fence Fittings
ASTM F 900	(2003) Industrial and Commercial Swing Gates

1.2 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-07 Certificates

Chain Link Fence

Statement, signed by an official authorized to certify on behalf of the manufacturer, attesting that the chain link fence and component materials meet the specified requirements.

PART 2 PRODUCTS

2.1 FENCE FABRIC

Fence fabric shall conform to the following:

2.1.1 Chain Link Fence Fabric

ASTM A 392,Class 1, zinc-coated steel wire with minimum coating weight of 1.2ounces of zinc per square foot of coated surface. Fabric shall be fabricated of 9 gauge wire woven in 2 inch mesh. Fabric height shall be 6 feet as shown. Fabric shall be twisted and barbed on the top selvage and knuckled on the bottom selvage.

2.2 GATES

ASTM F 900 and/or ASTM F 1184. Gate shall be the type and swing shown. Gate frames shall conform to strength and coating requirements of ASTM F 1083 for Group IA, steel pipe, with external coating Type A, nominal pipe size (NPS) 1-1/2. Gate frames shall conform to strength and coating requirements of ASTM F 1043, for Group IC, steel pipe with external coating Type A or Type B, nominal pipe size (NPS) 1-1/2. Gate fabric shall be as specified for chain link fabric. Gate leaves more than 8 feet wide shall have either intermediate members and diagonal truss rods or shall have tubular members as necessary to provide rigid construction, free from sag or twist. Gate leaves less than 8 feet wide shall have truss rods or intermediate braces. Gate fabric shall be attached to the gate frame by method standard with the manufacturer except that welding will not be permitted. Latches, hinges, stops, keepers, rollers, and other hardware items shall be furnished as required for the operation of the gate. Latches shall be arranged for padlocking so that the padlock will be accessible from both sides of the gate. Stops shall be provided for holding the gates in the open position.

2.3 POSTS

2.3.1 Metal Posts for Chain Link Fence

ASTM F 1083, zinc-coated. Group IA, with external coating Type A steel pipe. Sizes shall be as shown on the drawings. Line posts and terminal (corner, gate, and pull) posts selected shall be of the same designation throughout the fence. Gate post shall be for the gate type specified subject to the limitation specified in ASTM F 900 and/or ASTM F 1184.

2.4 BRACES AND RAILS

ASTM F 1083, zinc-coated, Group IA, steel pipe, size NPS 1-1/4.

2.5 WIRE

2.5.1 Tension Wire

Tension wire shall be Type I or Type II, Class 4 coating, in accordance with ASTM A 824.

2.6 ACCESSORIES

ASTM F 626. Ferrous accessories shall be zinc or aluminum coated. Truss rods shall be furnished for each terminal post. Truss rods shall be

provided with turnbuckles or other equivalent provisions for adjustment. Tie wire for attaching fabric to rails, braces, and posts shall be 9 gauge steel wire and match the coating of the fence fabric. The tie wires shall be a double loop and 6.5 inches in length. Miscellaneous hardware coatings shall conform to ASTM A 153/A 153M unless modified.

PART 3 EXECUTION

3.1 INSTALLATION

Fence shall be installed to the lines necessary to secure the work area for demolition in each cluster and grades indicated. Line posts shall be spaced equidistant at intervals not exceeding 10 feet. Terminal (corner, gate, and pull) posts shall be set at abrupt changes in vertical and horizontal alignment. Fabric shall be continuous between terminal posts; however, runs between terminal posts shall not exceed 500 feet.

3.2 POST INSTALLATION

3.2.1 Posts for Chain Link Fence

Posts shall generally be driven into the soil/pavement plumb and in alignment. Where solid rock is encountered with no overburden, posts shall be set to a minimum depth of 18 inches in rock. Where solid rock is covered with an overburden of soil or loose rock, posts shall be set to the minimum depth indicated on the drawing unless a penetration of 18 inches in solid rock is achieved before reaching the indicated depth, in which case depth of penetration shall terminate. All portions of posts set in rock shall be grouted. Portions of posts not set in rock shall be set in concrete from the rock to ground level. Posts set in concrete shall be set in holes not less than the diameter shown on the drawings. Diameters of holes in solid rock shall be at least 1 inch greater than the largest cross section of the post. Concrete and grout shall be thoroughly consolidated around each post, shall be free of voids and finished to form a dome. Concrete and grout shall be allowed to cure for 72 hours prior to attachment of any item to the posts. Line posts may be mechanically driven, for temporary fence construction only, if rock is not encountered. Driven posts shall be set to a minimum depth of 3 feet and shall be protected with drive caps when being set.

3.3 RAILS

3.3.1 Top Rail

Top rail shall be supported at each post to form a continuous brace between terminal posts. Where required, sections of top rail shall be joined using sleeves or couplings that will allow expansion or contraction of the rail. Top rail, if required for high security fence, shall be installed as indicated on the drawings.

3.4 BRACES AND TRUSS RODS

Braces and truss rods shall be installed as indicated and in conformance with the standard practice for the fence furnished. Horizontal (compression) braces and diagonal truss (tension) rods shall be installed on fences over 6 feet in height. A center brace or 2 diagonal truss rods shall be installed on 12 foot fences. Braces and truss rods shall extend from terminal posts to line posts. Diagonal braces shall form an angle of approximately 40 to 50 degrees with the horizontal. No bracing is required

on fences 6 feet high or less if a top rail is installed.

3.5 CHAIN LINK FABRIC

Chain link fabric shall be installed on the side of the post indicated. Fabric shall be attached to terminal posts with stretcher bars and tension bands. Bands shall be spaced at approximately 15 inch intervals. The fabric shall be installed and pulled taut to provide a smooth and uniform appearance free from sag, without permanently distorting the fabric diamond or reducing the fabric height. Fabric shall be fastened to line posts at approximately 15 inch intervals and fastened to all rails at approximately 24 inch intervals. Splicing shall be accomplished by weaving a single picket into the ends of the rolls to be joined.

3.6 GATE INSTALLATION

Gates shall be installed as necessary for access to the wok site and at the locations shown. Hinged gates shall be mounted to swing as indicated. Latches, stops, and keepers shall be installed as required. Slide gates shall be installed as recommended by the manufacturer. Padlocks shall be attached to gates or gate posts with chains. Hinge pins, and hardware shall be welded or otherwise secured to prevent removal.

SECTION 13280A

ASBESTOS HAZARD CONTROL ACTIVITIES

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z87.1	(2003) Standard for Occupational and Educational Eye and Face Protection
ANSI Z88.2	(1992) Respiratory Protection
ANSI Z9.2	(2001) Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems

ASTM INTERNATIONAL (ASTM)

ASTM D 1331	(1989; R 2001) Surface and Interfacial Tension of Solutions of Surface-Active Agents
ASTM D 4397	(2002) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
ASTM E 1368	(2003) Visual Inspection of Asbestos Abatement Projects

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-7	(2003) Compressed Air for Human Respiration

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 701	(2004) Fire Tests for Flame Propagation of Textiles and Films

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH 94-113	(1994; 4th Ed) NIOSH Manual of Analytical Methods

NEW JERSEY ADMINISTRATIVE CODE (NJAC)

NJAC 5:16	Asbestos Licenses and Permits
NJAC 5:23-8	(2000) Asbestos Hazard Abatement Subcode

NJAC 7:26-1 et seq.	(2002) Solid Waste Regulations - Asbestos
NJAC 7:26G-1 et seq.	(2003) Hazardous Waste Regulations

NEW JERSEY STATUTES ANNOTATED (NJSA)

NJSA 34:5A-32 et seq.	The Asbestos Control and Licensing Act

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2003) Safety -- Safety and Health Requirements
EP 1110-1-11	(1992) Asbestos Abatement Guideline Detail Sheets

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 340/1-90/018	(1990) Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.134	Respiratory Protection
29 CFR 1910.141	Sanitation
29 CFR 1910.147	Control of Hazardous Energy (Lock Out/Tag Out)
29 CFR 1926.1101	Asbestos
29 CFR 1926.32	Safety and Health Regulations for Construction - Definition
40 CFR 61	National Emission Standards for Hazardous Air Pollutants
40 CFR 763	Asbestos
42 CFR 84	Approval of Respiratory Protective Devices
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings

UNDERWRITERS LABORATORIES (UL)

UL 586	(1996; Rev thru Apr 2000) High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

a. Amended Water: Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with ASTM D 1331.

b. Asbestos-Containing Material (ACM): Any materials containing more than one percent asbestos.

c. Authorized Person: Any person authorized by the Contractor and required by work duties to be present in the regulated areas.

d. Building Inspector: Individual who inspects buildings for asbestos and has EPA Model Accreditation Plan (MAP) "Building Inspector" training; accreditation required by 40 CFR 763, Subpart E, Appendix C, has EPA/State certification/license as a "Building Inspector".

e. Class I Asbestos Work: Activities defined by OSHA involving the removal of thermal system insulation (TSI) and surfacing ACM.

f. Class II Asbestos Work: Activities defined by OSHA involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos - containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic. Certain "incidental" roofing materials such as mastic, flashing and cements when they are still intact are excluded from Class II asbestos work. Removal of small amounts of these materials which would fit into a glovebag may be classified as a Class III job.

g. Class III Asbestos Work: Activities defined by OSHA that involve repair and maintenance operations, where ACM, including TSI and surfacing ACM, is likely to be disturbed. Operations may include drilling, abrading, cutting a hole, cable pulling, crawling through tunnels or attics and spaces above the ceiling, where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.

h. Class IV Asbestos Work: Maintenance and custodial construction activities during which employees contact but do not disturb ACM and activities to clean-up dust, waste and debris resulting from Class I, II, and III activities. This may include dusting surfaces where ACM waste and debris and accompanying dust exists and cleaning up loose ACM debris from TSI or surfacing ACM following construction.

i. Clean room: An uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

j. Competent Person: In addition to the definition in 29 CFR 1926.32 (f), a person who is capable of identifying existing asbestos hazards as defined in 29 CFR 1926.1101, selecting the appropriate control strategy, has the authority to take prompt corrective measures to eliminate them and has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training; has EPA/State certification/license as a "Contractor/Supervisor".

k. Contractor/Supervisor: Individual who supervises asbestos abatement work and has EPA Model Accreditation Plan "Contractor/Supervisor" training; has EPA/State certification as a "Contractor/Supervisor".

l. Critical Barrier: One or more layers of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a regulated area from migrating to an adjacent area.

m. Decontamination Area: An enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

n. Demolition: The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

o. Disposal Bag: A 6 mil thick, leak-tight plastic bag, pre-labeled in accordance with 29 CFR 1926.1101, used for transporting asbestos waste from containment to disposal site.

p. Disturbance: Activities that disrupt the matrix of ACM, crumble or pulverize ACM, or generate visible debris from ACM. Disturbance includes cutting away small amounts of ACM, no greater than the amount which can be contained in 1 standard sized glovebag or waste bag, not larger than 60 inches in length and width in order to access a building component.

q. Equipment Room or Area: An area adjacent to the regulated area used for the decontamination of employees and their equipment.

r. Fiber: A fibrous particulate, 5 micrometers or longer, with a length to width ratio of at least 3 to 1.

s. Friable ACM: A term defined in 40 CFR 61, Subpart M and EPA 340/1-90/018 meaning any material which contains more than 1 percent asbestos, as determined using the method specified in 40 CFR 763, Polarized Light Microscopy (PLM), that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

t. Glovebag: Not more than a 60 by 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

u. High-Efficiency Particulate Air (HEPA) Filter: A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

v. Intact: ACM which has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix. Removal of "intact" asphaltic, resinous, cementitious products does not render the ACM non-intact simply by being separated into smaller pieces.

w. Model Accreditation Plan (MAP): USEPA training accreditation requirements for persons who work with asbestos as specified in 40 CFR 763.

x. Negative Initial Exposure Assessment: A demonstration by the Contractor to show that employee exposure during an operation is expected to be consistently below the OSHA Permissible Exposure Limits (PELs).

y. NESHAP: National Emission Standards for Hazardous Air Pollutants. The USEPA NESHAP regulation for asbestos is at 40 CFR 61, Subpart M.

z. Nonfriable ACM: A NESHAP term defined in 40 CFR 61, Subpart M and EPA 340/1-90/018 meaning any material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

aa. Nonfriable ACM (Category I): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90/018 meaning asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos.

bb. Nonfriable ACM (Category II): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90/018 meaning any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos.

cc. Permissible Exposure Limits (PELs):

(1) PEL-Time weighted average(TWA): Concentration of asbestos not in excess of 0.1 fibers per cubic centimeter of air (f/cc) as an 8 hour time weighted average (TWA).

(2) PEL-Excursion Limit: An airborne concentration of asbestos not in excess of 1.0 f/cc of air as averaged over a sampling period of 30 minutes.

dd. Regulated Area: An OSHA term defined in 29 CFR 1926.1101 meaning an area established by the Contractor to demarcate areas where Class I, II, and III asbestos work is conducted; also any adjoining area where debris and waste from such asbestos work accumulate; and an area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

ee. Removal: All operations where ACM is taken out or stripped from structures or substrates, and includes demolition operations.

ff. Repair: Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM attached to structures or substrates.

gg. Surfacing ACM: Asbestos-containing material which contains more than 1% asbestos and is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

hh. Thermal system insulation (TSI) ACM: ACM which contains more than 1% asbestos and is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain or water condensation.

ii. Transite: A generic name for asbestos cement wallboard and pipe.

jj. Worker: Individual (not designated as the Competent Person or a supervisor) who performs asbestos work and has completed asbestos worker training required by 29 CFR 1926.1101, to include EPA Model Accreditation Plan (MAP) "Worker" training; accreditation if required by the OSHA Class of work to be performed or by the state where the work is to be performed.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for [Contractor Quality Control approval.][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-02 Shop Drawings

Detailed Drawings[; G][; G, [_____]]

Descriptions, detailed drawings, and site layout to include worksite containment area(s), local exhaust systems locations, decontamination units, other temporary waste storage facility, access tunnels, location of temporary utilities (electrical, water, sewer) and boundaries of each regulated area.

SD-03 Product Data

Asbestos Waste Shipment Records[; G][; G, [_____]]
Weight Bills and Delivery Tickets[; G][; G, [_____]]

Waste shipment records, weight bills and delivery tickets.

Encapsulants[; G][; G, [_____]]
Respiratory Protection Program[; G][; G, [_____]]
Cleanup and Disposal[; G][; G, [_____]]

Manufacturer's catalog data for all materials and equipment to be used, including brand name, model, capacity, performance characteristics and any other pertinent information. Test results and certificates from the manufacturer of encapsulants substantiating compliance with performance requirements of this specification. Material Safety Data Sheets for all chemicals to be used onsite in the same format as implemented in the Contractor's HAZARD COMMUNICATION PROGRAM. Data shall include, but shall not be limited to, the following items:

a. High Efficiency Filtered Air (HEPA) local exhaust equipment

b. Vacuum cleaning equipment

c. Pressure differential monitor for HEPA local exhaust

equipment

d. Air monitoring equipment

e. Respirators

f. Personal protective clothing and equipment

g. Glovebags. Written manufacturer's proof that glovebags will not break down under expected temperatures and conditions.

h. Duct Tape

i. Disposal Containers

j. Sheet Plastic

k. Wetting Agent

l. Strippable Coating

m. Prefabricated Decontamination Unit

n. Material Safety Data Sheets (for all chemicals proposed)

Qualifications[; G][; G, [_____]]

A written report providing evidence of qualifications for personnel, facilities and equipment assigned to the work.

Training Program

A copy of the written project site-specific training material as indicated in 29 CFR 1926.1101 that will be used to train onsite employees.

Licenses, Permits and Notifications[; G][; G, [_____]]

Licenses, permits, and notifications.

SD-06 Test Reports

Exposure Assessment and Air Monitoring[; G][; G, [_____]]

Initial exposure assessments, negative exposure assessments, air-monitoring results and documentation.

Local Exhaust System

Pressure differential recordings.

SD-07 Certificates

Local Exhaust System

Manufacturer's certifications showing compliance with ANSI Z9.2 for:

a. Vacuums.

b. Water filtration equipment.

c. Ventilation equipment.

d. Other equipment required to contain airborne asbestos fibers.

Encapsulants[; G][; G, [_____]]

Certificates stating that encapsulants meet the applicable specified performance requirements.

Medical Surveillance Requirements

Required medical certification and the Physician's written opinion.

1.4 DESCRIPTION OF WORK

This section covers all operations in which asbestos-containing materials (ACM) are encountered. These procedures and equipment are required to protect workers and building occupants from airborne asbestos fibers and ACM dust and debris. Activities include OSHA Class I and Class II work operations. This section also includes containment, storage, transportation and disposal of the generated ACM wastes. The Contractor shall submit Detailed Drawings in accordance with EP 1110-1-11 and as specified in the Submittals paragraph. When the detail sheets are not attached to this specification, the Contractor can get them from the web at:
http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/esp1110-1-11/toc.htm

1.4.1 Abatement Work Tasks

The specific ACM to be abated is identified on the detailed plans and project drawings and in Table 1. A summary for each work task including the appropriate RESPONSE ACTION DETAIL SHEET (item to be abated and methods to be used) and SET-UP DETAIL SHEETS (containment techniques to include safety precautions and methods) is included in Table 1, "Individual Work Task Data Elements" at the end of this section.

1.4.2 Unexpected Discovery of Asbestos

For any previously untested building components suspected to contain asbestos and located in areas impacted by the work, the Contractor shall notify the Contracting Officer (CO) who will have the option of ordering up to 10 bulk samples to be obtained at the Contractor's expense and delivered to a laboratory accredited under the National Institute of Standards and Technology (NIST) "National Voluntary Laboratory Accreditation Program (NVLAP)" and analyzed by PLM. If the asbestos content is less than 10 percent, as determined by a method other than point counting, the asbestos content shall be verified by point counting. Any additional components identified as ACM that have been approved by the CO for removal shall be removed by the Contractor and will be paid for by an equitable adjustment to the contract price under the CONTRACT CLAUSE titled "changes". Sampling shall be conducted by personnel who have successfully completed the EPA Model Accreditation Plan (MAP) "Building Inspector" training course and is EPA/State certified/licensed as a "Building Inspector".

1.4.3 Wallboard/Joint Compound

Both composite samples of the wallboard and discrete samples of the components (wallboard and joint compound) have been tested. Composite samples of the wallboard system were tested and found to contain less than one percent asbestos. Discrete samples of the wallboard system were tested and found to contain less than one percent asbestos.

1.5 QUALIFICATIONS

1.5.1 Written Qualifications and Organization Report

The Contractor shall furnish a written qualifications and organization report providing evidence of qualifications of the Contractor, Contractor's Project Supervisor, Designated Competent Person, supervisors and workers; Designated IH; independent testing laboratory; all subContractors to be used including disposal transportation and disposal facility firms, subContractor supervisors, subContractor workers; and any others assigned to perform asbestos abatement and support activities. The report shall include an organization chart showing the Contractor's staff organization chain of command and reporting relationship with all subContractors. The report shall be signed by the Contractor, the Contractor's onsite project manager, Designated Competent Person, Designated IH, designated testing laboratory and the principals of all subContractors to be used. The Contractor shall include the following statement in the report: "By signing this report I certify that the personnel I am responsible for during the course of this project fully understand the contents of 29 CFR 1926.1101, 40 CFR 61, Subpart M, and the federal, state and local requirements for those asbestos abatement activities that they will be involved in."

1.5.2 Specific Requirements

The Contractor shall designate in writing, personnel meeting the following qualifications:

1.5.2.1 Asbestos Abatement Contractor

The Contractor shall be certified/licensed by the New Jersey Department of Labor to perform asbestos-related activities.

1.5.2.2 Designated Competent Person

Evidence that the full-time Designated Competent Person is qualified in accordance with 29 CFR 1926.32 and 29 CFR 1926.1101, has EPA MAP "Contractor/Supervisor" training accreditation, has EPA/State certification/license as a "Contractor/Supervisor" and is experienced in the administration and supervision of asbestos abatement projects, including exposure assessment and monitoring, work practices, abatement methods, protective measures for personnel, setting up and inspecting asbestos abatement work areas, evaluating the integrity of containment barriers, placement and operation of local exhaust systems, ACM generated waste containment and disposal procedures, decontamination units installation and maintenance requirements, site safety and health requirements, notification of other employees onsite, etc. The Designated Competent Person shall be responsible for compliance with applicable federal, state and local requirements, the Contractor's Accident Prevention Plan (APP) and Asbestos Hazard Abatement Plan (AHAP). The Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the

most recent certificate for required refresher training, EPA/State certification/license with the employee "Certificate of Worker Acknowledgment". The Contractor shall submit evidence that this person has a minimum of 2 years of on-the-job asbestos abatement experience relevant to OSHA competent person requirements. The Designated Competent Person shall be onsite at all times during the conduct of this project.

1.5.2.3 Project and Other Supervisors

Evidence that the Project Supervisor and other supervisors have EPA MAP "Contractor/Supervisor" training accreditation. The Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training, EPA/State certification/license with the employee "Certificate of Worker Acknowledgment". The Contractor shall submit evidence that the Project Supervisor has a minimum of 2 years of on-the-job asbestos abatement experience relevant to project supervisor responsibilities and the other supervisors have a minimum of 1 year on-the-job asbestos abatement experience commensurate with the responsibilities they will have on this project.

1.5.2.4 Designated Industrial Hygienist

The Contractor shall provide the resume for the Certified Industrial Hygienist (CIH) selected to prepare the Contractor's AHAP, prepare and perform training, direct air monitoring and assist the Contractor's Competent Person in implementing and ensuring that safety and health requirements are complied with during the performance of all required work. The Designated CIH shall be a person who is board certified in the practice of industrial hygiene as determined and documented by the American Board of Industrial Hygiene (ABIH), has EPA MAP "Contractor/Supervisor" training accreditation, has EPA/State certification/license, and has a minimum of 2 years of comprehensive experience in planning and overseeing asbestos abatement activities. The Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training and EPA/State certification/license with the employee "Certificate of Worker Acknowledgment". The Designated IH shall be completely independent from the Contractor according to federal, state, or local regulations; that is, shall not be a Contractor's employee or be an employee or principal of a firm in a business relationship with the Contractor negating such independent status. A copy of the Designated IH's current valid ABIH certification shall be included. The Designated IH shall visit the site at least once every 2 weeks for the duration of asbestos activities and shall be available for emergencies. In addition, the Contractor shall submit resumes of additional IH's and industrial hygiene technicians (IHT) who will be assisting the Designated IH in performing onsite tasks. IHs and IHTs supporting the Designated IH shall have a minimum of 2 years of practical onsite asbestos abatement experience. The formal reporting relationship between the Designated IH and the support IHs and IHTs, the Designated Competent Person, and the Contractor shall be indicated.

1.5.2.5 Asbestos Abatement Workers

Asbestos abatement workers shall meet the requirements contained in 29 CFR 1926.1101, 40 CFR 61, Subpart M, and other applicable federal, state and local requirements. Worker training documentation shall be provided as required on the "Certificate of Workers Acknowledgment".

1.5.2.6 Worker Training and Certification of Worker Acknowledgment

Training documentation is required for each employee who will perform OSHA Class I, Class II, Class III, or Class IV asbestos abatement operations. Such documentation shall be submitted on a Contractor generated form titled "Certificate of Workers Acknowledgment", to be completed for each employee in the same format and containing the same information as the example certificate at the end of this section. Training course completion certificates (initial and most recent update refresher) required by the information checked on the form shall be attached.

1.5.2.7 Physician

The Contractor shall provide the resume of the physician who will or has performed the medical examinations and evaluations of the persons who will conduct the asbestos abatement work tasks. The physician shall be currently licensed by the state where the workers will be or have been examined, have expertise in pneumoconiosis and shall be responsible for the determination of medical surveillance protocols and for review of examination/test results performed in compliance with 29 CFR 1926.1101. The physician shall be familiar with the site's hazards and the scope of this project.

1.5.2.8 Independent Testing Laboratory

The Contractor shall identify the independent testing laboratory selected to perform the sample analyses and report the results. The testing laboratory shall be completely independent from the Contractor as recognized by federal, state or local regulations. Written verification of the following criteria, signed by the testing laboratory principal and the Contractor, shall be submitted:

(1) Phase contrast microscopy (PCM): The laboratory is fully equipped and proficient in conducting PCM of airborne samples using the methods specified by 29 CFR 1926.1101, OSHA method ID-160, the most current version of NIOSH 94-113 Method 7400. The laboratory shall be currently judged proficient (classified as acceptable) in counting airborne asbestos samples by PCM by successful participation in each of the last 4 rounds in the American Industrial Hygiene Association (AIHA) Proficiency Analytical Testing (PAT) Program or by participating in the AIHA PAT Program, and being judged proficient in counting samples.

(2) Polarized light microscopy (PLM): The laboratory is fully equipped and proficient in conducting PLM analyses of suspect ACM bulk samples in accordance with 40 CFR 763, Subpart E, Appendix E; the laboratory is currently accredited by NIST under the NVLAP for bulk asbestos analysis and will use analysts with demonstrated proficiency to conduct PLM analyses.

(3) Transmission electron microscopy (TEM): The laboratory is fully equipped and proficient in conducting TEM analysis of airborne samples using the mandatory method specified by 40 CFR 763, Subpart E, Appendix E; the laboratory is currently accredited by NIST under the NVLAP for airborne sample analysis of asbestos by TEM; the laboratory will use analysts with demonstrated proficiency under NVLAP.

(4) PCM/TEM: The laboratory is fully equipped and each analyst

is proficient in conducting PCM and TEM analysis of airborne samples using NIOSH 94-113 Method 7400 PCM and NIOSH 94-113 Method 7402 (TEM confirmation of asbestos content of PCM results) from the same filter.

1.5.2.9 Disposal Facility, Transporter

The Contractor shall provide written evidence that the landfill to be used is approved for asbestos disposal by the USEPA, state, and local regulatory agencies. Copies of signed agreements between the Contractor (including subContractors and transporters) and the asbestos waste disposal facility to accept and dispose of all asbestos containing waste shall be provided. The Contractor and transporters shall meet the DOT requirements of 49 CFR 171, 49 CFR 172, and 49 CFR 173 as well as registration requirements of 49 CFR 107 and other applicable state or local requirements. The disposal facility shall meet the requirements of 40 CFR 61, Sections .154 or .155, as required in 40 CFR 61 150(b), and other applicable state or local requirements.

1.5.3 Federal, State or Local Citations on Previous Projects

The Contractor and all subContractors shall submit a notarized statement, signed by an officer of the company, containing a record of any citations issued by Federal, State or local regulatory agencies relating to asbestos activities (including projects, dates, and resolutions); a list of penalties incurred through non-compliance with asbestos project specifications, including liquidated damages, overruns in scheduled time limitations and resolutions; and situations in which an asbestos-related contract has been terminated (including projects, dates, and reasons for terminations). If there are none, a negative declaration signed and notarized by an officer of the company shall be provided.

1.6 REGULATORY REQUIREMENTS

In addition to detailed requirements of this specification, work performed under this contract shall comply with EM 385-1-1, applicable federal, state, and local laws, ordinances, criteria, rules and regulations regarding handling, storing, transporting, and disposing of asbestos waste materials. Matters of interpretation of standards shall be submitted to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply. The following state and local laws, rules and regulations regarding demolition, removal, encapsulation, construction alteration, repair, maintenance, renovation, spill/emergency cleanup, housekeeping, handling, storing, transporting and disposing of asbestos material apply: NJAC 5:23-8, NJAC 7:26-1 et seq., and NJAC 7:26G-1 et seq..

1.7 SAFETY AND HEALTH PROGRAM AND PLANS

The Contractor shall prepare a written comprehensive site-specific Accident Prevention Plan (APP) at least 30 days prior to the preconstruction conference. The APP shall be in accordance with the format and requirements in Appendix A of EM 385-1-1. The APP shall incorporate an Asbestos Hazard Abatement Plan (AHAP), and Activity Hazard Analyses (AHAs) as separate appendices into one site-specific document. The APP shall take into consideration all the individual asbestos abatement work tasks identified in Table 1. See Section 01351 SAFETY, HEALTH AND EMERGENCY RESPONSE for additional requirements.

1.7.1 Asbestos Hazard Abatement Plan Appendix

The AHAP shall include, but not be limited to, the following:

a. The personal protective equipment to be used;

b. The location and description of regulated areas including clean and dirty areas,access tunnels, and decontamination unit (clean room, shower room, equipment room, storage areas;

c. Initial exposure assessment in accordance with 29 CFR 1926.1101;

d. Level of supervision;

e. Method of notification of other employers at the worksite;

f. Abatement method to include containment and control procedures;

g. Interface of trades;

h. Sequencing of asbestos related work;

i. Storage and disposal procedures and plan;

j. Type of wetting agent and asbestos encapsulant;

k. Location of local exhaust equipment;

l. Air monitoring methods (personal, environmental and clearance);

m. Bulk sampling and analytical methods (if required);

n. A detailed description of the method to be employed in order to control the spread of ACM wastes and airborne fiber;

o. Fire and medical emergency response procedures;

p. The security procedures to be used for all regulated areas.

1.7.2 Activity Hazard Analyses Appendix

AHAs for each major phase of work, shall be submitted and updated during the project. The AHAs format shall be in accordance with Figure 1-1 of EM 385-1-1. The analysis shall define the activities to be performed for a major phase of work, identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on that phase until the AHA has been accepted and a preparatory meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activities, including the onsite Government representatives. The AHAs shall be continuously reviewed and, when appropriate, modified to address changing site conditions or operations.

1.8 PRECONSTRUCTION CONFERENCE

The Contractor and the Contractor's Designated Competent Person, Project Supervisor, and Designated IH shall meet with the Contracting Officer (CO) prior to beginning work at a safety preconstruction conference to discuss

the details of the Contractor's submitted APP to include the AHAP and AHAs appendices. Deficiencies in the APP will be discussed. Onsite work shall not begin until the APP has been accepted.

1.9 SECURITY

Each regulated area shall be locked and secured to prevent unauthorized entry during non-working hours. A log book shall be kept documenting entry into and out of the regulated area. Entry into regulated areas shall only be by personnel authorized by the Contractor and the CO. Personnel authorized to enter regulated areas shall be trained, medically evaluated, and wear the required personal protective equipment.

1.10 MEDICAL SURVEILLANCE REQUIREMENTS

Medical surveillance requirements shall conform to 29 CFR 1926.1101. Asbestos workers shall be enrolled in a medical surveillance program that meets 29 CFR 1926.1101 (m) requirements and other pertinent state or local requirements. This requirement shall have been satisfied within the last 12 months.

1.11 TRAINING PROGRAM

The Contractor shall establish a training program as specified by EPA MAP, training requirements at 40 CFR 763, the State of New Jersey regulation nos. NJSA 34:5A-32 et seq. and NJAC 5:16, OSHA requirements at 29 CFR 1926.1101 (k)(9). Contractor employees shall complete the required training for the type of work they are to perform and such training shall be documented and provided to the CO.

a. Class I and II operations 32 hours Asbestos Worker Training

Prior to commencement of work the Contractor's Designated IH and Competent Person shall instruct each worker about:

a. The hazards and health effects of the specific types of ACM to be abated; and

b. The content and requirements of the Contractor's APP to include the AHAP and AHAs and site-specific safety and health precautions.

1.12 RESPIRATORY PROTECTION PROGRAM

The Contractor's Designated IH shall establish in writing, and implement a respiratory protection program in accordance with 29 CFR 1926.1101, 29 CFR 1910.134, and ANSI Z88.2. The Contractor's Designated IH shall establish minimum respiratory protection requirements based on measured or anticipated levels of airborne asbestos fiber concentrations.

1.12.1 Respiratory Fit Testing

The Contractor's Designated IH shall conduct a qualitative or quantitative fit test conforming to Appendix A of 29 CFR 1910.134 for each worker required to wear a respirator, and any authorized visitors who enter a regulated area where respirators are required to be worn. A respirator fit test shall be performed prior to initially wearing a respirator and every 12 months thereafter. If physical changes develop that will affect the fit, a new fit test shall be performed. Functional fit checks shall be performed each time a respirator is put on and in accordance with the

manufacturer's recommendation.

1.12.2 Respirator Selection and Use Requirements

The Contractor shall provide respirators, and ensure that they are used as required by 29 CFR 1926.1101 and in accordance with CGA G-7 and the manufacturer's recommendations. Respirators shall be approved by the National Institute for Occupational Safety and Health NIOSH, under the provisions of 42 CFR 84, for use in environments containing airborne asbestos fibers. For air-purifying respirators, the particulate filter shall be high-efficiency particulate air (HEPA)/(P-100). The initial respirator selection and the decisions regarding the upgrading or downgrading of respirator type shall be made by the Contractor's Designated IH based on the measured or anticipated airborne asbestos fiber concentrations to be encountered.

1.13 LICENSES, PERMITS AND NOTIFICATIONS

Necessary licenses, permits and notifications shall be obtained in conjunction with the project's asbestos abatement, transportation and disposal actions and timely notification furnished of such actions as required by federal, state, regional, and local authorities. The Contractor shall notify the USEPA Region 2 (Division of Enforcement and Compliance Assistance - Air Compliance Branch), the NJDEP (Division of Solid and Hazardous Waste), the NJDCA (Division of Codes and Standards - Asbestos/Lead Unit), the NJDOL (Division of Public Safety and Occupational Safety and Health - Asbestos Control and Licensing Section), the NJDHSS (Indoor Environments Program - Consumer and Environmental Health Services), and the CO in writing, at least 10 days prior to the commencement of work, in accordance with 40 CFR 61, Subpart M, and state and local requirements to include the mandatory "Notification of Demolition and Renovation Record" form and other required notification documents. Notification shall be by Certified Mail, Return Receipt Requested. The Contractor shall furnish copies of the receipts to the CO, in writing, prior to the commencement of work. Local fire department shall be notified 3 days before fireproofing material is removed from a building and the notice shall specify whether or not the material contains asbestos. The Contractor is responsible for the associated fees/costs for licenses, permits, and notifications.

1.14 PERSONAL PROTECTIVE EQUIPMENT

Three complete sets of personal protective equipment shall be made available to the CO and authorized visitors for entry into the regulated area. The CO and authorized visitors shall be provided with training equivalent to that provided to Contractor employees in the selection, fitting, and use of personal protective equipment and the site safety and health requirements. Contractor workers shall be provided with personal protective clothing and equipment and the Contractor shall ensure that it is worn properly. The Contractor's Designated IH and Designated Competent Person shall select and approve all the required personal protective clothing and equipment.

1.14.1 Respirators

Respirators shall be in accordance with paragraph RESPIRATORY PROTECTION PROGRAM. If entry into a regulated area requires respiratory protection, the CO and authorized visitors will not be allowed to enter without appropriate respiratory medical clearances, training, and fit testing.

1.14.2 Whole Body Protection

Personnel exposed to or having the potential to be exposed to airborne concentrations of asbestos that exceed the PELs, or for all OSHA Classes of work for which a required negative exposure assessment is not produced, shall be provided with whole body protection and such protection shall be worn properly. Disposable whole body protection shall be disposed of as asbestos contaminated waste upon exiting from the regulated area. Reusable whole body protection worn shall be either disposed of as asbestos contaminated waste upon exiting from the regulated area or be properly laundered in accordance with 29 CFR 1926.1101. The Contractor's Designated Competent Person, in consultation with the Designated IH, has the authority to take immediate action to upgrade or downgrade whole body protection when there is an immediate danger to the health and safety of the wearer.

1.14.2.1 Coveralls

Disposable-impermeable coveralls with a zipper front shall be provided. Sleeves shall be secured at the wrists, and foot coverings secured at the ankles.

1.14.2.2 Gloves

Gloves shall be provided to protect the hands where there is the potential for hand injuries (i.e., scrapes, punctures, cuts, etc.).

1.14.2.3 Foot Coverings

Cloth socks shall be provided and worn next to the skin. Footwear, as required by OSHA and EM 385-1-1, that is appropriate for safety and health hazards in the area shall be worn. Reusable footwear removed from the regulated area shall be thoroughly decontaminated or disposed of as ACM waste.

1.14.2.4 Head Covering

Hood type disposable head covering shall be provided. In addition, protective head gear (hard hats) shall be provided as required. Hard hats shall only be removed from the regulated area after being thoroughly decontaminated.

1.14.2.5 Protective Eye Wear

Eye protection shall be provided, when operations present a potential eye injury hazard, and shall meet the requirements of ANSI Z87.1.

1.15 HYGIENE FACILITIES AND PRACTICES

The Contractor shall establish a decontamination area for the decontamination of employees, material and equipment. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.15.1 3-Stage Decontamination Area

A temporary negative pressure decontamination unit that is adjacent and attached in a leak-tight manner to the regulated area shall be provided. The decontamination unit shall have an equipment room and a clean room separated by a shower that complies with 29 CFR 1910.141, unless the

Contractor can demonstrate that such facilities are not feasible. Equipment and surfaces of containers filled with ACM shall be cleaned prior to removing them from the equipment room or area. Two separate lockers shall be provided for each asbestos worker, one in the equipment room and one in the clean room. The Contractor shall provide a minimum of 2 showers. Wastewater shall be collected and filtered to remove asbestos contamination. Filters and residue shall be disposed of as asbestos contaminated material. Wastewater filters shall be installed in series with the first stage pore size of 20 microns and the second stage pore size of 5 microns. The floor of the decontamination unit's clean room shall be kept dry and clean at all times. Proper housekeeping and hygiene requirements shall be maintained. Soap, hot and cold water, and towels shall be provided for showering, washing and drying. Any cloth towels provided shall be disposed of as ACM waste or shall be laundered in accordance with 29 CFR 1926.1101.

1.15.2 Single Stage Decontamination Area

A decontamination area (equipment room/area) shall be provided for Class I work involving less than 25 feet or 10 square feet of TSI or surfacing ACM, and for Class II asbestos work operations where exposures exceed the PELs or where there is no negative exposure assessment. The equipment room or area shall be adjacent to the regulated area for the decontamination of employees, material, and their equipment which could be contaminated with asbestos. The area shall be covered by an impermeable drop cloth on the floor or horizontal working surface. The area must be of sufficient size to accommodate cleaning of equipment and removing personal protective equipment without spreading contamination beyond the area.

1.15.3 Decontamination Area Exit Procedures

The Contractor shall ensure that the following procedures are followed:

a. Before leaving the regulated area, remove all gross contamination and debris from work clothing using a HEPA vacuum.

b. Employees shall remove their protective clothing in the equipment room and deposit the clothing in labeled impermeable bags or containers (see Detail Sheets 9A and 14) for disposal and/or laundering.

c. Employees shall not remove their respirators until showering.

d. Employees shall shower prior to entering the clean room. If a shower has not been located between the equipment room and the clean room or the work is performed outdoors, the Contractor shall ensure that employees engaged in Class I asbestos jobs: a) Remove asbestos contamination from their work suits in the equipment room or decontamination area using a HEPA vacuum before proceeding to a shower that is not adjacent to the work area; or b) Remove their contaminated work suits in the equipment room, without cleaning worksuits, and proceed to a shower that is not adjacent to the work area.

1.15.4 Smoking

Smoking, if allowed by the Contractor, shall only be permitted in designated areas approved by the CO.

1.16 REGULATED AREAS

All Class I and II asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

1.17 WARNING SIGNS AND TAPE

Warning signs and tape printed in English and the language(s) of the asbestos abatement supervisor and works, shall be provided at the regulated boundaries and entrances to regulated areas. Signs shall be located to allow personnel to read the signs and take the necessary protective steps required before entering the area. Warning signs, as shown and described in DETAIL SHEET 11, and displaying the following legend in the lower panel:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

See DETAIL SHEET 11 and DETAIL SHEET 15.
Decontamination unit signage shall be as shown and described on DETAILED SHEET 15.

1.18 WARNING LABELS

Warning labels shall be affixed to all asbestos disposal containers, asbestos materials, scrap, waste debris, and other products contaminated with asbestos. Containers with preprinted warning labels conforming to 29 CFR 1926.1101requirements are acceptable.

1.19 LOCAL EXHAUST SYSTEM

Local exhaust units shall conform to ANSI Z9.2 and 29 CFR 1926.1101. Filters on local exhaust system equipment shall conform to ANSI Z9.2 and UL 586. Filter shall be UL labeled.

1.20 TOOLS

Vacuums shall be equipped with HEPA filters, of sufficient capacity and necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain the ACM waste material. Power tools shall not be used to remove ACM unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation capture and collection system. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.21 RENTAL EQUIPMENT

If rental equipment is to be used, written notification shall be provided to the rental agency, concerning the intended use of the equipment, the possibility of asbestos contamination of the equipment and the steps that will be taken to decontaminate such equipment.

1.22 AIR MONITORING EQUIPMENT

The Contractor's Designated IH shall approve air monitoring equipment. The equipment shall include, but shall not be limited to:

a. High-volume sampling pumps that can be calibrated and operated at a constant airflow up to 16 liters per minute.

b. Low-volume, battery powered, body-attachable, portable personal pumps that can be calibrated to a constant airflow up to approximately 3.5 liters per minute, and a self-contained rechargeable power pack capable of sustaining the calibrated flow rate for a minimum of 10 hours. The pumps shall also be equipped with an automatic flow control unit which shall maintain a constant flow, even as filter resistance increases due to accumulation of fiber and debris on the filter surface.

c. Single use standard 25 mm diameter cassette, open face, 0.8 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive extension cowl, and shrink bands for personal air sampling.

d. Single use standard 25 mm diameter cassette, open face, 0.45 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive cowl, and shrink bands when conducting environmental area sampling using NIOSH 94-113 Methods 7400 and 7402, (and the transmission electric microscopy method specified at 40 CFR 763 if required).

e. A flow calibrator capable of calibration to within plus or minus 2 percent of reading over a temperature range of minus 4 to plus 140 degrees F and traceable to a NIST primary standard.

1.23 EXPENDABLE SUPPLIES

1.23.1 Glovebag

Glovebags shall be provided as described in 29 CFR 1926.1101. The glovebag assembly shall be 6 mil thick plastic, prefabricated and seamless at the bottom with preprinted OSHA warning label.

1.23.2 Duct Tape

Industrial grade duct tape of appropriate widths suitable for bonding sheet plastic and disposal containers.

1.23.3 Disposal Containers

Leak-tight (defined as solids, liquids, or dust that cannot escape or spill out) disposal containers shall be provided for ACM wastes as required by 29 CFR 1926.1101. Disposal containers can be in the form of:

a. Disposal Bags

b. Fiberboard Drums

1.23.4 Sheet Plastic

Sheet plastic shall be polyethylene of 6 mil minimum thickness and shall be provided in the largest sheet size necessary to minimize seams. Film shall be clear or frosted and conform to ASTM D 4397, except as specified below:

1.23.4.1 Flame Resistant

Where a potential for fire exists, flame-resistant sheets shall be provided. Film shall be frosted and shall conform to the requirements of NFPA 701.

1.23.4.2 Reinforced

Reinforced sheets shall be provided where high skin strength is required, such as on floors, and where it constitutes the only barrier between the regulated area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced or woven-polyethylene thread laminated between 2 layers of polyethylene film. Film shall meet flame resistant standards of NFPA 701.

1.23.5 Mastic Removing Solvent

Mastic removing solvent shall be nonflammable and shall not contain methylene chloride, glycol ether, or halogenated hydrocarbons. Solvents used onsite shall have a flash point greater than 140 degrees F.

1.23.6 Leak-tight Wrapping

Two layers of 6 mil minimum thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials such as reactor vessels, large tanks, boilers, insulated pipe segments and other materials too large to be placed in disposal bags as described in DETAIL SHEET 9B. Upon placement of the ACM component or material, each layer shall be individually leak-tight sealed with duct tape.

1.23.7 Viewing Inspection Window

Where feasible, a minimum of 1 clear, 1/8 inch thick, acrylic sheet, 18 by 24 inches, shall be installed as a viewing inspection window at eye level on a wall in each containment enclosure. The windows shall be sealed leak-tight with industrial grade duct tape.

1.23.8 Wetting Agents

Amended water shall meet the requirements of ASTM D 1331. Removal encapsulant (a penetrating encapsulant) shall be provided when conducting removal abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM greater than or equal to that provided by amended water. Performance requirements for penetrating encapsulants are specified in paragraph ENCAPSULANTS.

1.23.9 Strippable Coating

Strippable coating in aerosol cans shall be used to adhere to surfaces and to be removed cleanly by stripping, at the completion of work.

PART 2 PRODUCTS

2.1 ENCAPSULANTS

Encapsulants shall conform to USEPA requirements, shall contain no toxic or hazardous substances and no solvent.

2.2 ENCASEMENT PRODUCTS

Encasement shall consist of primary cellular polymer coat, polymer finish coat, and any other finish coat as approved by the CO.

2.3 RECYCLABLE MATERIALS

Recyclable materials shall conform to EPA requirements.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Asbestos abatement work shall be performed according to the contract drawings, this specification, and federal, state, and local regulations. If there are conflicts between the contract documents and regulatory requirements, the most stringent requirements will be followed. The Contractor shall use the engineering controls and work practices required in 29 CFR 1926.1101(g) in all operations regardless of the levels of exposure. Personnel shall wear and utilize protective clothing and equipment. The Contractor shall not permit eating, smoking, drinking, chewing or applying cosmetics in the regulated area. Personnel of other trades, shall not be exposed at any time to airborne concentrations of asbestos unless all the administrative and personal protective provisions of the Contractor's APP are complied with. Power to the regulated area shall be locked-out and tagged in accordance with 29 CFR 1910.147, and temporary electrical service with ground fault circuit interrupters shall be provided as needed. Temporary electrical service shall be disconnected when necessary for wet removal. The Contractor shall stop abatement work in the regulated area immediately when the airborne total fiber concentration: (1) equals or exceeds 0.01 f/cc, or the pre-abatement concentration, whichever is greater, outside the regulated area; or (2) equals or exceeds 1.0 f/cc inside the regulated area. The Contractor shall correct the condition to the satisfaction of the CO, including visual inspection and air sampling. Work shall resume only upon notification by the CO. Corrective actions shall be documented.

3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN

Asbestos abatement shall be performed without damage to or contamination of adjacent work or area. Where such work or area is damaged or contaminated, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Government. When spills occur, work shall stop in all effected areas immediately and the spill shall be cleaned. When satisfactory visual inspection and air sampling analysis results are obtained and have been evaluated by the Contractor's Designated IH and the CO, work shall proceed.

3.3 OBJECTS

3.3.1 Removal of Mobile Objects

The property owner will remove furniture and equipment from the area of work before work begins. If furniture and equipment can not be removed from the area before work begins, cleaning and storage and reinstallation of furniture and equipment located in each abatement area shall be required. Furnishings and equipment shall be precleaned using HEPA filtered vacuum followed by wet wiping. These objects shall be removed to an area or site designated on by the CO, and stored. Carpets, draperies, and other items which may not be suitable for onsite wet cleaning methods shall be disposed of as asbestos contaminated material].

3.3.2 Stationary Objects

Stationary objects, furniture, and equipment, shall remain in place and shall be precleaned using HEPA vacuum followed by adequate wet wiping. Stationary objects and furnishings shall be covered with 2 layers of polyethylene and edges sealed with duct tape.

3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS

Building ventilation system supply and return air ducts in a regulated area shall be shut down and isolated by lockable switch or other positive means in accordance with 29 CFR 1910.147n and will be isolated by airtight seals to prevent the spread of contamination throughout the system. The airtight seals shall consist of air-tight rigid covers for building ventilation supply and exhaust grills where the ventilation system is required to remain in service during abatement and 2 layers of polyethylene for all other openings. Edges to wall, ceiling and floor surfaces shall be sealed with industrial grade duct tape.

3.5 PRECLEANING

Surfaces to remain in the work area shall be cleaned by HEPA vacuum and adequately wet wiped prior to establishment of containment.

3.6 METHODS OF COMPLIANCE

3.6.1 Mandated Practices

The specific abatement techniques and items identified shall be detailed in the Contractor's AHAP. The Contractor shall use the following engineering controls and work practices in all operations, regardless of the levels of exposure:

a. Vacuum cleaners equipped with HEPA filters.

b. Wet methods or wetting agents except where it can be demonstrated that the use of wet methods is unfeasible due to the creation of electrical hazards, equipment malfunction, and in roofing.

c. Prompt clean-up and disposal.

d. Inspection and repair of polyethylene.

e. Cleaning of equipment and surfaces of containers prior to removing them from the equipment room or area.

3.6.2 Control Methods

The Contractor shall use the following control methods:

a. Local exhaust ventilation equipped with HEPA filter;

b. Enclosure or isolation of processes producing asbestos dust;

c. Where the feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PELs, the Contractor shall use them to reduce employee exposure to the lowest levels attainable and shall supplement them by the use of respiratory protection.

3.6.3 Unacceptable Practices

The following work practices shall not be used:

a. High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.

b. Compressed air used to remove asbestos containing materials, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.

c. Dry sweeping, shoveling, or other dry clean up.

d. Employee rotation as a means of reducing employee exposure to asbestos.

3.6.4 Class I Work Procedures

In addition to requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the installation and operation of the control methods.

b. For jobs involving the removal of more than 25 feet or 10 square feet of TSI or surfacing material, the Contractor shall place critical barriers over all openings to the regulated area.

c. HVAC systems shall be isolated in the regulated area by sealing with a double layer of plastic or air-tight rigid covers.

d. Impermeable dropcloths (6 mil or greater thickness) shall be placed on surfaces beneath all removal activity.

e. Where a negative exposure assessment has not been provided or where exposure monitoring shows the PEL was exceeded, the regulated area shall be ventilated with a HEPA unit and employees must use PPE.

3.6.5 Specific Control Methods for Class I Work

3.6.5.1 Negative Pressure Enclosure (NPE) System

The NPE system shall be as shown in SETUP DETAIL SHEET [2] [3] [4] [8]. The system shall provide at least 4 air changes per hour inside the containment. The local exhaust unit equipment shall be operated 24 hours per day until the containment is removed. The NPE shall be smoke tested for leaks at the beginning of each shift and be sufficient to maintain a minimum pressure differential of minus 0.02 inch of water column relative to adjacent, unsealed areas. Pressure differential shall be monitored continuously, 24 hours per day, with an automatic manometric recording instrument and Records shall be provided daily on the same day collected to the CO. The CO shall be notified immediately if the pressure differential falls below the prescribed minimum. The building ventilation system shall not be used as the local exhaust system for the regulated area. The NPE shall terminate outdoors unless an alternate arrangement is allowed by the CO. All filters used shall be new at the beginning of the project and shall be periodically changed as necessary and disposed of as ACM waste.

3.6.5.2 Glovebag Systems

Glovebags shall be used without modification, smoke-tested for leaks, and completely cover the circumference of pipe or other structures where the work is to be done. Glovebags shall be used only once and shall not be moved. Glovebags shall not be used on surfaces that have temperatures exceeding 150 degrees F. Prior to disposal, glovebags shall be collapsed using a HEPA vacuum. Before beginning the operation, loose and friable material adjacent to the glovebag operation shall be wrapped and sealed in 2 layers of plastic or otherwise rendered intact. At least 2 persons shall perform glovebag removal. Asbestos regulated work areas shall be established as shown on the detailed drawings and plans and in Table 1 for glovebag abatement. Designated boundary limits for the asbestos work shall be established with rope or other continuous barriers and all other requirements for asbestos control areas shall be maintained, including area signage and boundary warning tape as specified in 29 CFR 1926.1101.

a. The Contractor shall attach HEPA vacuum systems to the bag to prevent collapse during removal of ACM.

b. The negative pressure glove boxes shall be fitted with gloved apertures and a bagging outlet and constructed with rigid sides from metal or other material which can withstand the weight of the ACM and water used during removal. A negative pressure shall be created in the system using a HEPA filtration system. The box shall be smoke tested for leaks prior to each use.

3.6.5.3 Mini-Enclosures

A mini-containment (small walk-in enclosure) to accommodate no more than 2 persons, may be used if the disturbance or removal can be completely contained by the enclosure. The mini-enclosure shall be inspected for leaks and smoke tested before each use. Air movement shall be directed away from the employee's breathing zone within the mini-enclosure.

3.6.5.4 Wrap and Cut Operation

Prior to cutting pipe, the asbestos-containing insulation shall be wrapped with polyethylene and securely sealed with duct tape to prevent asbestos

becoming airborne as a result of the cutting process. The following steps shall be taken: install glovebag, strip back sections to be cut 6 inches from point of cut, and cut pipe into manageable sections.

3.6.6 Class II Work

In addition to the requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the work.

b. For indoor work, critical barriers shall be placed over all openings to the regulated area.

c. Impermeable dropcloths shall be placed on surfaces beneath all removal activity.

3.6.7 Specific Control Methods for Class II Work

3.6.7.1 Vinyl and Asphalt Flooring Materials

Resilient sheeting shall be removed by adequately wet methods. Tiles shall be removed intact (if possible); wetting is not required when tiles are heated and removed intact. Flooring or its backing shall not be sanded. Scraping of residual adhesive and/or backing shall be performed using wet methods. Mechanical chipping is prohibited unless performed in a negative pressure enclosure. Dry sweeping is prohibited. The Contractor shall use vacuums equipped with HEPA filter, disposable dust bag, and metal floor tool (no brush) to clean floors.

3.6.7.2 Roofing Material

[Note to reviewers; For this 75% design roofing material has been assumed to contain ACM. Results from recent Government sampling of roof material are not available yet for inclusion, but will be incorporated for the 95% design.] Roofing materials which contain ACM as described in 29 CFR 1926.1101(g)(8)(ii) shall be removed in an intact state. Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards. When removing built-up roofs, with asbestos-containing roofing felts and an aggregate surface, using a power roof cutter, all dust resulting from the cutting operations shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. Asbestos-containing roofing material shall not be dropped or thrown to the ground, but shall be lowered to the ground via covered, dust-tight chute, crane, hoist or other method approved by the CO. Any ACM that is not intact shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. While the material remains on the roof it shall be kept wet or placed in an impermeable waste bag or wrapped in plastic sheeting. Intact ACM shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. Unwrapped material shall be transferred to a closed receptacle. Critical barriers shall be placed over roof level heating and ventilation air intakes.

3.6.7.3 Cementitious Siding and Shingles or Transite Panels

When removing cementitious asbestos-containing siding, shingles or transite

panels the Contractor shall use the following work practices shown in RESPONSE ACTION DETAIL SHEET [81] [82] [83]. Intentionally cutting, abrading or breaking is prohibited. Each panel or shingle shall be sprayed with amended water prior to removal. Nails shall be cut with flat, sharp instruments. Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

3.6.7.4 Gaskets

Gaskets shall be thoroughly wetted with amended water prior to removal and immediately placed in a disposal container. If a gasket is visibly deteriorated and unlikely to be removed intact, removal shall be undertaken within a glovebag. Any scraping to remove residue shall be performed wet.

3.6.8 Methods for Asphaltic Wrap

Removal or disturbance of pipeline asphaltic wrap shall be performed using wet methods.

3.6.9 Class I Asbestos Work Response Action Detail Sheets

The following Class I Asbestos Work Response Action Detail Sheet is specified on Table 1 for each individual work task to be performed:

a. Pipe Insulation (Using a Glovebag): See Sheet 87

b. Horizontal Pipe Insulation (Using a Containment Area): See Sheet 88

c. Pipe Insulation (Using a Mini-Containment Area): See Sheet 89

d. Storage Tank and Boiler Breeching Insulation: See Sheet 93. Storage tanks and boilers shall be valved off an allowed a sufficient amount of time to cool down prior to abatement work. Insulation shall be sprayed with a mist of amended water or removal encapsulant. Amended water or removal encapsulant shall be allowed to saturate material to substrate. Cover jackets shall be slit at seams, and sections removed and hand-placed in a polyethylene disposable bag. Exposed surfaces shall be continuously sprayed with amended water to minimize airborne dust. Insulation on tanks and boiler breeching shall not be allowed to drop to the floor. Lagging on piping and insulation on fittings shall be removed. A penetrating encapsulant shall be sprayed on all exposed tank, boiler and boiler breeching surfaces.

e. Pipe and Fitting Insulation (using Glovebag): See Sheet 86

f. Storage Tank and Boiler Breeching: See Sheet 92

3.6.10 Class II Asbestos Work Response Action Detail Sheets

The following Class II Asbestos Work Response Action Detail Sheet is specified on Table 1 for each individual work task to be performed:

a. Vinyl or Vinyl Asbestos Tile Adhered to Concrete Floor System by Asbestos-Containing Adhesive: See Sheet 56

b. Vinyl or Vinyl Asbestos Tile Adhered to Wood Floor System by Asbestos Containing Adhesive: See Sheet 60

c. Vinyl Asbestos Tile Adhered to Concrete Floor System by Asbestos Containing Adhesive: See Sheet 57

d. Vinyl Asbestos Tile Adhered to Concrete Floor System by Asbestos Free Adhesive: See Sheet 58

e. Vinyl Asbestos Tile and Chemical Dissolution of Asbestos-Containing Adhesives on Concrete Floor System: See Sheet 59

f. Vinyl Asbestos Tile Adhered to Wood Floor System by Asbestos-Containing Adhesive: See Sheet 61

g. Vinyl Asbestos Tile Adhered to Wood Floor System by Asbestos Free Adhesive: See Sheet 62

h. Sheet Flooring Adhered Wood Floor System: See Sheet 63

i. Asbestos-Containing Sheet Flooring Adhered to Concrete Floor System by Asbestos-Containing Adhesive: See Sheet 64

j. Miscellaneous Asbestos-Containing Materials: See Sheet 45

k. Built-Up Roofing and Flashing: See Sheet 74

l. Roof, Shingles and Underlayment: See Sheet 75

m. Asbestos Cement Siding: See Sheet 81

n. Asbestos Cement Roofing: See Sheet 82

o. Electrical Wiring and Fixtures: See Sheet 95

p. Asbestos Insulated Electrical Fixture: See Sheet 96

3.6.11 Sealing Contaminated Items Designated for Disposal

Contaminated items designated for removal shall be coated with an asbestos lockdown encapsulant before being removed from the asbestos control area. The asbestos lockdown encapsulant shall be tinted a contrasting color and shall be spray applied by airless method. Thoroughness of sealing operation shall be visually gauged by the extent of colored coating on exposed surfaces.

3.7 FINAL CLEANING AND VISUAL INSPECTION

After completion of all asbestos removal work and the gross amounts of asbestos have been removed from every surface, any remaining visible accumulations of asbestos shall be collected. For all classes of indoor asbestos abatement projects a final cleaning shall be performed using HEPA vacuum and wet cleaning of all exposed surfaces and objects in the regulated area. Upon completion of the cleaning, the Contractor shall conduct a visual pre-inspection of the cleaned area in preparation for a final inspection before final air clearance monitoring. The Contractor and the CO shall conduct a final visual inspection of the cleaned regulated area in accordance with ASTM E 1368 and document the results on the Final

Cleaning and Visual Inspection as specified on the SET-UP DETAIL SHEET 19. If the CO rejects the clean regulated area as not meeting final cleaning requirements, the Contractor shall reclean as necessary and have a follow-on inspection conducted with the CO. Recleaning and follow-up reinspection shall be at the Contractor's expense.

3.8 LOCKDOWN

Prior to removal of plastic barriers and after final visual inspection, a (lockdown) encapsulant shall be spray applied to ceiling, walls, floors, and other surfaces in the regulated area.

3.9 EXPOSURE ASSESSMENT AND AIR MONITORING

3.9.1 General Requirements

a. Exposure assessment, air monitoring and analysis of airborne concentration of asbestos fibers shall be performed in accordance with 29 CFR 1926.1101, and the Contractor's air monitoring plan. Results of breathing zone samples shall be posted at the job site and made available to the CO.

b. Worker Exposure.

(1) The Contractor's Designated IH shall collect samples representative of the exposure of each employee who is assigned to work within a regulated area. Breathing zone samples shall be taken for at least 25 percent of the workers in each shift, or a minimum of 2, whichever is greater. Air monitoring results at the 95 percent confidence level shall be calculated as shown in Table 2 at the end of this section.

(2) The Contractor shall utilize an independent testing laboratory with qualified analysts and appropriate equipment to conduct sample analyses of air samples using the methods prescribed in 29 CFR 1926.1101, to include NIOSH 94-113 Method 7400.

(3) The Contractor's workers shall not be exposed to an airborne fiber concentration in excess of 1.0 f/cc, as averaged over a sampling period of 30 minutes. Should a personal excursion concentration of 1.0 f/cc expressed as a 30-minute sample occur inside a regulated work area, the Contractor shall stop work immediately, notify the Contracting Officer, and implement additional engineering controls and work practice controls to reduce airborne fiber levels below prescribed limits in the work area. Work shall not restart until authorized by the CO.

c. Environmental Exposure

(1) All environmental air monitoring shall be performed by [the Contractor's Designated IH] [and] [Contracting Officer's IH].

(2) Environmental and final clearance air monitoring shall be performed using NIOSH 94-113 Method 7400 (PCM) with optional confirmation of results by NIOSH 94-113 Method 7402 (TEM).

(3) For environmental and final clearance, air monitoring shall be conducted at a sufficient velocity and duration to establish the limit of detection of the method used at 0.005 f/cc.

(4) When confirming asbestos fiber concentrations (asbestos f/cc) from environmental and final clearance samples, use TEM in accordance with NIOSH 94-113 Method 7402. When such confirmation is conducted, it shall be from the same sample filter used for the NIOSH 94-113 Method 7400 PCM analysis. All confirmation of asbestos fiber concentrations, using NIOSH 94-113 Method 7402, shall be at the Contractor's expense.

(5) Monitoring may be duplicated by the Government at the discretion of the CO and at the Government's expense.

(6) The Contractor shall maintain a fiber concentration inside a regulated area less than or equal to 0.1 f/cc expressed as an 8 hour, time-weighted average (TWA) during the conduct of the asbestos abatement.

(7) At the discretion of the Contracting Officer, the fiber concentration may exceed 0.1 f/cc but shall not exceed 1.0 f/cc expressed as an 8-hour TWA. Should an environmental concentration of 1.0 f/cc expressed as an 8-hour TWA occur inside a regulated work area, the Contractor shall stop work immediately, notify the Contracting Officer, and implement additional engineering controls and work practice controls to reduce airborne fiber levels below prescribed limits in the work area. Work shall not restart until authorized by the CO.

3.9.2 Initial Exposure Assessment

The Contractor's Designated IH shall conduct an exposure assessment immediately before or at the initiation of an asbestos abatement operation to ascertain expected exposures during that operation. The assessment shall be completed in time to comply with the requirements, which are triggered by exposure data or the lack of a negative exposure assessment, and to provide information necessary to assure that all control systems planned are appropriate for that operation. The assessment shall take into consideration both the monitoring results and all observations, information or calculations which indicate employee exposure to asbestos, including any previous monitoring conducted in the workplace, or of the operations of the Contractor which indicate the levels of airborne asbestos likely to be encountered on the job. For Class I asbestos work, until the employer conducts exposure monitoring and documents that employees on that job will not be exposed in excess of PELs, or otherwise makes a negative exposure assessment, the Contractor shall presume that employees are exposed in excess of the PEL-TWA and PEL-Excursion Limit.

3.9.3 Negative Exposure Assessment

The Contractor shall provide a negative exposure assessment for the specific asbestos job which will be performed. The negative exposure assessment shall be provided within 10 days of the initiation of the project and conform to the following criteria:

a. Objective Data: Objective data demonstrating that the product or material containing asbestos minerals or the activity involving such product or material cannot release airborne fibers in concentrations exceeding the PEL-TWA and PEL-Excursion Limit under those work conditions having the greatest potential for releasing asbestos.

b. Prior Asbestos Jobs: Where the Contractor has monitored prior asbestos jobs for the PEL and the PEL-Excursion Limit within 12 months of the current job, the monitoring and analysis were performed in compliance with asbestos standard in effect; the data were obtained during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the Contractor's current operations; the operations were conducted by employees whose training and experience are no more extensive than that of employees performing the current job; and these data show that under the conditions prevailing and which will prevail in the current workplace, there is a high degree of certainty that the monitoring covered exposure from employee exposures will not exceed the PEL-TWA and PEL-Excursion Limit.

c. Initial Exposure Monitoring: The results of initial exposure monitoring of the current job, made from breathing zone air samples that are representative of the 8-hour PEL-TWA and 30-minute short-term exposures of each employee. The monitoring covered exposure from operations which are most likely during the performance of the entire asbestos job to result in exposures over the PELs.

3.9.4 Independent Environmental Monitoring

The air monitoring Contractor has been provided a copy of the contract that includes this abatement work. The abatement Contractor will provide the air monitoring Contractor with an up-to-date copy of the accepted AHAP, APP and pertinent detailed drawings. The air monitoring Contractor is required to comply with the abatement Contractor's safety and health requirements. The abatement Contractor will coordinate all onsite activities with the air monitoring Contractor, the COR, and other affected parties as directed by the COR. The abatement Contractor will provide the air monitoring Contractor with an up-to-date schedule of abatement Contractor work activities. The air monitoring Contractor will coordinate with the abatement Contractor and the COR during the performance Government required air monitoring. The abatement Contractor is responsible for performing exposure assessment and personal air monitoring of abatement Contractor's work. The air monitoring Contractor is responsible for performing these tasks for its employee.

3.9.5 Preabatement Environmental Air Monitoring

Preabatement environmental air monitoring shall be established 1 day prior to the masking and sealing operations for each regulated area to determine background concentrations before abatement work begins. As a minimum, preabatement air samples shall be collected using NIOSH 94-113 Method 7400, PCM at these locations: outside the building; inside the building, but outside the regulated area perimeter; and inside each regulated work area. One sample shall be collected for every 2000 square feet of floor space. At least 2 samples shall be collected outside the building: at the exhaust of the HEPA unit; and downwind from the abatement site. The PCM samples shall be analyzed within 24 hours; and if any result in fiber concentration greater than 0.01 f/cc, asbestos fiber concentration shall be confirmed using NIOSH 94-113 Method 7402 (TEM).

3.9.6 Environmental Air Monitoring During Abatement

Until an exposure assessment is provided to the CO, environmental air monitoring shall be conducted at locations and frequencies that will accurately characterize any evolving airborne asbestos fiber concentrations. The assessment shall demonstrate that the product or material containing asbestos minerals, or the abatement involving such product or material, cannot release airborne asbestos fibers in concentrations exceeding 0.01 f/cc as a TWA under those work conditions having the greatest potential for releasing asbestos. The monitoring shall be at least once per shift at locations including, but not limited to, close to the work inside a regulated area; preabatement sampling locations; outside entrances to a regulated area; close to glovebag operations; representative locations outside of the perimeter of a regulated area; inside clean room; and at the exhaust discharge point of local exhaust system ducted to the outside of a containment (if used). If the sampling outside regulated area shows airborne fiber levels have exceeded background or 0.01 f/cc, whichever is greater, work shall be stopped immediately, and the Contracting Officer notified. The condition causing the increase shall be corrected. Work shall not restart until authorized by the CO.

3.9.7 Final Clearance Air Monitoring

The Contractor's Designated IH shall conduct final clearance air monitoring using aggressive air sampling techniques as defined in 40 CFR 763, Subpart E, Appendix A, Unit III, TEM Method B.7(d-f) and Table 4 of this section for all indoor asbestos abatement projects. Clearance air monitoring is not required for outside work.

3.9.7.1 Final Clearance Requirements, NIOSH PCM Method

For PCM sampling and analysis using NIOSH 94-113 Method 7400, the fiber concentration inside the abated regulated area, for each airborne sample, shall be less than 0.01 f/cc. The abatement inside the regulated area is considered complete when every PCM final clearance sample is below the clearance limit. If any sample result is greater than 0.01 total f/cc, the asbestos fiber concentration (asbestos f/cc) shall be confirmed from that same filter using NIOSH 94-113 Method 7402 (TEM) at Contractor's expense. If any confirmation sample result is greater than 0.01 asbestos f/cc, abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.7.2 Final Clearance Requirements, EPA TEM Method

For EPA TEM sampling and analysis, using the EPA Method specified in 40 CFR 763, abatement inside the regulated area is considered complete when the arithmetic mean asbestos concentration of the 5 inside samples is less than or equal to 70 structures per square millimeter (70 S/mm). When the arithmetic mean is greater than 70 S/mm, the 3 blank samples shall be analyzed. If the 3 blank samples are greater than 70 S/mm, resampling shall be done. If less than 70 S/mm, the 5 outside samples shall be analyzed and a Z-test analysis performed. When the Z-test results are less than 1.65, the decontamination shall be considered complete. If the Z-test results are more than 1.65, the abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.7.3 Air Clearance Failure

If clearance sampling results fail to meet the final clearance requirements, the Contractor shall pay all costs associated with the required recleaning, resampling, and analysis, until final clearance requirements are met.

3.9.8 Air-Monitoring Results and Documentation

Air sample fiber counting shall be completed and results provided within 24 hours (breathing zone samples), and 24 hours (environmental/clearance monitoring) after completion of a sampling period. The CO shall be notified immediately of any airborne levels of asbestos fibers in excess of established requirements. Written sampling results shall be provided within 5 working days of the date of collection. The written results shall be signed by testing laboratory analyst, testing laboratory principal and the Contractor's Designated IH. The air sampling results shall be documented on a Contractor's daily air monitoring log. The daily air monitoring log shall contain the following information for each sample:

a. Sampling and analytical method used;

b. Date sample collected;

c. Sample number;

d. Sample type: BZ = Breathing Zone (Personal), P = Preabatement, E = Environmental, C = Abatement Clearance;

e. Location/activity/name where sample collected;

f. Sampling pump manufacturer, model and serial number, beginning flow rate, end flow rate, average flow rate (L/min);

g. Calibration date, time, method, location, name of calibrator, signature;

h. Sample period (start time, stop time, elapsed time (minutes);

i. Total air volume sampled (liters);

j. Sample results (f/cc and S/mm square) if EPA methods are required for final clearance;

k. Laboratory name, location, analytical method, analyst, confidence level. In addition, the printed name and a signature and date block for the Industrial Hygienist who conducted the sampling and for the Industrial Hygienist who reviewed the daily air monitoring log verifying the accuracy of the information.

3.10 CLEARANCE CERTIFICATION

When asbestos abatement is complete, ACM waste is removed from the regulated areas, and final clean-up is completed, the CO will allow the warning signs and boundary warning tape to be removed. After final clean-up and acceptable airborne concentrations are attained, but before the HEPA unit is turned off and the containment removed, the Government will remove all pre-filters on the building HVAC system and provide new pre-filters. The Contractor shall dispose of such filters as asbestos

contaminated materials. HVAC, mechanical, and electrical systems shall be re-established in proper working order. The Contractor and the CO shall visually inspect all surfaces within the containment for residual material or accumulated debris. The Contractor shall reclean all areas showing dust or residual materials. The CO will certify in writing that the area is safe before unrestricted entry is permitted. The Government will have the option to perform monitoring to certify the areas are safe before entry is permitted.

3.11 CLEANUP AND DISPOSAL

3.11.1 Title to ACM Materials

ACM material resulting from abatement work, except as specified otherwise, shall become the property of the Contractor and shall be disposed of as specified and in accordance with applicable federal, state and local regulations.

3.11.2 Collection and Disposal of Asbestos

All ACM waste shall be collected including contaminated wastewater filters, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing and placed in leak-tight containers. Waste within the containers shall be wetted in case the container is breeched. Asbestos-containing waste shall be disposed of at an EPA, state and local approved asbestos landfill. For temporary storage, sealed impermeable containers shall be stored in an asbestos waste load-out unit or in a storage/transportation conveyance (i.e., dumpster, roll-off waste boxes, etc.) in a manner acceptable to and in an area assigned by the CO. Procedure for hauling and disposal shall comply with 40 CFR 61, Subpart M, state, regional, and local standards.

3.11.3 Scale Weight Measurement

Scales used for measurement shall be public scales. Weighing shall be at a point nearest the work at which a public scale is available. Scales shall be standard truck scales of the beam type; scales shall be equipped with the type registering beam and an "over and under" indicator; and shall be capable of accommodating the entire vehicle. Scales shall be tested, approved and sealed by an inspector of the State of NJ. Scales shall be calibrated and resealed as often as necessary and at least once every three months to ensure continuous accuracy. Vehicles used for hauling ACM shall be weighed empty daily at such time as directed and each vehicle shall bear a plainly legible identification mark.

3.11.4 Weight Bills and Delivery Tickets

Copies of weight bills and delivery tickets shall be submitted to the CO during the progress of the work. The Contractor shall furnish the CO scale tickets for each load of ACM weighed and certified. These tickets shall include tare weight; identification mark for each vehicle weighed; and date, time and location of loading and unloading. Tickets shall be furnished at the point and time individual trucks arrive at the worksite. A master log of all vehicle loading shall be furnished for each day of loading operations. Before the final statement is allowed, the Contractor shall file with the Contracting Officer certified weigh bills and/or certified tickets and manifests of all ACM actually disposed by the Contractor for this contract.

3.11.5 Records and Management Plan

3.11.5.1 Asbestos Waste Shipment Records

The Contractor shall complete and provide the CO final completed copies of the Waste Shipment Record for all shipments of waste material as specified in 40 CFR 61, Subpart M and other required state waste manifest shipment records, within 3 days of delivery to the landfill. Each Waste Shipment Record shall be signed and dated by the CO, the waste transporter and disposal facility operator.

TABLE 1

INDIVIDUAL WORK TASK DATA ELEMENTS

Sheet_____ of _____

There is a separate data sheet for each individual work task.

1. WORK TASK DESIGNATION NUMBER _____
2. LOCATION OF WORK TASK_____
_____
3. BRIEF DESCRIPTION OF MATERIAL TO BE ABATED:_____
_____

   a. Type of Asbestos _____
   b. Percent asbestos content _____%

4. ABATEMENT TECHNIQUE TO BE USED_____
5. OSHA ASBESTOS CLASS DESIGNATION FOR WORK TASK_____
6. EPA NESHAP FRIABILITY DESIGNATION FOR WORK TASK
   Friable _____ Non-friable Category I _____
   Non-friable Category II_____
7. FORM _____ and CONDITION OF ACM: GOOD_____ FAIR_____ POOR_____
8. QUANTITY: METERS_____, SQUARE METERS_____
8a. QUANTITY: LINEAR FT._____, SQUARE FT._____
9. RESPONSE ACTION DETAIL SHEET NUMBER FOR WORK TASK_____
10. SET-UP DETAIL SHEET NUMBERS
    FOR WORK TASK _____, _____, _____, _____,
    _____, _____, _____, _____.

NOTES:

(1) Numeric sequence of individual work tasks (1,2,3,4, etc.) for each regulated area. Each category of EPA friability/OSHA class has a separate task.
(2) Specific location of work (building, floor, area, e.g., Building 1421, 2nd Floor, Rm 201)
(3) A description of material to be abated (example: horizontal pipe, cement wall panels, tile, stucco, etc.) type of asbestos (chrysotile, amosite, crocidolite, etc.); and % asbestos content.
(4) Technique to be used: Removal = REM; Encapsulation = ENCAP; Encasement = ENCAS; Enclosure = ENCL; Repair = REP.
(5) Class designation: Class I, II, III, or IV (OSHA designation).
(6) Friability of materials: Check the applicable EPA NESHAP friability designation.
(7) Form: Interior or Exterior Architectural = IA or EA; Mechanical/Electrical = ME.
Condition: Good = G; Fair = F; Poor = P.
(8) Quantity of ACM for each work task in meters or square meters.
(8a) Quantity of ACM for each work task in linear feet or square feet.
(9) Response Action Detail Sheet specifies the material to be abated and the methods to be used. There is only one Response Action Detail Sheet for each abatement task.
(10) Set-up Detail Sheets indicate containment and control methods used in support of the response action (referenced in the selected Response Action Detail Sheet).

TABLE 2

FORMULA FOR CALCULATION OF THE 95 PERCENT CONFIDENCE LEVEL
(Reference: NIOSH 7400)

Fibers/cc(01.95 percent CL) = X + [(X) * (1.645) * (CV)]

Where: X = ((E)(AC))/((V)(1000))

E = ((F/Nf) - (B/Nb))/Af

CV = The precision value; 0.45 shall be used unless the analytical laboratory provides the Contracting Officer with documentation (Round Robin Program participation and results) that the laboratory's precision is better.

AC = Effective collection area of the filter in square millimeters

V = Air volume sampled in liters

E = Fiber density on the filter in fibers per square millimeter

F/Nf = Total fiber count per graticule field

B/Nb = Mean field blank count per graticule field

Af = Graticule field area in square millimeters

TWA = C1/T1 + C2/T2 = Cn/Tn

Where: C = Concentration of contaminant

T = Time sampled.

TABLE 3

NIOSH METHOD 7400

PCM ENVIRONMENTAL AIR SAMPLING PROTOCOL (NON-PERSONAL)

Sample Location	Minimum No. of Samples	Filter Pore Size (Note 1)	Min. Vol. (Note 2) (Liters)	Sampling Rate (liters/min.)
Inside Abatement Area	0.5/140 Square Meters (Notes 3 & 4)	0.45 microns	3850	2-16
Each Room in 1 Abatement Area Less than 140 Square meters		0.45 microns	3850	2-16
Field Blank	2	0.45 microns	0	0
Laboratory Blank	1	0.45 microns	0	0

Notes:

1. Type of filter is Mixed Cellulose Ester.

2. Ensure detection limit for PCM analysis is established at 0.005 fibers/cc.

3. One sample shall be added for each additional 140 square meters. (The corresponding I-P units are 5/1500 square feet).

4. A minimum of 5 samples are to be taken per abatement area, plus 2 field blanks.

TABLE 4

EPA AHERA METHOD: TEM AIR SAMPLING PROTOCOL

Location Sampled	Minimum No. of Samples	Filter Pore Size	Min. Vol. (Liters)	Sampling Rate (liters/min.)
Inside Abatement Area	5	0.45 microns	1500	2-16
Outside Abatement Area	5	0.45 microns	1500	2-16
Field Blank	2	0.45 microns	0	0
Laboratory Blank	1	0.45 microns	0	0

Notes:

1. Type of filter is Mixed Cellulose Ester.

2. The detection limit for TEM analysis is 70 structures/square mm.

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME _____ CONTRACT NO. _____
PROJECT ADDRESS _____
CONTRACTOR FIRM NAME _____
EMPLOYEE'S NAME _____, _____, _____,
(Print) (Last) (First) (MI)

Social Security Number: _____-_____-_____, __(Optional)

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH TYPES OF LUNG DISEASE AND CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS, THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NONSMOKING PUBLIC.

Your employer's contract for the above project requires that you be provided and you complete formal asbestos training specific to the type of work you will perform and project specific training; that you be supplied with proper personal protective equipment including a respirator, that you be trained in its use; and that you receive a medical examination to evaluate your physical capacity to perform your assigned work tasks, under the environmental conditions expected, while wearing the required personal protective equipment. These things are to be done at no cost to you. By signing this certification, you are acknowledging that your employer has met these obligations to you. The Contractor's Designated Industrial Hygienist will check the block(s) for the type of formal training you have completed. Review the checked blocks prior to signing this certification.

FORMAL TRAINING:
_____ a. For Competent Persons and Supervisors: I have completed EPA's Model Accreditation Program (MAP) training course, "Contractor/Supervisor", that meets this State's requirements.

b. For Workers:
_____ (1) For OSHA Class I work: I have completed EPA's MAP training course, "Worker", that meets this State's requirements.
_____ (2) For OSHA Class II work (where there will be abatement of more than one type of Class II materials, i.e., roofing, siding, floor tile, etc.): I have completed EPA's MAP training course, "Worker", that meets this State's requirements.
(3) For OSHA Class II work (there will only be abatement of one type of Class II material):
_____ (a) I have completed an 8-hour training class on the elements of 29 CFR 1926.1101(k)(9)(viii), in addition to the specific work practices and engineering controls of 29 CFR 1926.1101(g) and hands-on training.
_____ (b) I have completed EPA's MAP training course, "Worker", that meets this State's requirements.
_____ (4) For OSHA Class III work: I have completed at least a 16-hour course consistent with EPA requirements for training of local education agency maintenance and custodial staff at 40 CFR 763, Section .92(a)(2) and the elements of 29 CFR 1926.1101(k)(9)(viii), in addition to the specific work practices and engineering controls at 29 CFR 1926.1101, and hands-on training.

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

_____ (5) For OSHA Class IV work: I have completed at least a 2-hr course consistent with EPA requirements for training of local education agency maintenance and custodial staff at 40 CFR 763, (a)(1), and the elements of 29 CFR 1926.1101(k)(9)(viii), in addition to the specific work practices and engineering controls at 29 CFR 1926.1101(g) and hands-on training.

_____ c. Workers, Supervisors and the Designated Competent Person: I have completed annual refresher training as required by EPA's MAP that meets this State's requirements.

PROJECT SPECIFIC TRAINING:
_____ I have been provided and have completed the project specific training required by this Contract. My employer's Designated Industrial Hygienist and Designated Competent Person conducted the training.

RESPIRATORY PROTECTION:
_____ I have been trained in accordance with the criteria in the Contractor's Respiratory Protection program. I have been trained in the dangers of handling and breathing asbestos dust and in the proper work procedures and use and limitations of the respirator(s) I will wear. I have been trained in and will abide by the facial hair and contact lens use policy of my employer.

RESPIRATOR FIT-TEST TRAINING:
_____ I have been trained in the proper selection, fit, use, care, cleaning, maintenance, and storage of the respirator(s) that I will wear. I have been fit-tested in accordance with the criteria in the Contractor's Respiratory Program and have received a satisfactory fit. I have been assigned my individual respirator. I have been taught how to properly perform positive and negative pressure fit-check upon donning negative pressure respirators each time.

EPA/NJ CERTIFICATION/LICENSE

I have an EPA/NJ certification/license as:
Building Inspector/Management Planner; Certification #_____
Contractor/Supervisor, Certification # _____
Project Designer, Certification # _____
Worker, Certification # _____

MEDICAL EXAMINATION:
_____ I have had a medical examination within the last twelve months which was paid for by my employer. The examination included: health history, pulmonary function tests, and may have included an evaluation of a chest x-ray. A physician made a determination regarding my physical capacity to perform work tasks on the project while wearing personal protective equipment including a respirator. I was personally provided a copy and informed of the results of that examination. My employer's Industrial Hygienist evaluated the medical certification provided by the physician and checked the appropriate blank below. The physician determined that there:

_____ were no limitations to performing the required work tasks.
_____ were identified physical limitations to performing the required work tasks.

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

Date of the medical examination _____

Employee Signature _____ date _____

Contractor's Industrial
Hygienist Signature _____ date _____

-- End of Section --

SECTION 13281A

LEAD BASED PAINT AWARENESS

PART 1 GENERAL

1.1 DESCRIPTION

There is no specific task for lead based paint abatement, however it should be assumed that all painted materials are lead based, and Contractors should make employees aware of the potential worker exposure issues during demolition procedures.

1.2 SUMMARY OF WORK

1.2.1 Potential Lead Hazard

The disturbance or dislocation of lead-containing materials may cause lead dust to be released into the building's atmosphere, thereby creating a potential health hazard to workmen and others who may be on-site. Contractor shall apprise all workers, supervisory personnel, Subcontractor's and consultants who will be at the job site of the seriousness of the hazard and of proper Work procedures which must be followed. Take appropriate measures as necessary to protect all building occupants from the potential hazard to airborne lead dust. Such measures shall include the procedures and methods described herein, regulations of the Occupational Safety and Health Administration (OSHA), such as 29 CFR 1910.1025, and the U.S. Environmental Protection Agency (EPA).

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 13284

REMOVAL AND DISPOSAL OF POLYCHLORINATED BIPHENYLS (PCBs)

PART 1 GENERAL

1.1 REFERENCES

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

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.1000	Air Contaminants
29 CFR 1910.145	Accident Prevention Signs and Tags
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 174	Carriage by Rail
49 CFR 175	Carriage by Aircraft
49 CFR 176	Carriage by Vessel
49 CFR 177	Carriage by Public Highway
49 CFR 178	Specifications for Packagings
49 CFR 179	Specifications for Tank Cars

1.2 REQUIREMENTS

The work includes the removal and disposal of PCBs, located within miscellaneous containers or transformers if encountered during demolition operations. Perform work in accordance with 40 CFR 761 and the requirements specified herein.

1.3 DEFINITIONS

1.3.1 Leak

Leak or leaking means any instance in which a PCB Article, PCB Container,

or PCB Equipment has any PCBs on any portion of its external surface.

1.3.2 PCBs

PCBs as used in this specification shall mean the same as PCBs, PCB Article, PCB Article Container, PCB Container, PCB Equipment, PCB Item, PCB Transformer, PCB-Contaminated Electrical Equipment, as defined in 40 CFR 761, Section 3, Definitions.

1.3.3 Spill

Spill means both intentional and unintentional spills, leaks, and other uncontrolled discharges when the release results in any quantity of PCBs running off or about to run off the external surface of the equipment or other PCB source, as well as the contamination resulting from those releases.

1.4 QUALITY ASSURANCE

1.4.1 Training

Instruct employees on the dangers of PCB exposure, on respirator use, decontamination, and applicable OSHA and EPA regulations.

1.4.2 Certified Industrial Hygienist (CIH)

Obtain the services of an industrial hygienist certified by the American Board of Industrial Hygiene to certify training, review and approve the PCB removal plan, including determination of the need for personnel protective equipment (PPE) in performing PCB removal work.

1.4.3 Regulation Documents

Maintain at all times one copy each at the office and one copy each in view at the job site 29 CFR 1910.1000, 40 CFR 761, and Contractor work practices for removal, storage and disposal of PCBs.

1.4.4 Surveillance Personnel

Surveillance personnel may enter PCB control areas for brief periods of time provided they wear disposable polyethylene gloves and disposal polyethylene foot covers, as a minimum. Additional protective equipment may be required if respiratory hazard is involved or if skin contact with PCB is involved.

1.5 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-07 Certificates

Training certification;

Qualifications of CIH;

PCB Removal Work Plan;

PCB Disposal Plan;

Notification

Transporter certification of notification to EPA of their PCB waste activities and EPA ID numbers

Certification of Decontamination for PCB Spill

Post cleanup sampling data

Certificate of disposal

1.6 EQUIPMENT

1.6.1 Special Clothing

Work clothes shall consist of PPE as required by OSHA regulations, including, but not limited to the following:

a. Disposable coveralls

b. Gloves (Disposable rubber gloves may be worn under these)

c. Disposable foot covers (polyethylene)

d. Chemical safety goggles

e. Half mask cartridge respirator.

1.6.2 Special Clothing for Government Personnel

Provide PPE specified in paragraph entitled "Special Clothing" to the Contracting Officer as required for inspection of the work.

1.6.3 PCB Spill Kit

Assemble a spill kit to include the following items:

	ITEM	MINIMUM QUANTITY
1.	Disposable gloves (polyethylene)	6 prs
2.	Gloves with a high degree of impermeability to PCB	6 prs
3.	Disposable coveralls with permeation resistance to PCB	4 ea
4.	Chemical safety goggles	2 ea
5.	Disposable foot covers (polyethylene)	6 prs
6.	PCB Caution Sign: "PCB Spill--Authorized Personnel Only"	2 ea
7.	Banner guard or equivalent banner material	100 feet
8.	Absorbent material	
9.	Blue polyethylene waste bags	5 bags
10.	Cloth backed tape	5 ea
11.	Area access logs, blank	1 roll
12.	Brattice cloth, 6' x 6'	10 ea

ITEM	MINIMUM QUANTITY
13. Rags	1 piece
14. Ball point pens	20 ea
15. Herculite, 4' x 4' and	2 ea
8' x 8'	1 ea
16. Blank metal signs and grease pencils	?
17. Waste containers 55 gallon	2 ea
drum, may be used as container for kit)	5 ea

1.7 QUALITY ASSURANCE

1.7.1 Training Certification

Submit certificates, prior to the start of work but after the main abatement submittals, signed and dated by the CIH and by each employee stating that the employee has received training. Certificates shall be organized by individual worker, not grouped by type of certificates.

1.7.2 Qualifications of CIH

Submit the name, address, and telephone number of the Industrial Hygienist selected to perform the duties in paragraph entitled "Certified Industrial Hygienist." Submit proper documentation that the Industrial Hygienist is certified, including certification number and date of certification/recertification.

1.7.3 PCB Removal Work Plan

Submit a detailed job-specific plan of the work procedures to be used in the removal of PCB-containing materials, not to be combined with other hazardous abatement plans. Provide a Table of Contents for each abatement submittal which shall follow the sequence of requirements in the contract. The plan shall include a sketch showing the location, size, and details of PCB control areas, location and details of decontamination rooms, change rooms, shower facilities, and mechanical ventilation system. Include in the plan, eating, drinking, smoking and restroom procedures, interface of trades, sequencing of PCB related work, PCB disposal plan, respirators, protective equipment, and a detailed description of the method of containment of the operation to ensure that PCB contamination is not spread or carried outside of the control area.

1.7.4 PCB Disposal Plan

Submit a PCB Disposal Plan within 45 calendar days after award of contract for Contracting Officer's approval. The PCB Disposal Plan shall comply with applicable requirements of Federal, State, and local PCB waste regulations and address:

a. Identification of PCB wastes associated with the work.

b. Estimated quantities of wastes to be generated and disposed of.

c. Names and qualifications of each contractor that will be transporting, storing, treating, and disposing of the wastes. Include the facility location and a 24-hour point of contact. Furnish two copies of EPA, State and local PCB waste permits and EPA Identification numbers.

d. Names and qualifications (experience and training) of personnel who will be working on-site with PCB wastes.

e. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment.

f. Spill prevention, containment, and cleanup contingency measures to be implemented.

g. Work plan and schedule for PCB waste containment, removal and disposal. Wastes shall be cleaned up and containerized daily.Sub Title

1.7.5 Notification

Notify the Contracting Officer 20 days prior to the start of PCB removal work.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 PROTECTION

3.1.1 Decontamination Room, Clean Room and Shower Facilities

a. Provide material and labor for construction of a decontamination room, a clean room, and shower facilities. Provide rooms with doors and attach to the exit ways of PCB work areas. Rooms shall be of sufficient size to accommodate the Contractor's operation within. Provide portable toilet and shower facilities. Locate shower facilities between the clean room and decontamination room. Provide separate clothing lockers or containers in each room to prevent contamination of street and work clothes.

b. Remove PCB-contaminated PPE in the decontamination room. Workers shall then proceed to showers. Workers shall shower before lunch and at the end of each day's work. Hot water, towels, soap, and hygienic conditions are the responsibility of the Contractor.

3.1.2 PCB Control Area

Isolate PCB control area by physical boundaries to prevent unauthorized entry of personnel. Food, drink and smoking materials shall not be permitted in areas where PCBs are handled or PCB items are stored.

3.1.3 Personnel Protection

Workers shall wear and use PPE, as recommended by the Industrial Hygienist, upon entering a PCB control area. If PPE is not required per the CIH, specify in the PCB removal work plan.

3.1.4 Footwear

Work footwear shall remain inside work area until completion of the job.

3.1.5 Permissible Exposure Limits (PEL)

PEL for PCBs is 3.1 E-08 lb/cubic foot on an 8-hour time weighted average basis.

3.1.6 Special Hazards

a. PCBs shall not be exposed to open flames or other high temperature sources since toxic decomposition by-products may be produced.

b. PCBs shall not be heated to temperatures of 135 degrees F or higher without Contracting Officer's concurrence.

3.1.7 PCB Caution Label

40 CFR 761, Subpart C. Affix labels to PCB waste containers and other PCB-contaminated items. Provide label with sufficient print size to be clearly legible, with bold print on a contrasting background, displaying the following: CAUTION: Contains PCBs (Polychlorinated Biphenyls).

3.1.8 PCB Caution Sign

29 CFR 1910.145. Provide signs at approaches to PCB control areas. Locate signs at such a distance that personnel may read the sign and take the necessary precautions before entering the area.

3.2 WORK PROCEDURE

Furnish labor, materials, services, and equipment necessary for the complete removal of PCBs located at the site as indicated or specified in accordance with local, State, or Federal regulations. Package and mark PCB as required by EPA and DOT regulations and dispose of off-site in accordance with EPA, DOT, and local regulations at a permitted site.

3.2.1 No Smoking

Smoking is not permitted within 50 feet of the PCB control area. Provide "No Smoking" signs as directed by the Contracting Officer.

3.2.2 Work Operations

Ensure that work operations or processes involving PCB or PCB-contaminated materials are conducted in accordance with 40 CFR 761 and the applicable requirements of this section, including but not limited to:

a. Obtaining advance approval of PCB storage sites.

b. Notifying Contracting Officer prior to commencing the operation.

c. Reporting leaks and spills to the Contracting Officer.

d. Cleaning up spills.

e. Maintaining an access log of employees working in a PCB control area and providing a copy to the Contracting Officer upon completion of the operation.

f. Inspecting PCB and PCB-contaminated items and waste containers for

leaks and forwarding copies of inspection reports to the Contracting Officer.

g. Maintaining a spill kit as specified in paragraph entitled "PCB Spill Kit."

h. Maintaining inspection, inventory and spill records.

3.3 PCB TRANSFORMERS

3.3.1 Draining of Transformer Liquid

Perform work in accordance with 49 CFR 171, 49 CFR 172, 49 CFR 173, 49 CFR 174, 49 CFR 175, 49 CFR 176, 49 CFR 177, 49 CFR 178, and 49 CFR 179, Subchapter C and as specified herein. Drain the transformer, switches, and regulators of free flowing liquid prior to transportation. Place the drained liquids in DOT Spec 17E drums. The drums shall not contain more than 50 gallons of oil. If the equipment cannot be drained, then place it in DOT Spec 17C drums.

3.3.2 Markings

Provide drums and drained PCB-contaminated electrical equipment with caution label markings as specified in paragraph entitled "PCB Caution Label."

3.4 PCB REMOVAL

Select PCB removal procedure to minimize contamination of work areas with PCB or other PCB-contaminated debris/waste. Handle PCBs such that no skin contact occurs. PCB removal process should be described in the work plan.

3.4.1 Confined Spaces

As feasible, do not carry out PCB handling operations in confined spaces. A confined space shall mean a space having limited means of egress and inadequate cross ventilation.

3.4.2 Control Area

Establish a PCB control area around the PCB item as specified in paragraph entitled "PCB Control Area." Only personnel briefed on the elements in the paragraph entitled "Training" and on the handling precautions shall be allowed into the area.

3.4.3 Exhaust Ventilation

If used, exhaust ventilation for PCB operations shall discharge to the outside and away from personnel.

3.4.4 Temperatures

As feasible, handle PCBs at ambient temperatures and not at elevated temperatures.

3.4.5 Solvent Cleaning

Clean contaminated tools, containers, etc., after use by rinsing three times with an appropriate solvent or by wiping down three times with a

solvent wetted rag. Suggested solvents are stoddard solvent or hexane.

3.4.6 Drip Pans

Drip pans are required under portable PCB transformers and rectifiers in use or stored for use. The pans shall have a containment volume of at least one and one-half times the internal volume of PCBs in the item.

3.4.7 Evacuation Procedures

Procedures shall be written for evacuation of injured workers. Aid for a seriously injured worker shall not be delayed for reasons of decontamination.

3.5 PCB SPILL CLEANUP REQUIREMENTS

3.5.1 PCB Spills

Immediately report to the Contracting Officer any PCB spills on the ground or in the water, PCB spills in drip pans, or PCB leaks.

3.5.2 PCB Spill Control Area

Rope off an area around the edges of a PCB leak or spill and post a "PCB Spill Authorized Personnel Only" caution sign. Immediately transfer leaking items to a drip pan or other container.

3.5.3 PCB Spill Cleanup

40 CFR 761, Subpart G. Initiate cleanup of spills as soon as possible, but no later than 48 hours of its discovery. To clean up spills, personnel shall wear the PPE prescribed in paragraph entitled "Special Clothing" of this section. If misting, elevated temperatures or open flames are present, or if the spill is situated in a confined space, notify the Contracting Officer. Mop up the liquid with rags or other conventional absorbent. The spent absorbent shall be properly contained and disposed of as solid PCB waste.

3.5.4 Records and Certification

Document the cleanup with records of decontamination in accordance with 40 CFR 761, Section 125, Requirements for PCB Spill Cleanup. Provide certification of decontamination.

3.5.5 Sampling Requirements

Perform post cleanup sampling as required by 40 CFR 761, Section 130, Sampling Requirements. Do not remove boundaries of the PCB control area until site is determined satisfactorily clean by the Contracting Officer.

3.6 STORAGE FOR DISPOSAL

3.6.1 Storage Containers for PCBs

49 CFR 178. Store liquid PCBs in Department of Transportation (DOT) Specification 17E containers. Store nonliquid PCB mixtures, articles, or equipment in DOT Specification 5, 5B, or 17C containers with removable heads.

3.6.2 Waste Containers

Label with the following:

a. "Solid (or Liquid) Waste Polychlorinated Biphenyls"

b. The PCB Caution Label, paragraph entitled "PCB Caution Label"

c. The date the item was placed in storage and the name of the cognizant activity/building.

3.6.3 PCB Articles and PCB-Contaminated Items

Label with items b. through c. above.

3.6.4 Approval of Storage Site

Obtain in advance Contracting Officer approval using the following criteria without exception.

a. Adequate roof and walls to prevent rainwater from reaching the stored PCBs.

b. An adequate floor which has continuous curbing with a minimum 6 inch high curb. Such floor and curbing shall provide a containment volume equal to at least two times the internal volume of the largest PCB article or PCB container stored therein or 25 percent of the total internal volume of all PCB equipment or containers stored therein, whichever is greater.

c. No drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area.

d. Floors and curbing constructed of continuous smooth and impervious materials such as portland cement, concrete or steel to prevent or minimize penetrations of PCBs.

e. Not located at a site which is below the 100-year flood water elevation.

f. Each storage site shall be posted with the PCB Caution Sign, paragraph entitled "PCB Caution Sign."

3.7 CLEANUP

Maintain surfaces of the PCB control area free of accumulations of PCBs. Restrict the spread of dust and debris; keep waste from being distributed over work area.

a. Do not remove the PCB control area and warning signs prior to the Contracting Officer's approval. Reclean areas showing residual PCBs.

3.8 DISPOSAL

Comply with disposal requirements and procedures outlined in 40 CFR 761. Do not accept PCB waste unless it is accompanied by a manifest signed by the Government. Before transporting the PCB waste, sign and date the

manifest acknowledging acceptance of the PCB waste from the Government. Return a signed copy to the Contracting Officer before leaving the job site. Ensure that the manifest accompanies the PCB waste at all times. Submit transporter certification of notification to EPA of their PCB waste activities.

3.8.1 Certificate of Disposal

40 CFR 761. Submit to the Contracting Officer within 30 days of the date that the disposal of the PCB waste identified on the manifest was completed. Certificate for the PCBs and PCB items disposed shall include:

a. The identity of the disposal facility, by name, address, and EPA identification number.

b. The identity of the PCB waste affected by the Certificate of Disposal including reference to the manifest number for the shipment.

c. A statement certifying the fact of disposal of the identified PCB waste, including the date(s) of disposal, and identifying the disposal process used.

d. A certification as defined in 40 CFR 761, Section 3.

3.8.1.1 Payment Upon Furnishing Certificate of Disposal of PCBs

Payment will not be made until the certificate of disposal has been furnished to the Contracting Officer.

SECTION 13285

REMOVAL AND DISPOSAL OF PCB CONTAMINATED SOILS AND CONCRETE

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM D 4397	(2002) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 530/F-93/004	(1993; Rev 0; Updates I, II, IIA, IIB, and III) Test Methods for Evaluating Solid Waste (Vol IA, IB, IC, and II) (SW-846)
EPA 560/5-86-017	(1986) Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.1000	Air Contaminants
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
29 CFR 1910.145	Accident Prevention Signs and Tags
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions

1.2 DEFINITIONS

1.2.1 PCB and PCBs (Polychlorinated Biphenyls)

40 CFR 761. PCB and PCBs means any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contain such substance.

1.2.2 PCB Contaminated Soil

Soils containing concentrations greater than 10 parts per million (ppm) PCBs when tested as specified herein, as defined in the USEPA's Record of Decision for the site.

1.2.3 PCB Contaminated Water

Water containing greater than [TBD]parts per billion (ppb) when tested as

specified herein.

1.2.4 PCB Surface Contaminated Solids

Soils containing concentrations greater than [TBD] micrograms PCB per square centimeter when tested as specified herein.

1.2.5 Permissible Exposure Limits (PEL)

PEL for PCBs is 3.10 E-08 pound per cubic feet on an 8-hour time weighted average basis.

1.3 DESCRIPTION OF WORK

Perform work in accordance with 40 CFR 761, 29 CFR 1910.120, and the requirements specified herein. The work includes removal and disposal of PCB-contaminated concrete associated with building demolition and ancillary PCB-contaminated site soils removed during the demolition process. Previous environmental sampling has shown the presence of PCB's in the concrete floor slabs and walls of certain structures (see Drawings and Appendix ??) Demolish and dispose of the contaminated concrete to the horizontal and vertical limits identified contaminated concrete as indicated.

Subsurface concrete foundations and debris have not been sampled but shall be considered potentially impacted by PCBs and handled and sampled in accordance with paragraph EXCAVATION AND DEMOLITION PROCEDURES of this Section. All soil excavation adjacent to subsurface structures shall be limited to the greatest extent practicable, and shall also be considered potentially impacted by PCBs. All subsurface soils shall be sampled and characterized in accordance with the Contractor's Sampling and Testing plan specified in paragraph Sampling and Testing Plan of this Section and as approved by the Contracting Officer.

The Contractor shall be aware that a separate Government soil sampling and contamination delineation program has been planned for the site in late 2006. As additional data from that program becomes available, it will be made available to the Contractor for information purposes if appropriate.

1.3.1 Existing Conditions

PCB contaminant levels range from "not detected" to [TBD] ppm.

1.4 QUALITY ASSURANCE

1.4.1 Training

Instruct employees on the dangers of PCB exposure, on respirator use, decontamination, and applicable OSHA and EPA regulations.

1.4.2 Certified Industrial Hygienist (CIH)

Obtain the services of an industrial hygienist certified by the American Board of Industrial Hygiene to certify training, and review and approve the PCB removal plan, including determination of the need for personnel protective equipment (PPE) in performing PCB removal work.

1.4.3 Regulation Documents

Maintain at the job site one readily available copy each of 29 CFR 1910.1000, 40 CFR 761, and all contractor prepared plans required under "Submittals" paragraphs.

1.4.4 PCB Protection Plan

Prepare and submit a protection plan, prepared by the CIH, covering protection of workers and the environment from PCB hazards. Specific protection requirements shall be determined by the CIH and, as a minimum, as specified herein.

1.4.5 PCB-Contaminated Soil and Concrete Removal Plan

Prepare and submit, 15 calendar days prior to initiating work, plan describing methods, techniques, and phases of dealing with the PCB-contaminated concrete slabs and walls, and potentially contaminated subsurface soils and concrete, including: a schedule to be employed in the excavation and demolition, a sequence of operations, the method of excavation, hauling, and handling of the contaminated materials, and the proposed equipment. Define the Contractor's source for fill and method for importing the fill material.

1.4.6 PCB-Contaminated Water Handling Plan

Prepare and submit plan detailing methods and techniques for collection and treatment of PCB-contaminated water as required for decontamination and excavation dewatering operations in accordance with Section 02310 EXCAVATION. For treatment system, include size and location of equipment, catalog data on all components of system, size and arrangement of filters, type and quantity of filtering material, and method of containment.

1.4.7 PCB Sampling and Testing Plan

Prepare and submit sampling and testing plan. Include the names of testing laboratories to be used to accomplish analysis of contaminated soil and water. Describe field and laboratory sampling procedures, testing methods, and quality control procedures. For sample reports, show sample identification for location, date, time, sample method, contamination level, name of individual sampler, identification of laboratory, and quality control procedures. Maximum turnaround time of 4 calendar days is required for laboratory sample analyses in accordance with the standard work week of the contract.

1.4.8 Training Certification

Submit certificates signed and dated by the CIH and by each employee stating that the employee has received training.

1.4.9 CIH Qualifications

Submit the name, address, and telephone number of the industrial hygienist selected to perform the duties in paragraph entitled "Certified Industrial Hygienist." Submit proper documentation that the industrial hygienist is certified, including certification number and date of certification and recertification.

1.4.10 PCB-Contaminated Soil and Concrete Disposal Plan

Submit a PCB-Contaminated Soil and Concrete Disposal Plan within 45 calendar days after award of contract for Contracting Officer's approval. Comply with applicable requirements of Federal, State, and local PCB waste regulations and address:

a. Identification of PCB wastes associated with the work.

b. Estimated quantities of wastes to be generated and disposed of.

c. Names and qualifications of each Contractor that will be transporting, storing, treating, and disposing of the wastes. Include the facility location and a 24-hour point of contact. Furnish two copies of EPA, State and local PCB waste permit applications, permits and EPA identification numbers.

d. Names and qualifications (experience and training) of personnel who will be working on-site with PCB wastes.

e. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment.

g. Location of state certified weigh station.

h. Work plan and schedule for PCB waste containment, removal, and disposal. Clean up and containerize wastes daily.

1.4.11 Vehicle Decontamination Verification

Provide documentation verifying that vehicles and containers were decontaminated prior to leaving the disposal site, were properly operating, and were covered, within 24 hours after removal of waste from the site.

1.4.12 Closeout Report

Prepare closeout report containing following items: test results including readings and locations, a diagram of the limits of the excavated area with sample locations indicated (indicate reference benchmark used), chain of custody forms, certificates of disposal, truck manifests, and description of the work completed.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for 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-03 Product Data

Field Screening Test

SD-07 Certificates

PCB Protection Plan; G, AE, DO

PCB-Contaminated Soil and Concrete Removal Plan; G, AE, DO

PCB-Contaminated Water Handling Plan; G, AE, DO

PCB Sampling and Testing Plan; G, AE, DO

Training certification;

CIH qualifications; G, AE, DO

PCB-Contaminated Soil and Concrete Disposal Plan; G, AE, DO

Shipping documentation

Vehicle decontamination verification

Borrow site testing

Certificate of Disposal

SD-11 Closeout Submittals

Closeout Report; G, AE, DO

PART 2 PRODUCTS

2.1 PLASTIC SHEETING

ASTM D 4397.

2.2 FIELD SCREENING TEST

Field test capable of detecting PCBs down to at least 1 ppm, with less than 5 percent false negatives, and providing on site results within 2 hours of taking sample.

PART 3 EXECUTION

3.1 PROTECTION OF WORKERS AND THE ENVIRONMENT

Protect workers and the environment from PCB hazards in accordance with the PCB protection plan and, as a minimum, as specified herein.

3.1.1 Worker Safety

Provide portable decontamination and shower rooms. Workers shall wear and use PPE, as recommended by the industrial hygienist, upon entering a PCB control area. If PPE is not required by the CIH, specify in the PCB removal work plan. Keep work footwear inside work area until completion of the job. Have available one set of PPE required for use by Contracting Officer for inspection of work. Do not carry out PCB handling operations in confined spaces. Do not delay aid to a seriously injured worker for reasons of decontamination.

3.1.2 PCB Control Area

Establish a PCB control area to prevent unauthorized entry of personnel. Rope off area and provide 29 CFR 1910.145 signs at approaches and around perimeter. Locate signs at such a distance that personnel may read the

sign and take the necessary precautions before entering the area. Allow only personnel briefed on the elements and trained as specified herein into the area. Do not permit food, drink, or smoking materials in the control area. Smoking is not permitted within 50 feet of the PCB control area. Provide "No Smoking" signs as directed by the Contracting Officer.

3.1.3 Air Quality

Include provisions to ensure that airborne PCB concentrations below the PEL of air defined herein are not exceeded outside of the PCB control area or by workers inside the PCB control area. Provide air monitoring, personnel monitoring, and sampling to ensure workers safety as determined by the CIH and as specified herein. As a minimum, sample the air daily at the following locations: at locations being disturbed, within the breathing zone of workers, and at the downwind border of the control area. Measure using instrument capable of detecting airborne PCBs at concentrations below OSHA PEL, or use a direct reading total particulate meter correlated to a worst case amount of PCBs attached to the particulate. When airborne concentrations exceed PEL at the breathing zone of workers, provide respirators and additional worker protection as dictated in the Site Health and Safety Plan. If airborne concentration exceeds PEL at boundary of control area, immediately stop work and notify the Contracting Officer.

3.1.4 Special Hazards

a. Do not expose PCBs to open flames or other high temperature sources since toxic decomposition by-products may be produced.

b. Do not heat PCBs to temperatures of 135 degrees F or higher without Contracting Officer's concurrence.

3.2 PCB SPILL PREVENTION

Use appropriate vehicles and operating practices to prevent spillage or leakage of contaminated materials from occurring during operations. Inspect vehicles leaving the contaminated soil removal site to ensure that no contaminated soil adheres to the wheels or undercarriage. Immediately report any spills to the Contracting Officer and provide cleanup in accordance with 40 CFR 761, Subpart G.

3.3 EXCAVATION AND DEMOLITION PROCEDURES

Notify the Contracting Officer at least 48 hours prior to the start of excavation and demolition of PCB-contaminated soils and/or concrete. Use methods and equipment that result in minimal disturbance to remaining material beyond the excavation limits. Remove and dispose of any material that becomes contaminated as a result of the Contractor's operation at no additional cost to the Government. Stage operations to minimize the time the contaminated material is exposed to the weather. Provide protection measures around the area of contaminated material to divert runoff of water from within the excavation boundaries.

3.3.1 Underground Utilities

Location of the existing utilities indicated is approximate and other underground utilities may be present. Scan the construction site with electromagnetic and sonic equipment and mark the surface of the ground where existing underground utilities are discovered. Physically verify the location and elevation of the existing utilities indicated prior to

starting construction. If utilities other than those indicated are found, stop work and contact the Contracting Officer. Protect existing utilities from damage and intrusion of PCBs.

]3.3.2 Dust Control

Maintain strict dust control at all times to prevent dust particles with PCB attached from becoming airborne. Sprinkle or treat the soil at the site and other areas disturbed by operations with dust suppressants or water.

3.3.3 Washdown of Solid Material

Remove asphalt pavement, concrete slabs, and structures encountered above or below the ground surface within the excavation limits. Brush to remove soil materials and clean to limit defined herein for PCB surface contaminated solids by double rinsing, and place in the adjacent rubble pile. Collect and dispose of washdown water as contaminated water. Sample each type of solid material using either wipe samples or destructive samples at locations as directed by the Contracting Officer. Analyze samples for PCBs in accordance with EPA 530/F-93/004, Method 8080. Collect and test field blanks and replicates in accordance with EPA protocol. Repeat cleaning process and testing until PCBs are below the limits specified herein.

3.3.3.1 Wipe Samples

40 CFR 761. A 10 cm by 10 cm template gauze pad or glass wool of known size which has been saturated in the laboratory with hexane and stored in sealed glass vials. Wipe immediately after exposing medium to air. Place sample in precleaned glass bottle, cap, label, and place in ice chest until analyzed.

3.3.3.2 Destructive Samples

EPA 560/5-86-017. Remove sufficient sample for analysis using chisel, hole saw, drills, etc. Take samples less than 3/8 inch deep and place in glass precleaned sample bottle, cap, label, and place in ice chest.

3.3.4 Field Screening

Collect soil samples along the bottom and along the sidewalls of the excavation, and test using field screening test.

3.3.5 Additional Excavations

If field screening results indicate the PCB contaminated soils remain, notify the Contracting Officer. Where directed, continue excavation horizontal and vertical limits as directed by the Contracting Officer. Collect and analyze additional confirmation samples in the new excavation areas. Screen and analyze after each excavation episode as required. Payment for additional excavation will be paid for at the contract unit price. Payment for additional sampling and testing will be paid for in accordance with the Changes Clause of the contract.

3.3.6 Stockpiled Material

Place PCB contaminated soil and concrete removed from the work area in a temporary containment area near the work area. Divert water from the

containment area. Cover containment area with 30 mil polyethylene sheeting. Place materials on the impervious barrier and cover with 6 mil polyethylene sheeting. Provide straw bale berm around the outer limits of the containment area and cover with polyethylene sheets. Secure edges of sheets to keep the polyethylene sheeting in place. Cover contaminated material at all times when not being worked. Maintain sheeting and replace when worn or ripped. As an option, soil may be stockpiled in trucks suitable for carrying PCB contaminated materials as specified herein.

3.3.6.1 Composite Testing of Stockpiled Material

Take composite samples from stockpiled material prior to removing from site. Analyze a minimum of one composite sample for every [TBD] cubic yards or fraction thereof of soil to be disposed of from any one site. To develop a composite sample of the size necessary to run the required tests, take several samples from different areas along the surface and in the center of the stockpile. Combine these samples and thoroughly mix to develop the composite sample.

3.4 CONTAMINATED WATER

Collect washwater. Collect ground, surface, and rain water contaminated by operations including water collected in the open excavation pit or temporary containment. Soak up with absorbent material so that no free liquid is present. Containerize, sample, and analyze PCB absorbed material and dispose of as specified for contaminated soils.

3.5 COLLECTION, TREATMENT, AND DISCHARGE OF PCB-CONTAMINATED WATER

Furnish labor, materials, and equipment necessary for collecting, treating, and discharging of PCB-contaminated surface and subsurface water in excavations at the site. Conduct excavation and backfilling operations at the site in a manner that minimizes the amount of surface and subsurface water which may collect in the open excavation. Collect standing surface water in contact with PCB contaminated material.

3.5.1 Subsurface Drainage

Remove water by pumping or other methods to prevent softening of surfaces exposed by excavation. Provide water treatment necessary to treat water to levels specified herein. Operate dewatering system continuously until construction work below existing water levels is complete. After placement of initial backfill, water level may be allowed to rise, but never above one foot below the prevailing level of excavation or backfill. Submit performance records weekly. Measure and record performance or dewatering system at the same time each day by use of observation wells or piezometers installed in conjunction with the dewatering system.

3.5.2 Treatment System Requirements

The Contractor shall be responsible for all aspects of verifying design parameters designing, providing, installing, operating, maintaining, and removing collection, storage, and treatment facilities as required to discharge treated waters within the treatment limits required. The treatment system shall:

a. Be capable of removing PCB contaminants to below the limit defined herein for contaminated water.

b. Include effluent holding tanks designed to allow on-site testing of water quality prior to discharge.

c. Include recycle capability for retreatment of effluent not meeting the discharge requirements of this specification, as determined by on-site testing.

3.5.3 Treatment System Operations

Monitor, test, and adjust the treatment system in accordance with the work plan and Sampling and Analysis Plan, or as otherwise modified by special regulatory requirements. If there is a conflict between requirements, the more stringent requirement shall prevail. Test water in accordance with EPA Method 608.

3.5.4 Discharge of Treated Water

Do not discharge any water until tests results showing water is below PCB contaminated water limits as specified herein. Provide erosion control at outlet of piping to minimize erosion. Discharge for treated water shall be to the [TBD].

3.5.5 Cleanup and Removal of Treatment System

Upon completion of work, close and remove from the site the surface water and groundwater treatment system. Restore the site to its original condition. Decontaminate equipment in accordance with the Contractor's Site Health and Safety Plan. Containerize, sample, test, and dispose of carbon, residues, cleaning aids, decontamination liquids, and waste as specified for the contaminated soils.

3.6 TRANSPORTATION AND DISPOSAL

Furnish labor, materials, and equipment necessary to store, transport, and dispose of PCB contaminated material in accordance with Section 02350 TRANSPORTATION AND DISPOSAL.

3.7 CLEANUP

Maintain surfaces of the PCB control area free of accumulations of PCBs. Restrict the spread of dust and debris; keep waste from being distributed over work area. Do not remove the PCB control area and warning signs prior to the Contracting Officer's approval. Reclean areas showing residual PCBs.

3.7.1 Solvent Cleaning

Clean contaminated tools, containers, etc., after use by rinsing three times with an appropriate solvent or by wiping down three times with a solvent wetted rag. Suggested solvents are stoddard solvent or hexane.

3.8 REPORTS

Prepare and submit a remediation closeout report at the completion of the work.

3.9 BACKFILLING, GRADING, TOPSOILING, AND SEEDING

Commence backfilling of the excavation within 10 calendar days after receiving confirmatory test results that indicate no further PCB

contamination is present. Soils brought in from off site for use as backfill shall contain less than one part per million (ppm) PCBs. Provide borrow site testing for PCBs from composite sample of material from borrow site, with at least one test from each borrow site. Material shall not be brought on site until tests have been approved by the Contracting Officer. Provide backfill, compaction, grading, and seeding in accordance with Sections 02310 EXCAVATION and 02320 BACKFILL AND COMPACTION. Line the excavation with two plastic sheets before backfilling.

-- End of Section --

SECTION 13286

HANDLING OF LIGHTING BALLASTS AND LAMPS CONTAINING PCBs AND MERCURY

PART 1 GENERAL

1.1 REFERENCES

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

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.1000	Air Contaminants
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restrictions
40 CFR 270	EPA Administered Permit Programs: The Hazardous Waste Permit Program
40 CFR 273	Standards For Universal Waste Management
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
49 CFR 178	Specifications for Packagings

1.2 REQUIREMENTS

Removal and disposal of PCB-containing lighting ballasts and associated mercury-containing lamps. Contractor may encounter leaking PCB ballasts.

1.3 DEFINITIONS

1.3.1 Certified Industrial Hygienist (CIH)

A industrial hygienist hired by the contractor shall be certified by the American Board of Industrial Hygiene.

1.3.2 Leak

Leak or leaking means any instance in which a PCB article, PCB container, or PCB equipment has any PCBs on any portion of its external surface.

1.3.3 Lamps

Lamp, also referred to as "universal waste lamp", is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps.

1.3.4 Polychlorinated Biphenyls (PCBs)

PCBs as used in this specification shall mean the same as PCBs, PCB containing lighting ballast, and PCB container, as defined in 40 CFR 761, Section 3, Definitions.

1.3.5 Spill

Spill means both intentional and unintentional spills, leaks, and other uncontrolled discharges when the release results in any quantity of PCBs running off or about to run off the external surface of the equipment or other PCB source, as well as the contamination resulting from those releases.

1.3.6 Universal Waste

Universal Waste means any of the following hazardous wastes that are managed under the universal waste requirements 40 CFR 273:

(1) Batteries as described in Sec. 273.2 of this chapter;
(2) Pesticides as described in Sec. 273.3 of this chapter;
(3) Thermostats as described in Sec. 273.4 of this chapter; and
(4) Lamps as described in Sec. 273.5 of this chapter.

1.4 QUALITY ASSURANCE

1.4.1 Regulatory Requirements

Perform PCB related work in accordance with 40 CFR 761. Perform mercury-containing lamps storage and transport in accordance with 40 CFR 261, 40 CFR 264, 40 CFR 265, and 40 CFR 273.

1.4.2 Training

Certified industrial hygienist (CIH) shall instruct and certify the training of all persons involved in the removal of PCB containing lighting ballasts and mercury-containing lamps. The instruction shall include: The dangers of PCB and mercury exposure, decontamination, safe work practices,

and applicable OSHA and EPA regulations. The CIH shall review and approve the PCB and Mercury-Containing Lamp Removal Work Plans.

1.4.3 Regulation Documents

Maintain at all times one copy each at the office and one copy each in view at the job site of 29 CFR 1910.1000, 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 265, 40 CFR 268, 40 CFR 270, 40 CFR 273 and of the Contractor removal work plan and disposal plan for PCB and for associated mercury-containing lamps.

1.5 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-07 Certificates

Qualifications of CIH; G, AE, DO

Training Certification; G, AE ,DO

PCB and Lamp Removal Work Plan; G, AE, DO

PCB and Lamp Disposal Plan; G, AE, DO

SD-11 Closeout Submittals

Transporter certification of notification to EPA of their PCB waste activities and EPA ID numbers; G

Certification of Decontamination

Certificate of Disposal and/or recycling. Submit to the Government before application for payment within 30 days of the date that the disposal of the PCB and mercury-containing lamp waste identified on the manifest was completed.

1.6 ENVIRONMENTAL REQUIREMENTS

Use special clothing:

a. Disposable gloves (polyethylene)

b. Eye protection

c. PPE as required by CIH

1.7 SCHEDULING

Notify the Contracting Officer 20 days prior to the start of PCB and mercury-containing lamp removal work.

1.8 QUALITY ASSURANCE

1.8.1 Qualifications of CIH

Submit the name, address, and telephone number of the Industrial Hygienist selected to perform the duties in paragraph entitled "Certified Industrial Hygienist." Submit training certification that the Industrial Hygienist is certified, including certification number and date of certification or re certification.

1.8.2 PCB and Lamp Removal Work Plan

Submit a job-specific plan within 20 calendar days after award of contract of the work procedures to be used in the removal, packaging, and storage of PCB-containing lighting ballasts and associated mercury-containing lamps. Include in the plan: Requirements for Personal Protective Equipment (PPE), spill cleanup procedures and equipment, eating, smoking and restroom procedures. The plan shall be approved and signed by the Certified Industrial Hygienist. Obtain approval of the plan by the Contracting Officer prior to the start of PCB and/or lamp removal work.

1.8.3 PCB and Lamp Disposal Plan

Submit a PCB and lamp Disposal Plan with 45 calendar days after award of contract. The PCB and Lamp Disposal Plan shall comply with applicable requirements of federal, state, and local PCB and Universal waste regulations and address:

a. Estimated quantities of wastes to be generated, disposed of, and recycled.

b. Names and qualifications of each Contractor that will be transporting, storing, treating, and disposing of the wastes. Include the facility location. Furnish two copies of EPA and state PCB and mercury-containing lamp waste permit applications and EPA identification numbers, as required.

c. Names and qualifications (experience and training) of personnel who will be working on-site with PCB and mercury-containing lamp wastes.

d. Spill prevention, containment, and cleanup contingency measures to be implemented.

e. Work plan and schedule for PCB and mercury-containing lamp waste removal, containment, storage, transportation, disposal and or recycling. Wastes shall be cleaned up and containerize daily.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 WORK PROCEDURE

Furnish labor, materials, services, and equipment necessary for the removal of PCB containing lighting ballasts, associated mercury-containing fluorescent lamps,in accordance with local, state, or federal regulations.

Do not expose PCBs to open flames or other high temperature sources since toxic decomposition by-products may be produced. Do not break mercury containing fluorescent lamps or high intensity discharge lamps.

3.1.1 Work Operations

Ensure that work operations or processes involving PCB or PCB-contaminated materials are conducted in accordance with 40 CFR 761, 40 CFR 262 40 CFR 263, and the applicable requirements of this section, including but not limited to:

a. Obtaining suitable PCB and mercury-containing lamp storage sites.

b. Notifying Contracting Officer prior to commencing the operation.

c. Reporting leaks and spills to the Contracting Officer.

d. Cleaning up spills.

e. Inspecting PCB and PCB-contaminated items and waste containers for leaks and forwarding copies of inspection reports to the Contracting Officer.

f. Maintaining inspection, inventory and spill records.

3.2 PCB SPILL CLEANUP REQUIREMENTS

3.2.1 PCB Spills

Immediately report to the Contracting Officer any PCB spills.

3.2.2 PCB Spill Control Area

Rope off an area around the edges of a PCB leak or spill and post a "PCB Spill Authorized Personnel Only" caution sign. Immediately transfer leaking items to a drip pan or other container.

3.2.3 PCB Spill Cleanup

40 CFR 761, subpart G. Initiate cleanup of spills as soon as possible, but no later than 24 hours of its discovery. Mop up the liquid with rags or other conventional absorbent. The spent absorbent shall be properly contained and disposed of as solid PCB waste.

3.2.4 Records and Certification

Document the cleanup with records of decontamination in accordance with 40 CFR 761, Section 125, Requirements for PCB Spill Cleanup. Provide test results of cleanup and certification of decontamination.

3.3 REMOVAL

3.3.1 Ballasts

As ballast are removed from the lighting fixture, inspect label on ballast. Ballasts without a "No PCB" label shall be assumed to contain PCBs and containerized and disposed of as required under paragraphs STORAGE FOR DISPOSAL and DISPOSAL. If there are less than 1600 "No PCB" labeled lighting ballasts dispose of them as normal demolition debris.

3.3.2 Lighting Lamps

Remove lighting tubes/lamps from the lighting fixture and carefully place (unbroken) into appropriate containers (original transport boxes or equivalent). In the event of a lighting tube/lamp breaking, sweep and place waste in double plastic taped bags and dispose of as universal waste as specified herein.

3.4 STORAGE FOR DISPOSAL

3.4.1 Storage Containers for PCBs

49 CFR 178. Store PCB in containers approved by DOT for PCB.

3.4.2 Storage Containers for lamps

Store mercury containing lamps in appropriate DOT containers. The boxes shall be stored and labeled for transport in accordance with 40 CFR 273.

3.4.3 Labeling of Waste Containers

Label with the following:

a. Date the item was placed in storage and the name of the cognizant activity/building.

b. "Caution Contains PCB," conforming to 40 CFR 761, CFR Subpart C. Affix labels to PCB waste containers.

c. Label mercury-containing lamp waste in accordance with 40 CFR 273. Affix labels to all lighting waste containers.

3.5 DISPOSAL

Dispose of off Government property in accordance with EPA, DOT, and local regulations at a permitted site.

3.5.1 Identification Number

Federal regulations 40 CFR 761, and 40 CFR 263 require that generators, transporters, commercial storers, and disposers of PCB waste posses U.S. EPA identification numbers. The contractor shall verify that the activity has a U.S. EPA generator identification number for use on the Uniform Hazardous Waste manifest. If not, the contractor shall advise the activity that it must file and obtain an I.D. number with EPA prior to commencement of removal work. For mercury containing lamp removal, Federal regulations 40 CFR 273 require that large quantity handlers of Universal waste (LQHUW) must provide notification of universal waste management to the appropriate EPA Region (or state director in authorized states), obtain an EPA identification number, and retain for three years records of off-site shipments of universal waste. The contractor shall verify that the activity has a U.S. EPA generator identification number for use on the Universal Waste manifest. If not, the contractor shall advise the activity that it must file and obtain an I.D. number with EPA prior to commencement of removal work.

3.5.2 Transporter Certification

Comply with disposal and transportation requirements outlined in 40 CFR 761 and 40 CFR 263. Before transporting the PCB waste, sign and date the manifest acknowledging acceptance of the PCB waste from the Government. Return a signed copy to the Government before leaving the job site. Ensure that the manifest accompanies the PCB waste at all times. Submit transporter certification of notification to EPA of their PCB waste activities (EPA Form 7710-53).

3.5.2.1 Certificate of Disposal and/or Recycling

40 CFR 761. Certificate for the PCBs and PCB items disposed shall include:

a. The identity of the disposal and or recycling facility, by name, address, and EPA identification number.

b. The identity of the PCB waste affected by the Certificate of Disposal including reference to the manifest number for the shipment.

c. A statement certifying the fact of disposal and or recycling of the identified PCB waste, including the date(s) of disposal, and identifying the disposal process used.

d. A certification as defined in 40 CFR 761.