DOE/RL/10436--T2-Vol.5-Bk.7

DE90 013262

INTEGRAL MONITORED RETRIEVABLE STORAGE (MRS) FACILITY

CONCEPTUAL DESIGN REPORT

VOLUME V BOOK VII – COST ESTIMATE

Prepared for

UNITED STATES DEPARTMENT OF ENERGY
Richland Operations Office

Report No. MRS 11
Contract No. DE-AC06-84RL 10436
September 1985

THE RALPH M. PARSONS COMPANY OF DELAWARE
Westinghouse Electric Corporation
Golder Associates

MASTER

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

CONTENTS

COST ESTIMATE

BOOK I Cost Estimate Summaries

CLINCH RIVER SITE, PRIMARY CONCEPT

BOOK II Basis of Cost Estimate
Engineering Costs
Cost Estimate (R&H Building) Areas 1 and 2

BOOK III Cost Estimate (R&H Building) Area 3

BOOK IV Cost Estimate (R&H Building) Area 3 (Contd)

BOOK V Cost Estimate (R&H Building) Area 4

BOOK VI Cost Estimate
Area 5, Onsite Improvements

BOOK VII Cost Estimate
Area 5, Onsite Improvements (Contd)
Area 6, Waste Storage
Area 7, Offsite Improvements

CLINCH RIVER SITE, ALTERNATE CONCEPT

BOOK VIII Cost Estimate

OAK RIDGE SITE, PRIMARY AND ALTERNATE CONCEPTS

BOOK IX Cost Estimate

HARTSVILLE SITE, PRIMARY AND ALTERNATE CONCEPTS

BOOK X Cost Estimate

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY | PRICED BY | DATE AUG '85 | SHEET ____ OF ____

JOB NO.: 6442-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA: MRS Support Facilities
DESCRIPTION: Site Services Bldg.
CAPACITY: Area #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	Site Services Bldg.											
	2A Estimate - Direct Cost	58240	SF				7204800			80800		
	Additional to Bldg	16590	SF	62.32	1.25		1037200			20738		
	Less 2A Prod. Factor									(3232)		
	2A Total Direct						8242000			98306		
	Escalation 2Q84 to 2Q85 = 0.042						346000					
	Total Direct Cost (2Q85)	75450	SF				8588000			98306		
					use		8590000					

CES-2000-0 (4/81)

5-208

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY Y. MESEC | PRICED BY | DATE 12/17/84 | SHEET ___ OF ___

JOB NO.: 6440 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION SITE SERVICES BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47											
.6	SITE WORK											
	CONCRETE						$ 154 200	5530	$ 142 200			$ 296 400
	MASONARY						42 600	4550	117 000			159 600
	METALS						584 400	4990	128 300			712 700
	WOOD & PLASTICS											
	THERMAL MOIST.						206 200	4180	107 500			313 700
	DOORS & WINDOWS						82 300	1190	30 600			112 900
	FINISHES						138 700	3710	249 700			388 400
	SPECIALTIES						47 100	460	11 800			58 900
	EQUIPMENT						1 123 900	8400	215 900			1 339 800
	FURNISHINGS						145 300	330	8 500			153 800
	SPECIAL CONSTRUCTION											
	CONVEYING SYSTEMS						3 500	20	500			4 000
	MECHANICAL						370 600	12200	313 800			684 400
	ELECTRICAL						743 600	24980	727 900			1 471 500
	~~INSTRUMENTATION~~						37 500	70	1 800			39 300
	CATHODIC PROTECTION											
	OTHER - SHOP EQUIPMENT						2 988 100					2 988 100
	" REDANDANT DISTR CONTROL SYS						536 800	4190	107 900			644 600
	SUB TOTAL						7 204 800	80800	2 163 300			9 368 100
	CONTRACTORS OH & P	37%					2 665 800	—	800 400			3 466 200
	SUB TOTAL						9 870 600	80800	2 963 700			12 834 300
	CONTINGENCY	20%					1 974 100	16160	592 700			2 566 800
	TOTAL 5.5.6.47						11 844 700	96960	3 556 400			15 401 100

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

Warm Wet Site

M.T.O. BY 4P | PRICED BY 4P / RUF | DATE JUNE '84 / 10-24-84 | SHEET 2 OF

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
47	SITE SERVICES BLDG.											
7.19.5	CONCRETE WORK											
	COLUMN FOOTINGS	100	CY	84.	3.51		8 400	351				
	PEDESTAL	15	/	187	10.5		2 800	157				
	GRADE BEAMS / WALL FOOTINGS	230	/	84.	3.51		19 320	807				
	SLAB ON GRADE	1330	/	93	3.0		123 690	3990				
	REBAR - INCLUDED IN UNIT PRICE							5300				
	S/T W/ PROD. 5305 ÷ 96%					25.72	154 200	5530	142 200			296 400
7.20	MASONRY											
	CONC. BLOCK - SPLIT FACE 8"	3600	SF	1.92	.15		6 910	540				
	- HOLLOW 8"	25 500	SF	1.40	.15		35 700	3825				
								4365				
	S/T W/ PROD 4365 ÷ 96%					25.72	42 600	4550	117 000			159 600
7.21	METALS											
	METAL DECKING (ROOF)	59000	SF	2.25	.02		132 750	1180				
	PIPE RAILING	50	LF	32	.16		1 600	8				
	STRUCTURAL STEEL FRM'G	300	TON	1500	12		450 000	3600				
								4788				
	S/T W/ PROD. 4788 ÷ 96%					25.72	584 400	4990	128 300			712 700

CES-2000-0 (4/81) L.A. BASIN

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY 4P | PRICED BY 4P / RUF | DATE JUN '84 / 10-24-84 | SHEET 3 OF

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5,5,6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
47	SITE SERVICES BLDG											
7.23	THERMAL / MOISTURE PROTECTION											
	ROOFING, SINGLE PLY BALLASTED	60 500	SF	.80	.015		48 400	908				
	INSULATION - RIGID ON ROOF	60 500	"	.50	.01		30 250	605				
	- CAVITY WALL	13 100	"	.20	.005		2 620	66				
	METAL SIDINGS, PRE FIN, INSULATED W/ INNER LINER	22 200	"	4.45	.085		98 790	1887				
	METAL PANEL FACIA	3200	"	2.85	.07		9 120	224				
	METAL PANEL SOFFIT	1500	"	4.70	.08		7 050	120				
	MISC. SHEET METAL / WD. BLK / ETC	ALLOW					10 000	200				
								4010				
	S/T W/ PROD. 4010 ÷ 96 %					25.7±	206 200	4180	107 500			313 700
	L.A. BASIN											

PARSONS

WARM MET. SITE — ESTIMATE WORKSHEET

M.T.O. BY 4P | PRICED BY 4P / RUF | DATE JUN '84 / 10-24-84 | SHEET 4 OF ___

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5,5,6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
47	SITE SERVICES BLDG.											
7.24.7	DOORS & WINDOWS											
	DOORS, FRAME & HARDWARE											
	ALUM. ENTRY DOORS W/ GLASS											
	TRANSOM 3'-10" OPEN'G	7	EA	700	21		4 900	147				
	6'-10" "	7	/	1400	27		9 800	189				
	H.M. DOORS, 16 GA - SINGLE	32	/	400	4		12 800	128				
	- DOUBLE	9	PR	600	6		5 400	54				
	WOOD DOORS, S.C. W/ HALF GLASS, SGL	5	EA	350	5		1 750	25				
	S.C. FLUSH - SINGLE	41	/	300	4		12 300	164				
	ROLL UP GRILLE, ALUM, MOTORIZED											
	1 - 12' x 10'	120	SF	20.-	.23		2 400	28				
	SECTIONAL OVERHEAD DOOR, ALUM											
	INSULATED, MANUAL - 12' x 12'	4	/	1300	20		5 200	80				
	- 12' x 10'	3	/	1100	16		3 300	48				
	- 10' x 10'	7	/	900	12		6 300	84				
	- 8' x 10'	1	/	700	10		700	10				
	WINDOWS - STEEL SASH, CASEMENT											
	100% VENTED	320	SF	20.-	.21		6 400	67				
	WINDOWS - ALUM STOREFRONT SYSTEM	1100	/	10.-	.11		11 000	121				
								1145				
	S/T W/ PROD. 1145 ÷ 96%					25.7±	82 300	1190	30 600			112 900
	L.A. BASIN											

CES-2000-0 (4/81)

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY HP / RUF | DATE JUNE '84 / 10-24-84 | SHEET 5 OF

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5,5,6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
47	SITE SERVICES BLDG.											
7.25.10	FINISHES											
	GYPSUM WALL BOARD 5/8" TK (2 FACE) ON 20 GA 3 5/8" MTL STUDS	41200	SF	1.23	.08		50 680	3296				
	GYPSUM WALL BOARD (1 FACE)	13100	SF	.79	.05		10 350	655				
	ACOUSTIC TILE CEILING ON SUSPENSION SYSTEM	20 500	SF	1.22	.02		25 010	410				
	ACOUSTIC TILE PANEL	2000	SF	.75	.023		1 500	46				
	WOOD STRIPS 2" x 2"	11 200	LF	.50	.03		5 600	336				
	CERAMIC TILES - FLOOR	1100	SF	3.25	.09		3 580	99				
	- WALL	2000	/	1.40	.08		2 800	160				
	VINYL ASBESTOS TILE - FLOOR	19 000	/	.90	.01		17 100	190				
	- COVE BASE	5400	LF	.46	.03		2 490	162				
	CARPETING	50	SY	15.-	.25		750	13				
	PAINTING - MASONRY	37300	SF	.25	.02		9 330	746				
	- GYPSUM BD.	95100	/	.08	.025		7 610	2378				
	- STRUCTURAL STL. FRM'G	67000	/	.02	.01		1 340	670				
	- DOORS & FRM - SINGLE	76	EA	5.-	1.2		380	91				
	- DOUBLE	10	/	7.-	2.-		70	20				
	- SECTIONAL DOORS	3600	SF	.04	.015		150	54				
								9326				
	S/T W/ PROD. 9326 ÷ 96%					25.1%	138 700	9710	249 700			388 400

CES-2000-0 (4/81)

I.A BOCIN

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY 4P | PRICED BY 4P / RUF | DATE JUN '84 / 10-24-84 | SHEET 6 OF ____

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
47	SITE SERVICES BLDG.											
7.26	SPECIALTIES											
	TOILET PARTITION	7	EA	595	4		4 170	28				
	URINAL SCREEN	3	/	205	2		620	6				
	SHOWER STALL & DOOR	3	/	770	4		2 310	12				
	LOCKERS	61	/	89	1		5 430	61				
	BLDG. DIRECTORY, GLASS COVERED 3'x4'	1	/	530	8		530	8				
	SIGNAGE ALLOW	1	LS	2500	20		2 500	20				
	WOVEN WIRE - PARTITION - 10' HIGH	54	LF	22.-	.23		1 190	12				
	- CEILING (28'x48')	1350	SF	2.15	.027		2 900	37				
	- SWING DOOR	1	EA	210	4		210	4				
	REAR PROJECTION SCREEN 6'x12'	72	SF	5.-	.04		360	3				
	LOADING DOCK FACILITIES ALLOW	1	LS	17000	150		17 000	150				
	TOILET & BATH ACCESSORIES	1	LS	3000	40		3 000	40				
	PEDESTAL FLOOR	1200	SF	4.70	.03		5 640	36				
	CHAIN LINK - FENCE 8' HIGH	150	LF	8.-	.15		1 200	23				
	- DOOR DBL	1	PR	60	2		60	2				
								442				
	S/T W/ PROD. 442 ÷ 96%					25.7±	47 100	460	11 800			58 900
	L.A. BASIN											

CES-2000-0 (4/81)

PARSONS

Warm Wet Site — ESTIMATE WORKSHEET — Nov 5 '84

M.T.O. BY	4P	PRICED BY	4P	DATE	JUNE '84	SHEET 1 OF
JOB NO.	6440-10	CLIENT:	DOE	TYPE OF ESTIMATE	ROM	CHECKED BY
UNIT/AREA	MRS FACILITY					
DESCRIPTION						
CAPACITY	5.5.6 SUPPORT FACILITIES					

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
47	SITE SERVICES BLDG											
7.27.13	EQUIPMENT						(SEE NEXT SHEET FOR DETAILS)					
7.28	FURNISHINGS											
	BLINDS	1420	SF	8	.02		11 360	28				
	RECESSED FOOT GRILLE / MAT	300	SF	17	.05		5 100	15				
	KITCHEN CABINET, METAL - BASE	24	LF	70	.65		1 680	16				
	- WALL	20	LF	60	.65		1 200	13				
	LUNCH RM TABLES & CHAIRS	1	LS	4000	20		4 000	20				
	VENDING MACHINES	1	LS	7000	20		7 000	20				
	OFFICE FURNITURES ALLOW	1	LS	115 K	200		115 000	200				
								312				
	S/T W/ PROD. 312 ÷ 96%					25,7½	145 300	330	8 500			153 800
7.30	CONVEYING SYSTEM - 3 TON HOIST	1	EA			25,7½	3 500	20	500			4 000
	ELEC. 1000 E											
	LA BASIN											

CES 2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET — NOV 5 '84

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE JULY 12, 1984 | SHEET ___ OF ___

JOB NO. 6440-70 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA — M RS FACILITY

DESCRIPTION

CAPACITY 5,5,6 SUPPORT FACILITIES

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
47	SITE SERVICES BLDG.							PROD. INCLUDED				
7.27.13	EQUIPMENT : SUMMARY	REF. SHT										
	MACHINE SHOP	8 OF 32					532 400	4080	105 600	4 [illegible]	105 600	637 400
	MILLWRIGHT SHOP	12					27 600	180	4 700	[illegible]	4 700	32 300
	PIPE SHOP	15					54 800	390	10 000	[illegible]	10 000	64 800
	WELDING SHOP	19A					132 300	980	24 700	[illegible]	[illegible]	157 000
	SHEETMETAL SHOP	23					319 200	2450	63 000	[illegible]	[illegible]	382 200
	CARPENTER SHOP	27					26 100	150	3 700	[illegible]	[illegible]	29 800
	PLASTIC, GLASS & CERAMIC SHOP	29					13 500	80	2 000	[illegible]	[illegible]	15 600
	ELECTRIC & INSTRUMENT SHOP	32					16 000	90	2 200	[illegible]	[illegible]	18 200
	KITCHENETE	ALLOW					2 000	20	500	[illegible]	[illegible]	2 500
	PROD. INCLUDED											
7.27.13	TOTAL						1 123 900	8460	215 900	84	[illegible]	1339 800
	L.A. BASIN											

CES-2000-0 (4/81)

THE RALPH M. PARSONS COMPANY

Waste Wet Site

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 1 OF 32

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION MACHINE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13 - EQPT.											
	LATHE, 12 INCH SWING, 126 IN. CNTR'S MONARK SERIES 612 OR EQUAL 12 IN. SWING, 126 IN. CNTR'S 12 SPINDLE SPEED SELECTION FOR 50 TO 2500 RPM. 5 HP MOTOR, 230 VOLTS 3 PHASE 60 HERTZ.	2	EA	14K		2.8K	28 000		5 600			33 600
	LATHE, 15 IN. SWING, 126 IN. CNTR'S LEBLOND OR EQUAL. HOLLOW SPINDLE STYLE 15 IN SWING, 126 IN. CNTR'S 12 SPINDLE SPEED SELECTION FOR 23 TO 1800 RPM 8 HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ.	1		21.5K		4.3K	21 500		4 300			25 800
	LATHE, 25 IN SWING, 157 IN CNTR'S MONARK SERIES 612 OR EQUAL. 25 IN SWING, 157 IN. CNTR'S 18 SPINDLE SPEED SELECTION FOR 17 TO 1700 RPM 15 HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ.	1		50.8		10.1K	50 800		10 100			60 900
	PAGE TOTAL						100 300	780	20 000	780		120 300

5-257

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 2 OF ____

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION MACHINE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13 - EQPT.											
	MILLING MACHINE, HORIZONTAL VARNAMO U-415 OR EQUAL. 71 IN. x 15 3/4 IN. HORIZONTAL WORKING SURFACE. 23 HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ.	1		41.8K		8.3K	41 800		8300			50 100
	MILLING MACHINE, TURRET STYLE LAGUN FTV-3 OR EQUAL. 54 IN x 11 IN. WORKING SURFACE 4 HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ.	1		17K		3.4K	17 000		3400			20 400
	MILLING MACHINE, UNIVERSAL BRIDGEPORT II OR EQUAL 58 IN x 11 IN. WORKING SURFACE 60 TO 150 RPM LOW SPEED RANGE, 500 TO 4200 RPM. HIGH SPEED RANGE. 2 HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ	1		15.4		3.0K	15 400		3000			18 400
	PAGE TOTAL						74 200	520	14200			88 900

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 3 OF

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICE FACILITY

DESCRIPTION MACHINE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.27,13 - EQPT											
	SHAPER, MACHINE STEPTOE-SG OR EQUAL. 20 INCH WORKING SURFACE 7½ HP MOTOR, 230 VOLT, 3 PHASE 60 HERTZ.	1		61.8K		12.3K	61 800		12 300			74 100
	DRILL, RADIAL ARM 4'-0" RADIAL ARM STYLE DRILL 36 IN. x 60 IN. WORKING BASE. SELECTED SPINDLE SPEEDS 33 TO 1200 RPM AND 50 TO 1800 RPM. 7½ & 5 HP MOTORS, 230 VOLT, 3 PHASE, 60 HERTZ	1		16K		3.2K	16 000		3 200			19 200
	DRILL, PEDESTAL MOUNTED 20 IN. POWERMATIC OR EQUAL. VARIABLE SPEED BELT DRIVE SPEED RANGE: 135 TO 1350 RPM 1½ HP MOTOR, 230 VOLTS, 3 PHASE, 60 HERTZ	1		1.4K		.3K	1 400		300			1 700
	DRILL, SHARPENER SHARPENER GRINDING WHEEL 7" x 2" GRINDING POINTS 80 TO 180 DEGREES 1½ HP WHEELHEAD DRIVE, ½ HP AND ¾ HP CROSS TRAVERSE DRIVE 230 VOLT, 3 PHASE, 60 HERTZ	1		2.5K		.5K	2 500		500			3 000
							81 700	630	16 300			98 000

THE RALPH M. PARSONS COMPANY

Waste Water Site

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 4 OF

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION MACHINE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13 - EQPT.											
	GRINDER, PEDESTAL MOUNTED TWO WHEEL STYLE, WHEEL SIZES 12 IN. x 2 IN. x 1¼ IN. SAFETY EYE SHIELDS 2 HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ PUSH BUTTON STARTER WITH OVERLOAD.	1		2K		.4K	2 000		400		2 400
	GRINDER, TOOL & CUTTER TYPE 12¼ IN. x 32 IN. GRINDING CAP. 1½ HP MOTOR, 230 VOLTS, 3 PHASE 60 HERTZ	1		1.5K		.3K	1 500		300		1 800
	GRINDER, CARBIDE WHEEL PEDESTAL MOUNTED STYLE 12 IN. x 2 IN CARBIDE WHEEL 1½ HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ.	1		1.3K		.3K	1 300		300		1 600
	GRINDER, PORTABLE DRILL TYPE BLACK & DECKER ¾ DRILL OR EQUAL. PISTON STYLE HANDLE. 115 VOLT, 1 PHASE 60 HERTZ	1		.3K			300				300
	PAGE TOTAL						5 100	40	1000		6 100

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 5 OF

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICE FACILITY

DESCRIPTION MACHINE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13 - EQPT											
	GRINDER, SURFACE STYLE THOMPSON SURFACE GRINDER OR EQUAL. WORKING SURFACE 18" WIDE x 60 INCHES LG WHEEL HEAD POWERED BY 20 HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ 24 INCH GRINDING WHEEL	1		110.5K		22.1K	110,500		22,100			132,600
	GRINDER, ROUND SPINDLE STYLE CINCINNATI ROLL GRINDER OR EQUAL. FLOOR SPACE - 26 FT x 12 FT. MAX SWING OVER TABLE 19 1/2 IN 25 HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ. SPINDLE SPEED 505 TO 1360 RPM	1		107K		21.4K	107,000		21,400			128,400
	PRESS, "H" FRAME STYLE DAKE 75 TON OR EQUAL. AIR OPERATED WITH MOVEABLE HEAD. OPERATES ON 90 TO 145 PSI.	1		4.3K		.8K	4,300		800			5,100
	PAGE TOTAL						221,800	1220	44,300			266,100

THE RALPH M. PARSONS COMPANY

WRAP WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 6 OF

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION MACHINE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.27.13 - EQPT											
	OPTICAL COMPARATOR J&L 30 IN. COMPARATOR OR EQUAL. 30 INCH SCREEN WITH WORK-TABLE 8 INCH TRAVEL, FOCUS RANGE OF 1 3/8 INCHES SCREEN CENTERLINE TO FLOOR 57 INCHES. THROAT CLEARANCE 15.5 INCHES	1		11.5K		2.3K	11 500		2300			13 800
	LAYOUT TABLE, STEEL STYLE CHALLENGER MODEL OR EQUAL. TABLE STEEL CONTRUCTION 48 INCHES WIDE, 120 INCHES LONG. WORKING SURFACE TO SUPPORT 2900 POUNDS.	1		9K		1.8K	9 000		1800			10 800
	STEEL STORAGE CABINETS LYONS 38-1018 OR EQUAL. HEAVY DUTY STEEL CONSTRUCTION WITH FOUR ADJUSTABLE SHELVES. DOUBLE DOORS WITH LOCKS AND KEYS. CABINET UNITS ARE 78 INS. HIGH, 36 INS WIDE AND 18 INS DEEP.	3	EA	.2K			600				—	600
	PAGE TOTAL						21 100	160	4100			25 200

THE RALPH M. PARSONS COMPANY

WABM NUCLEAR SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 7 OF

JOB NO.: 6440-70 CLIENT: DOE / PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION MACHINE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13 - EQPT.											
	BENCH, STEEL WORKBENCH 72 INS LONG, 30 INS. WIDE, 32 5/8 INS HIGH. DESIGNED WITH A 3/8 INCHES THICK STEEL TOP WORKING SURFACE TO SUPPORT 2000 POUNDS	3	EA	.6K			1 800		100			1 900
	BLASTING GLOVE BOX Box UNIT 60 INS. By 24 INCHES AIR OPERATED ON 60 PSI	1		.7K		–	700				–	700
	STORAGE BIN STYLE UNITS BIN AND DRAWER COMBINATION UNIT. STEEL CONSTRUCTED. 18 DRAWERS - 5 INS. x 4 INS. 6 BINS, 12 INS. x 12 INS. 4 BINS, 18 INS WIDE x 9" HIGH 24 BINS, 6 INS. WIDE x 6" HIGH. OVERALL UNIT 85 INS. HIGH, 36 INS WIDE AND 18 INCHES DEEP	3	EA	.3K			900		100			1 000
	PAGE TOTAL						3 400	10	200			3 600

THE RALPH M. PARSONS COMPANY

WRAM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 8 OF

JOB NO.: 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE: ROM | CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION MACHINE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13 - EQPT											
	VISE, BENCH MOUNTED 10 INCH VISE WITH PIPE JAW FACE WITH SWIVEL TYPE BASE	3	EA	1.2K			3 600		200			3 800
	PRESS, ARBOR STYLE BENCH MOUNTED NO 2½ 6 TON CAPACITY, HAND RACHET OPERATED RAM 1½"x1½"x 27 INCHES	1		1.2K			1 200		200			1 400
	JIB CRANE 2 TON CAPACITY JIB CAPACITY 2 TON BOOM SPAN 10 FT. MAX HEIGHT UNDER BOOM 12 FT MAST DIA 12 INCHES BOOM SIZE 10 INCHES	8	EA	1.0K		.3K	8 000		2400			10 400
	HOIST UNITS 2 TON TROLLEY MOTOR DRIVEN HOOK TRAVEL 13 FT. HOIST SPEED 12 FPM AVAILABLE POWER 480 VOLTS 3 PHASE, 60 HERTZ.	8	EA	1.5K		.2K	12 000		1600			13 600
	PAGE TOTAL						24 800	170	4400			29 200
	TOTAL MACHINE SHOP EQPT						532 400	4680	105 000			637 400

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 9 OF

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION MILLWRIGHT SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	JIB CRANE, 4TON CAPACITY	1		3.1K		.6K	3 100		600		800	3 700
	JIB CAPACITY: 4TON											
	BOOM SPAN: 16 FT.											
	MAX HEIGHT UNDER BOOM 15 FT.											
	MAST DIA: 24 INCHES											
	BOOM SIZE: 20 INCHES											
	MOTORIZED MAST ROTATION											
	SWING 1/2 RPM.											
	HOIST UNIT:	1		1.8K		.3K	1 800		300			2 100
	4TON, TROLLEY MOTOR DRIVEN											
	HOOK TRAVEL: 13 FT.											
	HOIST SPEED. 30 FPM											
	TROLLEY SPEED 12 FPM											
	AVAILABLE POWER 480 VOLTS											
	3 PHASE, 60 HERTZ.											
	BENCH, FITTERS STYLE	1		9K		1.8K	9 000		1800			10 800
	CHALLENGER MODEL OR EQUAL											
	TABLE STEEL CONSTRUCTED											
	48 INS. WIDE, 12.0 INS. LONG											
	WORKING SURFACE TO SUPPORT											
	2000 lbs.											
	CLEANER, UNIT, PARTS	1		.9K		.1K	900		100			1 000
	PETERSON PAC300 OR EQUAL											
	INSIDE WORKING AREA 36"x60"											
	SOLUTION DEPTH 26 INCHES											
	1 1/2 HP MOTOR, 115 VOLTS, 1 PHASE											
	15 KW ELECTRIC HEATER UNIT											
	TANK SHELL 12 GAUGE STEEL.											
	PAGE TOTAL						14 800	109	2800			17 600

CES-2000-0 (4/81)

6-2065

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 10 OF

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION MILLWRIGHT SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	BENCHES, STEEL TOP STYLE 72 INCHES LONG 30 INCHES WIDE, 32 5/8 INCHES HIGH ALL STEEL CONSTRUCTION 3/8 INCH THICK STEEL TOP WORKING SURFACE TO SUPPORT 2000 POUNDS.	2	EA	.6K		—	1200		100			1300
	STORAGE CABINETS, STEEL, LYONS MODEL 38-1018 OR EQUAL HEAVY DUTY STEEL CONSTRUCTION WITH 4 ADJUSTABLE SHELVES. DOUBLE DOORS WITH LOCKS AND KEYS. CABINET UNIT 78 IN. HIGH 36 INCHES WIDE AND 18 INCHES DEEP.	4	EA	.2K		—	800				—	800
	"A" FRAME HOISTING UNIT 2 TON CAPACITY HAND CHAIN OPERATED HOISTING UNIT. "A" FRAME UNIT TO BE PORTABLE EQUIPPED WITH WHEELS AND LOCKDOWNS.	1		4K		.8K	4000		800			4800
	PAGE TOTAL						6000	35	900			6900

THE RALPH M. PARSONS COMPANY

WRBM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/4/84 | SHEET 11 OF

JOB NO.: 6440-70 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION MILLWRIGHT SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.27.13											
	CRANE, MOBILE FLOOR STYLE MOBILE FLOOR LIFTING CRANE 1 TON CAPACITY "FOLD-AWAY" UNIT WITH ADJUSTABLE LEGS. HYDRAULIC HAND PUMP UNIT 62 INCH LIFTING CHAIN. BOOM EXTENDS TO 117 INCHES. AND ADJUSTS HORIZONTALLY TO 80 INCHES. LEGS EQUIPPED WITH 5 INCH DIA. WHEELS. GROSS WT. 642 lbs	1		2.3K		.4K	2 300			100	1	2 700
	STORAGE BIN STYLE UNIT BIN AND DRAWER COMBINATION UNIT. STEEL CONSTRUCTED 18 DRAWERS 5 INS. x 4 INS. 6 BINS, 12 INCHES x 12 INCHES 4 BINS, 18 INS WIDE x 9" HIGH 24 BINS, 6 INS. WIDE x 6" HIGH OVERALL UNIT 85 INS HIGH 36 INS. WIDE, 18 INS. DEEP	2	EA	.3K		—	600					600
	PRESS, ARBOR STYLE BENCH MOUNTED No 1 1/2 3 TON CAPACITY, HAND RACHET OPERATED RAM 1 1/2" x 1 1/2" x 27 INCHES	1		1K		.2K	1 000			200		1 200
	PAGE TOTAL						3 900	23		600		4 500

THE RALPH M. PARSONS COMPANY

Warm Wet Site

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 12 OF

JOB NO.: 6440-70 CLIENT: DOE / PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION MILLWRIGHT SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	VISE, BENCH MOUNTED	2	EA	1.2K			2400		400			2800
	10 INCH VISE WITH PIPE JAW FACE											
	VISE EQUIPPED WITH SWIVEL											
	STYLE BASE.											
	GRINDER, BENCH MOUNTED	1		.5K			500					500
	WHEEL SIZE: 8"x1"											
	5/8 INCH ARBOR											
	SAFETY EYE SHIELDS											
	3/4 HP MOTOR, 115 VOLT 1 PHASE											
	60 HERTZ.											
	PAGE TOTAL						2900	16	400			3300
	TOTAL, MILLWRIGHT SHOP EQPT.						27600	180	4200			32300

THE RALPH M. PARSONS COMPANY

WARM MET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 13 OF

JOB NO.: 6440-70 CLIENT: DOE / PNL TYPE OF ESTIMATE: ROM. CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION PIPE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	PIPE BENDER PEDRICK MODEL D15 OR EQUAL 130,000 IN lbs BENDING MOMENT FOR BENDING FOR 4 INCH DIA EXTRA HEAVY PIPE 4 1/2 INCH SPINDLE 15 HP MOTOR, 230 VOLT, 3 PHASE 60 HERTZ.	1		9K		1.8K	9000		1800			10800
	PIPE CUTTING & THREADING MACHINE CUTTING AND THREADING CAPACITY FOR 4 IN. DIA PIPE THREADING OF 1/2 IN BOLT STOCK 3 HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ.	1		35.2K		7K	35200		7000			42200
	GRINDER, ABRASIVE BELT TYPE BELT SIZE 2" WIDE 48 INCHES LONG. BELT OPERATING SPEED 6000 RPM THROAT CLEARANCE 7 1/2 INCHES 3/4 HP MOTOR, 115 VOLT, 1 PHASE 60 HERTZ.	1		.7K			700				—	700
	PAGE TOTAL						44900	342	8800			53700

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 14 OF

JOB NO.: 6440-70 CLIENT: DOE / PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION PIPE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	BENCH, STEEL TOP STYLE 72 INCHES LONG, 30 INCHES WIDE 32 5/8 INCHES HIGH. ALL STEEL CONSTRUCTION 3/8 INCH THICK STEEL TOP. WORKING SURFACE TO SUPPORT 2000 POUNDS	2	EA	.6K		—	1200				—	1200
	DRILL, PEDESTAL MOUNTED POWERMATIC 20" OR EQUAL VARIABLE SPEED BELT DRIVE SPEED RANGES 135 TO 1350 RPM. 1 1/2 HP MOTOR, 230 VOLT, 3 PHASE 60 HERTZ.	1		2K		.4K	2000		400			2400
	GRINDER, PEDESTAL MOUNTED TWO WHEELS - 12"x2"x1 1/4" SAFETY EYESHIELDS 2HP MOTOR 230 VOLT, 3 PHASE 60 HERTZ.	1		2K		.4K	2000		400			2400
	GRINDER, BENCH MOUNTED TWO WHEELS - 8"x1" - 5/8" ARBOR 3/4 HP, 115 VOLT, 1 PHASE, 60 HERTZ SAFETY EYESHIELDS.	1		.5K			500				—	500
	PAGE TOTAL						5700	31	800			6500

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/04/87 SHEET 15 OF

JOB NO.: 6440-70 CLIENT: DOE / PNL TYPE OF ESTIMATE: R&M. CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION PIPE SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	VISE, BENCH MOUNTED 10" VISE WITH PIPE JAW FACE BENCH MOUNT SWIVEL BASE	2	EA	1.2K			2 400		460			2 800
	STORAGE BIN UNIT STEEL BIN AND DRAWER COMBINATION UNIT. STEEL CONSTRUCTION. 18 DRAWERS - 5 INS. x 4 INS. 6 BINS - 12 INS. x 12 INS. 4 BINS - 18 INS WIDE x 9" HIGH 24 BINS - 6 INS. WIDE x 6" HIGH OVERALL UNIT 85 INS HIGE, 36" WIDE AND 18" DEEP	2	EA	.3K			600					600
	STORAGE CABINET UNITS LYONS MODEL 38-1018 OR EQUAL HEAVY DUTY STEEL CONSTRUCTION WITH 4 ADJUSTABLE SHELVES. DOUBLE DOORS WITH LOCKS AND KEYS. CABINET UNITS 78 INCHES HIGH, 36 INCH WIDE AND 18 INCHES DEEP.	4	EA	.2K			800					800
	OXYGEN AND ACETYLENE WELDING 75 FT HOSE, GAGES, CUTTING TORCH, ROSEBUD TIP AND VARIOUS WELDING TIPS.	1		.4K			400					400
				PAGE	TOTAL		4 200	16	460			4 600
	TOTAL, PIPE SHOP EQPT.						54 800	390	10 000			64 800

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/84 SHEET 16 OF

JOB NO.: 6440 - 70 CLIENT: DOE / PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION WELDING SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	WELDING BENCH, STEEL TOP, CHALLENGER MODEL OR EQUAL TABLE STEEL CONSTRUCTION 48 INCHES WIDE, 120 INCHES LONG WORKING SURFACE TO SUPPORT 2000 POUND.	1		9K		1.8K	9 000		1800			10 800
	QUENCH TANKS, STEEL TANK CONSTRUCTED OF 1/4 INCH STEEL PLATE. TANK SIZE 2 FT WIDE, 4 FT LONG 2 FT HIGH. 2 1/2 x 2 1/2 x 1/4 STIFFENER ANGLES. CONSTRUCTED STEEL STAND INCLUDED.	2	EA	.1K		—	200				—	200
	IRON WORKER MACHINE NO 1 1/2 BUFFALO MODEL OR EQUAL PUNCH RAM PRESSURE 73 TONS. PUNCH HOLES 15/16 x 7/8 3 HP MOTOR, 230 VOLT, 3 PHASE 60 HERTZ.	1		92.3K		18K	92 300		18000			110 300
	PAGE TOTAL						101 500	770	19800			121 300

5-272

THE RALPH M. PARSONS COMPANY

Warm Wet-Site

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 17 OF

JOB NO.: 6440 - 70 CLIENT: DOE / PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION WELDING SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.27.13											
	ARC WELDER, PLASMA TYPE TWO HEAD TYPE CAPABLE OF CUTTING 60 INCH PLATE STOCK TRACING TABLE SIZE 48" WIDE BY 48 INCHES LONG	1		1.2K		.2K	1 200		200			1 400
	POSITIONER, WELDING 2500 lbs RATED CAPACITY 135 DEGREE TILT, 360 DEGREE ROTATION. 3/4 HP MOTOR, 230 VOLT, 3 PHASE 60 HERTZ.	1		10.2K		2K	10 200		2000			12 200
	WELDER, ELECTRIC, 300 AMP 300 AMP AT 32 VOLTS DC. 75 OPEN CIRCUIT VOLTAGE INPUT AMPERAGE 230 VOLTS POWER USAGE 23.1 KVA	1		1.5K		.3K	1 500					1 800
	WELDER, ELECTRIC 600 Amp. 600 AMP AT 40 VOLTS 75 OPEN CIRCUIT VOLTAGE INPUT AMPERAGE AT 230 VOLTS WILL BE 120. POWER USAGE 47.7 KVA.	1		2K		.4K	2 000		400			2 400
	PAGE TOTAL						14 900	113	2900			17 800

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 18 OF ____

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM. CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION WELDING SHOP AREA.

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	GRINDER, PEDESTAL MOUNTED TWO WHEELS 12"x2"x1¼" SAFETY EYESHIELDS 2 HP MOTOR, 230 VOLT, 3 PHASE 60 HERTZ.	2	EA	2K		—	4000		400			4400
	BENCH, STEEL TOP STYLE 72 INCHES LONG, 30 INCHES WIDE, 32 5/8 INCHES HIGH ALL STEEL CONSTRUCTED 3/8 INCH THICK TOP PLATE WORKING SURFACE TO SUPPORT 2000 POUNDS.	2	EA	.6K		—	1200		100			1300
	STORAGE CABINET UNITS LYONS MODEL 38-1018 OR EQUAL HEAVY DUTY STEEL CONSTRUCTION WITH 4 ADJUSTABLE SHELVES. DOUBLE DOORS WITH LOCKS AND KEYS. CABINET UNIT 78 IN HIGH, 36 IN WIDE AND 18 IN DEEP.	3	EA	.2K		—	600				—	600
	PAGE TOTAL						5800	20	500			6300

5-274

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 19 OF

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM. CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION WELDING SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	STORAGE BIN STYLE UNIT	3	EA	.3K		—	900		100			1 000
	BIN AND DRAWER COMBINATION UNIT											
	18 DRAWERS 5 INS x 4 INS											
	6 BINS - 12 INS. x 12 INCHES											
	4 BINS - 18 IN. WIDE x 9 IN. HIGH											
	24 BINS - 6 IN. WIDE x 6 IN. HIGH											
	OVERALL UNIT 85 INS. HIGH,											
	36 INS. WIDE AND 18 INS. DEEP											
	WELDING WIRE FEEDER	1		1K		.2K	1 000		200			1 200
	WIRE FEED AT SPEED OF 70-750											
	INCHES PER MINUTE. UNIT WILL											
	HANDLE WIRE SIZES OF											
	.030 TO 1/8 INCHES DIA.											
	OXYGEN AND ACETYLENE WELDING	2	EA	.4K		—	800				—	800
	75 FT HOSE, GAUGES, CUTTING											
	TORCH, ROSEBUD TIP AND											
	VARIOUS WELDING TIPS											
	VISE, BENCH MOUNTED	2	EA	1.2K		.1	2 400		200		200	2 600
	10 INCH WITH PIPE JAW FACE											
	WITH SWIVEL BASE											
	PAGE TOTAL						5 100	20	500			5 600

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 19A OF

JOB NO. 6940-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM. | CHECKED BY

UNIT/AREA SITE SERVICE FACILITY

DESCRIPTION WELDING SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	55.6.47.7.27.13											
	JIB CRANES 2 TON											
	JIB CAPACITY 2 TON BOOM SPAN 10 FT MAX HEIGHT UNDER BOOM 12 FT MAST DIA. 12 INCHES BOOM SIZE 10 INCHES	2	EA	1.0K		.3K	2 000		600			2 600
	HOIST UNITS 2 TON, TROLLEY MOTOR DRIVEN HOOK TRAVEL 13 FOOT HOIST SPEED 30 FPM TROLLEY SPEED 12 FPM AVAILABLE POWER 480 VOLT 3 PHASE, 60 HERTZ	2	EA	1.5K		.2K	3 000		400			3 400
	PAGE TOTAL						5 000	40	1000			6 000
	TOTAL, WELDING SHOP EQPT						132 300	960	24 700			157 000

CES-2000-0 (4/81)

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 20 OF

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM. CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION SHEETMETAL SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	SHEAR, HYDRAULIC MACHINE CAPACITY SHEARING 3/8 PLATE 10 FT LONG. 30 HP MOTOR 230/440 VOLT 3 PHASE, 60 HERTZ	1		81.5K		16.3K	81 500		16 300			97 800
	BRAKE, BENDING MACHINE BENDING 3/16 INCH X 100 IN. LG PLATE. 13.5 HP MOTOR, 230/440 VOLT 3 PHASE, 60 HERTZ. FLOOR SPACE REQUIRED 4 FT x 12 FT.	1		118.5K		23.7K	118 500		23 700			142 200
	ROLLS, MACHINE CAPABLE OF ROLLING 10 GAUGE TO 3/16 IN. THICK PLATE AND 3x3x1/4 ANGLE STOCK ROLLS - 8 INCH DIA. MACHINE TO HANDLE 120 INCH LONG PLATE. 10 HP MOTOR, 230/440 VOLTS, 3 PHASE, 60 HERTZ.	1		90.2K		18K	90 200		18 000			108 200
	PAGE TOTAL						290 200	2255	58 000			348 200

5-277

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 21 OF

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: R.O.M. CKD BY:

UNIT/AREA SITE SERVICE FACILITY

DESCRIPTION SHEETMETAL SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.27.13											
	SAW, HORIZONTAL BAND W.A. WELLS-F15 OR EQUAL CUTTING CAPACITY 15 IN. DIA. STOCK. 3 HP MOTOR, 230 VOLT, 3 PHASE, 60 HERTZ.	1		2.6K		.5K	2600		500			3100
	SAW, BAND, METAL CUTTING TABLE SIZE - 24 INS. x 24 INS. POWERMATIC 87 OR EQUAL TILT CUTTING OF 45 DEGREES RIGHT AND 15 DEGREES LEFT 3/4 INCH BLADE SPEED 47 SFM MAX CUTTING DEPTH 12 INCHES. 3 HP MOTOR, 230/440 VOLT, 3PHASE, 60 HERTZ.	1		3.8K		.7K	3800		700			4500
	REX SPOT WELDING UNIT STRYCO-D4-18-40 OR EQUAL 40 KVA UNIT, 18 INCH THROAT DEPTH, 2 INCH ARM DIA. SPACE BETWEEN ARMS 6 TO 11 INCHES.	1		1K		.2K	1000		200			1200
	PAGE TOTAL						7400	55	1400			8800

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 22 OF

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION SHEETMETAL SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	TABLE, LAYOUT STYLE CHALLENGER MODEL OR EQUAL 48 INCHES WIDE, 120 INCHES LG ALL STEEL CONSTRUCTION WORKING SURFACE TO SUPPORT 2000 POUNDS.	1		9K		1.8K	9000		1800			10800
	BENCH, STEEL TOP STYLE 72 INS LONG x 30 INS. WIDE, 32 5/8 INCHES HIGH DESIGNED WITH 3/8 INCH THICK STEEL TOP. WORKING SURFACE TO SUPPORT 2000 POUNDS	2	EA	.6K		—	1200		100			1300
	VISE, BENCH MOUNTED 10 INCH PIPE JAW FACE VISE WITH SWIVEL STYLE BASE	2	EA	1.2K		—	2400		200			2600
	STORAGE CABINET, STEEL LYONS 38-1018 OR EQUAL HEAVY DUTY STEEL CONSTRUCTION WITH 4 ADJUSTABLE SHELVES. DOUBLE DOORS. WITH LOCKS AND KEYS. CABINET UNITS 78 INS. HIGH, 36 INS. WIDE AND 18 INCHES DEEP	3	EA	.2K		—	600		—		—	600
	PAGE TOTAL						13200	82	2100			15300

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 23 OF ____

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY: [illegible]

UNIT/AREA SITE SERVICE FACILITY

DESCRIPTION SHEETMETAL SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	STORAGE BIN STYLE UNIT	3	EA	.3K		—	900				—	900
	BIN AND DRAWER COMBINATION UNIT											
	STEEL CONSTRUCTION											
	18 DRAWERS - 5 INS. X 4 INCHES											
	6 BINS - 12 INCHES X 12 INCHES											
	4 BINS - 18 INS WIDE X 9 INS. HIGH											
	24 BINS - 6 INS. WIDE X 6 INS HIGH											
	OVERALL UNIT 85 INS HIGH,											
	36 INCHES WIDE AND 18 INCHES											
	DEEP.											
	JIB CRANES	3	EA	1.0K		.3K	3000		900			3900
	JIB CRANE CAPACITY 2 TON											
	BOOM SPAN 10 FT.											
	MAX HEIGHT UNDER BOOM 12 FT.											
	MAST DIA. 12 INCHES											
	BOOM SIZE 10 INCHES											
	HOIST UNITS	3	EA	1.5K		.2K	4500		600			5100
	2 TON TROLLEY MOTOR DRIVEN											
	HOOK TRAVEL 13 FOOT											
	HOIST SPEED 30 FPM											
	TROLLEY SPEED 12 FPM											
	AVAILABLE POWER 480 VOLTS											
	3 PHASE, 60 HERTZ.											
	PAGE TOTAL						8400	58	1500			9900
	TOTAL, SHEETMETAL SHOP EQPT						319200	2450	63000			382200

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 24 OF

JOB NO.: 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION CARPENTER SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.73											
	JOINTER, WOODWORKING 8 INCH CUTTERHEAD CUTTERHEAD GUARD 1 1/2 HP MOTOR, 230/440 VOLT, 3 PHASE, 60 HERTZ.	1		.8K		.1K	800		100			900
	CIRCULAR SAW, WOODWORKING 14 INCH CUTTING BLADE MOTOR CONTROLS GUARDS, GUIDES AND WRENCHES 2 HP MOTOR, 230/440 VOLTS, 3 PHASE 60 HERTZ.	1		4.9K		.9K	4 900		900			5 800
	SAW; RADIAL ARM STYLE 14 INCH CUTTING BLADE GUARDS, GUIDES, WRENCHES AND MOTOR CONTROLS. 2 HP MOTOR, 230/440 VOLTS, 3 PHASE, 60 HERTZ.	1		4.2K		.8K	4 200		800			5 000
	SAW, TABLE MOUNTED STYLE 14" CUTTING BLADE GUARDS, GUIDES, MOTOR CONTROLS 2 HP MOTOR, 230/440 VOLTS 3 PHASE, 60 HERTZ	1		5.5K		1.1K	5 500		1100			6 600
	PAGE TOTAL						15 400	113	2900		100	18 800

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 25 OF

JOB NO.: 6440-70 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CKD BY:

UNIT/AREA SITE SERVICES FACILITY DESCRIPTION CARPENTER SHOP AREA CAPACITY	QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
			MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
ACCNT 5.5.6.47.7.27.13											
SANDER, COMBINATION TYPE BELT AND DISC SANDER UNIT, BELT SPEEDS 2850 RPM DISC SPEED – 2400 RPM TABLE SIZE UNDER BELT 6 1/2 INS. X 14 1/2 INCHES TABLE UNDER DISC 7 INS. X 17 3/4" DISC SIZE 12 INCHES BELT SIZE - 6 INS. WIDE X 48 INS. LONG. 1 1/2 HP MOTOR, 230/440 VOLT, 3 PHASE, 60 HERTZ.	1		.6K		.1K	600		100		700
DRILL PRESS, PEDESTAL MOUNTED POWERMATIC 1200 OR EQUAL. VARIABLE BELT DRIVE TABLE 24 INS. X 40 INCHES AND 34 INCH HIGH MAX. DISTANCE SPINDLE TO TABLE 25 1/2 INCHES DRILL STROKE 6 INCHES 2 HP MOTOR, 230/440 VOLT, 3 PHASE, 60 HERTZ.	1		2.7K		.5K	2 700		500		3 200
PAGE TOTAL						3 300	24	600	21	3 900

5-282

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/04/84 SHEET 26 OF

JOB NO.: 6440-70 CLIENT: DOE / PNL TYPE OF ESTIMATE: ROM CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION CARPENTER SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	BENCHES, CARPENTER STYLE HEAVY DUTY BENCH EQUIPPED WITH 4 INCH HARDWOOD TOP. BENCHES EQUIPPED WITH FRONT AND SIDE WOOD JAW VISES BENCH 72 INCHES LONG 25" WIDE AND 32 INCHES HIGH.	3	EA	.9K			2700		100		1	2800
	BENCHES, MAPLE TOP BENCH CONSTRUCTED WITH HEAVY DUTY 1¼ INCH TUBULAR STEEL LEGS. BENCH TOP IS 3 INCH THICK HARD MAPLE. BENCH 72 INCHES LONG, 36 INCHES WIDE AND 34 INCHES HIGH.	5	EA	.5K			2500		100		1	2600
	STORAGE CABINETS, STEEL LYONS 38-1018 OR EQUAL HEAVY DUTY STEEL CONSTRUCTION WITH 4 ADJUSTABLE SHELVES DOUBLE DOORS WITH LOCKS AND KEYS. CABINET UNITS 78 INCHES HIGH, 36 INCHES WIDE, 18 INCHES DEEP.	4	EA	.2K			800					800
	PAGE TOTAL						6000	8	200			6200

THE RALPH M. PARSONS COMPANY

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 27 OF ____

JOB NO.: 6440-70 CLIENT: DOE / PNL TYPE OF ESTIMATE: BOM. CKD BY:

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION CARPENTER SHOP AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	STORAGE BIN STYLE UNITS BIN AND DRAWER COMBINATION UNIT. STEEL CONSTRUCTION 18 DRAWERS, 5 INS. x 4 INCHES 6 BINS, 12 INS. x 12 INCHES 4 BINS, 18 INS WIDE x 9 INS. HIGH 24 BINS, 6 INS. WIDE x 6 INS. HIGH OVERALL UNIT 85 INS. HIGH, 36 INS. WIDE AND 18 INS. DEEP	2	EA	.3K			600					600
	PARTS BIN, ROTARY STYLE ROTARY PARTS BINS 34 INCHES IN DIA., 6 COMPARTMENT TO EACH TIER. UNIT WITH 4 TIERS 38 INCHES HIGH.	2	EA	.4K			800					800
	PAGE TOTAL						1400			—	—	1400
	TOTAL CARPENTER SHOP EQPT						26100	150	3700			29800

PARSONS

ESTIMATE WORKSHEET

Hanford Nuclear Site

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 28 OF

JOB NO. 6440-70 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION PLASTIC, GLASS, CERAMIC SHOP

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.27.13											
	GRINDER, ABRASIVE BELT, BENCH MOUNTED, BELT 2½ INS. x 60 INCHES 1½ HP MOTOR, 230/440 VOLT, 3 PHASE, 60 HERTZ.	1		1.6K		.3K	1 600		300			1 900
	SAW, METAL BANDSAW STYLE POWERMATIC 81 OR EQUAL TABLE 24 INS. x 24 INS. TABLE TILT 45 DEGREES RIGHT 15 DEGREES LEFT. MAX DEPTH OF CUT 12 INCHES BLADE ¾ INS. BLADE SPEED 47 SFM. 3 HP MOTOR, 230/440 VOLTS 3 PHASE, 60 HERTZ.	1		3.3K		.6K	3 300		600			3 900
	SAW, ABRASIVE & MASONARY 20 INCH EVERET 20 OR EQUAL 10 HP MOTOR, 230/440 VOLT 3 PHASE, 60 HERTZ.	1		2.9K		.5K	2 900		500			3 400
	DRILL, PEDESTAL MOUNTED POWERMATIC 1200 OR EQUAL VARIABLE BELT DRIVE TABLE 24 INCHES X 40 INCHES MAX. DISTANCE SPINDLE TO TABLE 25 INCHES. DRILL STROKE 6 INCHES 2 HP MOTOR, 230/440 VOLT 3 PHASE, 60 HERTZ.	1		2.6K		.5K	2 600		500			3 100
	PAGE TOTAL						10 400	74	1300	74		12 300

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/91 SHEET 29 OF ____

JOB NO. 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION PLASTIC, GLASS & CERAMIC SHOP

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	BENCH, HARDWOOD TOP BENCH CONSTRUCTED WITH HEAVY DUTY 1¼ IN. TUBULAR LEGS BENCH TOP IS 3 INCH HARD MAPLE. BENCH 72 INS. LONG, 36 INCHES WIDE, 34 INS HIGH.	1		.5K			500					500
	BENCH, CUTTING MARBLE TOP BENCH CONSTRUCTED WITH HEAVY DUTY 1¼ IN. TUBULAR LEGS. BENCH TOP IS 1 INCH MARBLE. BENCH 72 INCHES LONG, 36 INCHES WIDE, 34 INCHES HIGH.	1		1.4K		.2K	1 400		200			1 600
	STORAGE CABINETS, STEEL LYON 38-1018 OR EQUAL HEAVY DUTY STEEL CONSTRUCTION WITH 4 ADJUSTABLE SHELVES DOUBLE DOORS WITH LOCKS AND KEYS. CABINET UNIT 78 INCHES HIGH, 36 INCHES WIDE, 18 INS. DEEP.	3	EA	.2K			600					600
	STORAGE, VERTICAL RACKS VERTICAL SLOTTED STORAGE RACK - 6 INCHES SLOTTED ARM STYLE OPENING FOR STORING GLASS AND PLASTIC SHEETS.	2	EA	.3K			600					600
					PAGE	TOTAL	3 100	8	300			3 400
	TOTAL, PLASTIC, GLASS, ETC EQPT						13 500	80	2400			15 900

CES-2000-0 (4/81)

PARSONS

Warm Wet Site — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 30 OF ____

JOB NO. 6440-70 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION ELECTRIC & INSTRUMENT SHOP

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.27.13											
	DRILL PEDESTAL MOUNTED	1		2K		.4K	2000		400			2400
	POWERMATIC 1200 OR EQUAL											
	VARIABLE BELT DRIVE											
	TABLE 24 INS. X 24 INCHES											
	DISTANCE SPINDLE TO TABLE											
	25 INCHES.											
	DRILL STROKE 6 INCHES											
	2 HP MOTOR, 230/440 VOLT.											
	3 PHASE, 60 HERTZ.											
	BENCH, HARDWOOD TOP	4	EA	.5K		—	2000		400			2400
	BENCH CONSTRUCTED WITH											
	HEAVY DUTY 1 1/4 IN. TUBULAR											
	LEGS. BENCH 72 IN. LONG											
	36 INCHES WIDE, 34 IN HIGH											
	BENCH TOP HARD MABLE											
	STORAGE CABINETS, STEEL	6	EA	.2K		—	1200		200			1400
	LYONS 38-1018 OR EQUAL											
	HEAVY DUTY CONSTRUCTION WITH											
	4 ADJUSTABLE SHELVES.											
	DOUBLE DOOR WITH LOCKS AND											
	KEYS. CABINET UNIT 78 IN. HIGH											
	36 IN. WIDE, 18 IN DEEP											
	PAGE TOTAL						5200	39	1000			6200

CES-2000-0 (4/81)

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/84 SHEET 31 OF ____

JOB NO. 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION ELECTRIC & INTRUMENT SHOP

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	OVEN, DESPATCH 48 INCHES x 67 INCHES LONG AND 62 INCHES HIGH. MAX OPERATING TEMPERATURE 500 DEGREES F. 3 HP MOTOR 230/440 VOLT, 3 PHASE, 60 HERTZ.	1		3K		.6K	3 000		600		600	3 600
	SHEARS, INSULATION PEERLESS 45669 OR EQUAL HAND OPERATED FLOOR AREA REQUIRED 4Ft x 4FT	1		.4K			400					400
	PRESS, ARBOR STYLE No 2½ BENCH MOUNTED 6 TON CAPACITY RAM LENGHT 1½ x 1½ x 27 INS.	1		1K		.2K	1 000		200			1 200
	GRINDER, BENCH MOUNTED GRINDER WHEEL 8 IN. x 1 IN ⅝ ARBOR SAFETY EYESHIELD ¾ HP MOTOR, 120 VOLTS, 1 PHASE, 60 HERTZ.	1		.6K			600					600
	PAGE TOTAL						5 000	31	800			5 800

CES-2000-0 (4/81)

PARSONS

Warm Wet Site

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 32 OF 32

JOB NO. 6440-70 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA SITE SERVICES FACILITY

DESCRIPTION ELECTRIC & INSTRUMENT SHOP

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.27.13											
	VISE, BENCH MOUNTED 10 INCH PIPE JAW FACE WITH SWIVEL BASE	3	EA	1.2K		–	3 600		200			3 800
	STORAGE BIN STYLE UNIT BIN AND DRAWER COMBINATION UNIT. STEEL CONSTRUCTION 18 DRAWERS, 5 INCHES x 4 INCHES 6 BINS, 12 INCHES x 12 INCHES 4 BINS, 18 INCH WIDE x 9 INCHES HIGH 24 BINS 6 INCHES WIDE x 6 INCHES HIGH. OVERALL UNIT 85 INCHES HIGH, 36 INCHES WIDE AND 18 INCHES DEEP.	4	EA	.3K		–	1 200		100			1 300
	BENCH, ELECTRIC TESTING BONDED WOOD 1 3/4 INCHES THICK, SET ON STEEL LEG FRAME. BENCH IS 72 IN. LONG x 36 IN. WIDE 34 IN. HIGH. BENCH TO INCLUDE DRAWERS AERIAL SHELVING AND ELECTRIC OUTLET STRIPS.	2	EA	.5K		–	1 000		100			1 100
	PAGE TOTAL						5 800	16	400			6 200
	TOTAL. ELECT / INST SHOP EQPT						16 000	90	2200			18 200

CES-2000-0 (4/81)

3

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BGA PRICED BY BGA DATE 6/84 SHEET 1 OF

JOB NO. 6440-10 CLIENT: DOE TYPE OF ESTIMATE ROM (II) CHECKED BY

UNIT/AREA

DESCRIPTION MRS FACILITY

CAPACITY 5.5.6

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
.47	SITE SERVICES BLDG.											
7.31	MECH. SYSTEMS	REF. SHT										
.16	PLUMBING	9 OF 13					22 400	1300				
.18	HVAC	10 OF 13					192 300	6380				
.19	FIRE PROTECTION	11 OF 13					148 000	3830				
.17	MISC. EQUIP/MATL	12 OF 13					7900	200				
	SUB TOTAL						370 600	11710				
	PROD. 11710 ÷ 96 %	12200	MH			26.7±			313 800			
								12200				
	L.A. BASIN TOTAL - MECH'L						370 600		313 800			684 400

CES-2000-0 (4/81)

PARSONS

WARM WET. SITE — ESTIMATE WORKSHEET

M.T.O. BY BGA | PRICED BY BGA | DATE 6/84 | SHEET 9 OF ___

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION MRS FACILITY

CAPACITY 5.6.6

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
.47	SITE SERVICES BLDG.											
7.3.16	PLUMBING :											
	FIXTURE - W.C.	8	EA	330	13		2640			104		
	UR.	4	"	467	20		1870			80		
	LAV CTR MTD	4	"	290	15		1160			60		
	LAV W.H.	4	"	320	16		1280			64		
	SHWR	3	"	260	4		780			12		
	S.S.	2	"	451	24		900			48		
	EWC	2	"	767	11		1530			22		
	EYEWASH	1	"	550	16		550			16		
	EWH, 80 gal, 12kw	1	"	1125	6		1130			6		
	" 6 gal, 1kw	1	"	680	4		680			4		
	PIPES & FITTINGS (MTL = .46 × 14360 F) (Lab 1.85 × 440 F)	1	LS				6610			814		
	WATER CONTROL EQUIP MTL 10% F Lab 10% F	1	LS				1440			44		
	VENT THRU ROOF	3	EA	120	2.5		360			8		
	FLR DRAIN	4	"	260	2		1040			8		
	FLR C.O.	4	"	110	2		440			8		
	S/T						22410			1298		
	ADJ						(-10)			+ 2		
							22400			1300		

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BGA | PRICED BY BGA | DATE 6/84 | SHEET 10 OF ____

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION MRS FACILITY

CAPACITY 5.5.6

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
.47	SITE SERVICES BLDG.											
7.31.18	HVAC											
	AC UNIT, CHILLED & HOT WATER SYSTEM 60T+67T = 1,206,000 BTU, C/W CHILLERS, CAST IRON HOT WATER BOILERS, PUMPS, EXPANSION TANKS, PIPING, CONTROLS, STARTER & INSULATED DUCTWORK	127	TN	1301	48		165,230			6096		
	PAINT BOOTH: EF	1	EA	3470	22		3,470			22		
	MAU	1	EA	4120	24		4,120			24		
	DUCTWORK	400	LB	1.20	.102		480			41		
	FILTER ASST.	1	LOT	2860	16		2,860			16		
	WELDING FUME EXHAUSTER ASST.	2	EA	3670	12		7,340			24		
	EXH. DUCT WORK	1000	LB	1.20	.102		1,200			102		
	EQUIPT ROOM E.F. w/DAMPER	2	EA	2310	15		4,620			30		
	BATTERY ROOM E.F.	1	EA	—	—		1,540			10		
	TOILET+KIT - EF	4	EA	230	1.5		920			6		
	PAINT STO - EF EP	1	/	—	—		280			2		
	OIL STO. - EP EP	1	-	—	—		280			2		
	S/T					—	192,340			1377		
	TOTAL W/ ADJ - HVAC						192,300			6380		

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BGA | PRICED BY BGA | DATE 6/84 | SHEET 11 of

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | (11) CHECKED BY

UNIT/AREA SITE SERVICES BLDG

DESCRIPTION MRS FACILITY

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
.47	SITE SERVICES BLDG											
7.31.19	FIRE PROTECTION											
	AUTO. SPRINKLER SYST	53202	SF	1.08	.0585		57460			3112		
	HALON SYSTEM	106866	CF	.80	.006		85500			641		
	FIRE EXTINGISHERS, CAB. MTD	20	EA	250	4.		5000			80		
	S/T						147960			3833		
	ADJ						+40			(-3)		
	TOTAL F.P.						148000			3830		

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BGA | PRICED BY BGA | DATE 6/84 | SHEET 12 OF ____

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | (M) CHECKED BY ____

UNIT/AREA

DESCRIPTION MRS FACILITY

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
47	SITE SERVICES BLDG											
7.3.17	MISC. EQUIPT/MATL											
	BOILER FOR STEAM CLEANING FACILITY, GAS FIRED	1	EA	-			2550			50		
	FUEL OIL STORAGE TANK FOR AC OIL FIRED BOILERS, 550 GAL CAP.	2	EA	800	12		1600			24		
	STEAM PIPING & VALVES	1	LOT	-			900			54		
	FUEL PIPING & VALVES	1	LOT	-			1800			60		
	TANK GAGING ASSY	2	EA	270	3		540			6		
	✓ PILL ✓	2	"	270	3		540			6		
	S/T						7930			200		
	ADJ						(-30)			0		
	TOTAL - MISC. EQP						7900			200		

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

WARM WET SITE

M.T.O. BY FRED G | PRICED BY | DATE 10-26-84 | SHEET 1 OF 11

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
47	SITE SERVICES BLDG											
7.32	ELECTRICAL SUMMARY											
30	PWR GEAR SHT. 2						79 000	396				
	3						22 000	112				
	4						3 000	41				
	PWR DIST AC SHT. 5						54 800	420				
	6						69 200	1367				
	7						149 000	2984				
	8						13 000	190				
1	LTG / COMM SHT. 9						311 000	16321				
	GR / FIRE ALARM SHT. 10						37 [illegible]	1960				
	LIGHTNING PROT SHT. 11						5 000	194				
	SUB TOTAL						743 600	23985				
	PROD 96%	23985	MH	÷	.96			24980				
	LABOR RATE	24980	MH			29.14			727 900			
								24980				
	L.A. BASIN						[illegible] 600		727 900			

CES-2000-0 (4/81)

5-895

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY FRED G | PRICED BY | DATE 10-24-84 | SHEET 2 OF 11

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION SITE SERVICE BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
7.32	ELECTRICAL 5.5.6.47.7.32											
1	600A 5KV PRIM SW OIL FILLED PAD MOUNTED FUSED	1	LS				7000	35				
	1000KVA TX 4.16KV-480V/277V 3 Ø 4 WIRE PAD MOUNTED.	1	LS				17000	74				
	PAD FOR PRIM SW & TX	1	LS				800	30				
	480V SWITCHGEAR INDOOR 5~800AF CKT BKR 1~1600AF ~ ~ 1~1600AF CKT BKR MAIN 1~800AF ~ ~ ~ 1~INTERLOCK W/ AUTO TRANSF.	1	LS				44200	144				
	480V SHOPS AREA MCC 1-4-4~ 12~SIZE-1- COMB MAG STR ~-~-2-~~~ 2-~-3-~~~ 1-~-4-~~~ 13~100AF CKT BKR	1	LS				10000	113				
	TOTAL THIS SHT.						79000	396				

CES-2000-0 (4/81)

5-296

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY FRED G | PRICED BY | DATE 10-24-84 | SHEET 3 OF 11

JOB NO.: 6490-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION SITE SERVICE BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL 5.5.6.47.7.32											
	480V LIGHTING LOAD CENTER PNL BOARD 1-4-1 8~100AF CKT BKT	1	LS				2000	24				
	480V OFFICE LOAD CENTER PNL BOARD 1-4-3 8~100AF CKT BKR 1~225AF CKT BKR 1~600AF " " 3~SIZE-1- COM MAG STR	1	LS				15000	47				
	480V UPS PNL BOARD 4~100AF CKT BKR	1	LS				1000	12				
	480V CARPENTRY SHOP LOAD CENTER PNL BOARD 1-4-2 8~100AF CKT BKR 1~225AF " " 1~600AF " " 1~600AF " " MAIN	1	LS				4000	29				
							22000	112				
	TOTAL THIS SHT.											

CES-2000-0 (4/81)

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY FRED G | PRICED BY | DATE 10-24-84 | SHEET 4 OF 11

JOB NO.: 6490-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION SITE SERVICE BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	ELECTRICAL 6.5.6.47.7.32											
	480V PAINT SHOP LOAD CENTER											
	PNL BOARD 1-4-2A	1	LO				3000	41				
	4-SIZE-1- COMB MAG STR											
	5-100 AF CKT BKR											
	1-15 KVA T/F 480-208/120V 3Ø4W											
							3000	41				
	TOTAL THIS SMT.											

CES-2000-0 (4/81)

PARSONS

WARM WET SITE ESTIMATE WORKSHEET

M.T.O. BY FRED G | PRICED BY | DATE 10-24-84 | SHEET 5 OF 11

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

ACCNT	UNIT/AREA / DESCRIPTION / CAPACITY	QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	ELECTRICAL 5.5.6.47.7.32											
	9KVA TR 480V-208/120V 3Ø 4W	3	E	550	9.00		1650	27				
	15KVA TR 480V 208/120V 3Ø 4W	6	E	750	12.00		4500	72				
	LTG PNL 480V 208/120V	8	E	800	16.50		6400	132				
	TR & PNL MTG	17	E	15.00	6.00		260	102				
	UPS SYSTEM 15KVA 480V 3Ø INPUT&OUTPUT	1	E	27000			27000	30				
	BATTERIES LEAD ACID	1	E	15000			15000	20				
	480V MTR CONNECTIONS											
	10 HP &	11	E	1.60	2.00		20	22				
	20 & 25 HP	2	E	3.15	2.15		10	4				
	40 HP	2	E	4.45	2.60		10	5				
	60 HP	1	E	7.45	3.05		10	3				
	DRY 70# PLANT AIR CONNECTIONS (1.5KW)	1	E	7.45	3.05		10	3				
	TOTAL THIS SHT.						54870	420				

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY FREDG | PRICED BY | DATE 10-24-84 | SHEET 6 OF 11

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION SITE SERVICE BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL 5.5.6.47.7.32											
	400 AMP PLUGIN BUS DUCT (140'L)	1	E	12000	210		12000	210				
	MTG	1	LS	700	30		700	30				
	(MARKUP ROOM)											
	400 AMP PLUGIN BUS DUCT (120'L)	2	E	10000	180		20000	360				
	MTG	1	LS	1200	50		1200	50				
	MILLWRIGHT, PIPEFITTING, SHEET METAL & WELDING ROOM											
	400AMP PLUGIN BUS DUCT (96'L)	1	E	8200	144		8200	144				
	MTG	1	LS	500	20		500	20				
	MACHINE ROOM											
	400AMP PLUGIN BUS DUCT (62'L)	1	E	5300	93		5300	93				
	MTG	1	LS	300	15		300	15				
	CARPENTRY SHOP											
	LTG PNL 480/277V 3Ø 4W	9	E	800	16.5		7200	149				
	MTG MATL	9	E	15.00	6.00		140	54				
	BUS DUCT FTG (10% of ALL BUS DUCT)	1	LS				13650	242				
	TOTAL THIS SHT.						69190	1367				

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY FRED G | PRICED BY | DATE 10-24-84 | SHEET 7 OF 11

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION SITE SERVICE BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL 5.5.6.47.7.32											
	480V MTR CONDUIT RUNS (150' RUN)											
	10 HP	11	E	444	45.2		4880	497				
	20 & 25 HP	2	E	577	52.3		1150	105				
	40 HP	2	E	763	62.5		1530	125				
	60 HP	1	E	1037	72.0		1040	72				
	BUS DUCT MTG	1	LS	—			37500	150				
	" " FTG (3% OF BUS DUCT)	1	LS	—			19130	338				
	480V PLUGIN BUS DUCT CONDUIT RUN (400 AMP) (150' RUN)	5	E	1275	225		6375	1125				
	ACCU BOY AIR COOLED CONDENSING UNIT 150' RUN	3	E	1037	72.2		3110	217				
	LTG PNLS CONDUIT RUN 150'	9	E	1500	30.0		13500	270				
	DRY 704 PLANT AIR CONDUIT RUN 150'	1	E	444	45.2		440	45				
	PWR FEEDER FROM 480V SWITCHGEAR S/S 1-4 TO SHOP AREA MCC 1-4-4	1	LS	—			—	—		w/ U.G. UTILITIES		
	PWR FEEDER FROM 480V SWITCHGEAR S/S 1-4 TO LTG LOAD CENTER PNL BOARD 1-4-1	1	LS	—			3000	40				
	TOTAL THIS SHT.						149030	2984				

CES-2000-0 (4/81)

PARSONS

Warm Wet Site — ESTIMATE WORKSHEET

M.T.O. BY FREDG | PRICED BY | DATE 10-24-84 | SHEET 8 OF 11

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | (W) CHECKED BY

UNIT/AREA

DESCRIPTION SITE SERVICE BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL 5.5.6.47.7.32											
	PWR FEEDER FROM 480V SWITCHGEAR S/S 1-4 TO OFFICES LOAD CENTER PNLBOARD 1-4-3	1	LS	—			5000	70				
	PWR FEEDER FROM 480V SWITCHGEAR S/S 1-4 TO CARPENTERY SHOP 1-4-2	1	LS	—			4000	60				
	PWR FEEDER FROM 480V CARPENTRY SHOP LOAD CENTER PNLBOARD 1-4-2 TO PAINT SHOP LOAD CENTER PNLBOARD 1-4-2A	1	LS	—			4000	60				
							13000	190				

CES-2000-0 (4/81)

5-302

PARSONS

WARM W/GT SITE

ESTIMATE WORKSHEET

M.T.O. BY FIELD G | PRICED BY [illegible] | DATE 10-25-84 | SHEET 9 OF 11

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM. | CHECKED BY [illegible]

UNIT/AREA

DESCRIPTION SITE SERVICE BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL 5.5.6.47.7.32											
	LIGHTING & RECEP ~											
	69,408 □'											
	69408 □' X $10.0/□' = $694,080											
	USE 40% MATL & 60% LABOR											
	MATL $694080 X .40 = $277632											
	LABOR $694080 X .60 = $416448											
	$416448 ÷ 28.58/MH = 14571/MH											
	USE						277630	14571				
	COMM 69408 □'											
	69408 □' X $1.20/□' = $83290											
	USE 40% MATL & 60% LABOR											
	MATL $83290 X .40 = $33316											
	LABOR $83290 X .60 = $49974											
	$49974 ÷ $28.58/MH = 1749											
	USE						33320	1750				
	TOTAL THIS SHT.						310960	16321				

CES-2000-0 (4/81)

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY FRED G | PRICED BY | DATE 10-25-84 | SHEET 10 OF 11

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION SITE SERVICE BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL 5.5.6.47.7.32											
	GROUNDING											
	69408 □'											
	69408 □ X 0.25/□' = #17352											
	USE 40% MATL & 60% LABOR											
	MATL #17352 X .40 = #6940											
	LABOR 17352 X .60 = 10411											
	#10411 ÷ #28.58/MH = 364											
	USE						6950	360				
	FIRE ALARM											
	69408 □'											
	69408 □' X #1.10/□' = #76348											
	USE 40% MATL & 60% LABOR											
	MATL #76348 X .40 = #30539											
	LABOR 76348 X .60 = 45808											
	#45808 ÷ #28.58/MH = 1603											
	USE						30500	1600				
	TOTAL THIS SHT.						37450	1960				

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY E FONG | PRICED BY E FONG | DATE 11/4/84 | SHEET 11 OF 11

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA SITE SERVICE BUILDING

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.32											
	LIGHTNING PROTECTION											
	AIR TERMINALS, COPPER 1/2"	100	EA	11.00	1.0		1100	100				
	CABLE, COPPER 347#/MLF	2100	LF	1.65	.036		3470	76				
	USE 10% OF ABOVE FOR FITTINGS, SUPPORTS ETC	1	LS				460	18				
	TOTAL THIS SHT.						5030	194				

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY C. HUCK | PRICED BY C.H./AQ | DATE NOV. 1984 | SHEET 1 OF 1

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE BUDGETARY | CHECKED BY

UNIT/AREA SITE SVCS. BLDG.

DESCRIPTION INSTR. & CONTROL EQUIPT.

CAPACITY 5.5.6.47

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
7.33	INSTRUMENTATION											
	DEC GENERAL PURPOSE COMPUTER TERMINAL, CONSISTING OF: 1 EA. VT 220-B VIDEO TERMINAL W/ KEYBOARD 1 EA. LA100-BA KSR PRINTER 2 EA DF02-AA MODEM	1	LOT	4390	10		4390	10				
	RADIATION MONITORING SYSTEM CONTROL TERMINAL, REDUNDANT. EBERLINE MODEL CT-2B. INTERFACES BETWEEN THE DATA ACQUISITION MODULES & THE D.C.S. COMPUTER.	1	EA	15955	80		15 560	30				
	FLOOR MONITOR α, β, γ, EBERLINE MODEL FM-4G	1	EA	5000	8		5000	8				
	RADIATION SURVEY EMERGENCY KIT CONSISTING OF THE FOLLOWING EBERLINE COMPONENT MODEL NOS: ESP-1, AC3-7, HP-260, HP-270, HP-290, CCAL2 CARRYING CASE.	1	LOT	1800	8		1800	8				
	RS-232C INTERFACE, CONTROL TERMINAL TO DCS, SERIAL. EBERLINE RGIF-1	1	EA	8850	10		8850	10				
	CONTROL TERMINAL TO CRT INTERFACE, RS232C, SERIAL, EBERLINE	1	EA	815	2		800	2				
	SUB-TOTAL						36 420	68				
	FREIGHT						1 090					
	PROD. 68 | 96%	70	MH			25.72			1800			
	L.A. BASIN TOTAL						37 500	70	1800			39 300

CES-2000-0 (4/81)

5-306

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE JULY 12, 1984 | SHEET 1 OF 12

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5,5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
41	SITE SERVICE BLDG											
7.35.22	TRANSPORTATION VEHICLES											
	SUMMARY TOTAL						2 988 100				—	2 988 100
	L.A. BASIN											

CES-2000-0 (4/81)

5-207

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 2 OF

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA TRANSPORTATION VEHICLES

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.35.22											
	PATROL VEHICLES	5	EA	11K			55 000					55 000
	BLAZER, BRONCO OR EQUAL.											
	4X4 WHEEL DRIVE											
	POWER STEERING											
	SIREN											
	EMERGENCY FLASHING LIGHTS											
	SPOTLITE UNIT											
	POWER BRAKES											
	TWO WAY RADIO											
	"V" SIX ENGINE											
	AUTOMATIC TRANSMISSION											
	PATROL VEHICLE VAN STYLE	2	EA	13.2K			26 400					26 400
	4X4 WHEEL DRIVE											
	AUTOMATIC TRANSMISSION											
	"V" 6 ENGINE											
	SIREN											
	POWER BRAKES											
	TWO WAY RADIO											
	EMERGENCY LIGHTS											
	SPOTLITE											

CES-2000-0 (4/81)

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 3 OF

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA TRANSPORTATION VEHICLES

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.35.22											
	TRACTOR-BACKHOE UNIT	1		42.5K			42 500					42 500
	POWER STEERING											
	ENCLOSED CAB											
	POWER OUTRIGGER UNITS											
	48 INCH FRONT MOUNTER											
	BUCKET UNIT, HYDRAULIC											
	CONTROLLED.											
	HEAVY DUTY HYDRAULIC											
	TRENCH DIGGING BUCKET											
	ARM UNIT											
	DIGGING DEPTH 6FT.											
	SWING RADIUS 135 DEGREES											
	ARM REACH FROM ℄ MAST											
	SWING 9 FOOT.											
	HYDRAULIC OPERATING											
	PRESSURE 1800 PSI.											
	NO 13 TRENCH DIGGING BUCKET											
	ATTACHMENT											
	FRONT END LOADER UNIT	1		102K			1 102 000					102 000
	JOHN DEERE OR EQUAL											
	6 CYLINDER 466 IN DIESEL ENGINE											
	4 SPEED POWER TRANSMISSION											
	4 WHEEL POWER BRAKES											
	LOADER, HYDRAULIC SYSTEM											
	POWER STEERING											
	2 YD HYD. CONTROLLED BUCKET											
	BACKUP ALARM											
	OPERATING LIGHTS											

CES-2000-0 (4/81)

PARSONS

HANFORD WET SITE — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 4 OF ____

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE R.O.M. | CHECKED BY

UNIT/AREA TRANSPORTATION VEHICLES

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.47.7.35,22											
	PASSENGER VEHICLES MID-COMPACT STYLE POWER STEERING 4 DOOR STYLE POWER BRAKES AUTOMATIC TRANSMISSION 6 CYLINDER ENGINE	6	EA	7.2K			43 200					43 200
	INDUSTRIAL TRUCK - 8000 lb Cap. ELECTRIC, 48 VOLT, 24 CELL BATTERY FORK ATTACHMENTS 6 INS. X 48 INS. POWER STEERING MAX. LIFT 98 INCHES POWER DISC-BRAKES TWO INDEPENDENT HYDRAULIC SYSTEMS BATTERY CHARGING UNIT.	3	EA	52.2K			156 600					156 600
	INDUSTRIAL TRUCK, 10,000 lb. CAP ELECTRIC, 48 VOLT, 24 CELL BATTERY FORK ATTACHMENTS 6 INS X 48 INS. POWER STEERING MAX. LIFT 183 INCHES POWER DISC-BRAKES TWO INDEPENDENT HYDRAULIC SYSTEMS. BATTERY CHARGING UNIT	3	EA	63.4K			190 200					190 200

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/19/84 | SHEET 5 OF

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE R.O.M. | CHECKED BY (M)

UNIT/AREA TRANSPORTATION VEHICLES

ACCNT	DESCRIPTION / CAPACITY	QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.35,22											
	RAILCAR MOVER TRACTOR UNIT "SHUTTLE WAGON" RAIL CAR MOVER ON TRACK-OFF TRACK UNIT DIESEL ENGINE - 210 HP @ 2800 RPM TORQUE 500 FT @ 1400 RPM TRANSMISSION 3.1 RATIO 4 SPEED FORWARD AND REVERSE ROAD & RAIL SPEEDS - 4TH GEAR 22 MPH., 1ST. GEAR MAX 3 MPH. DRAW BAR PULL CAPACITY 33,000 lbs HYDROSTATIC POWER STEERING BRAKES; 4 WHEELS, AIR OVER HYDRAULIC DISC-BRAKES HYDRAULIC SYSTEM - 3 POSITION PRESSURE SELECTION CONSTANT FLOW PRESSURE. LIGHTS, FUEL TANK, AIR SYSTEM AND COMPRESSOR.	2	EA	300K			600 000					600 000
	TOW TRUCK UNIT, 2 TON CAP HYDRAULIC HOISTING ARM CRANE WITH SLING ATTACHMENTS TOW BAR AND WENCH CABLES EMERGENCY LIGHTS SIDE MOUNT TOOL AND PARTS STORAGE CABINETS. PORTABLE AIR COMPRESSOR GAS DRIVEN. 4 WHEEL DRIVE POWER STEERING AUTOMATIC TRANSMISSION	1		35.2K			35 200					35 200

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 6 OF ____

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM. | CHECKED BY

UNIT/AREA TRANSPORTATION VEHICLES

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.35.22											
	TRUCK, 2 TON WITH AERIAL PLATFORM UNIT. 2 TON TRUCK WITH FLATBED POWER BRAKES POWER STEERING AUTOMATIC TRANSMISSION HEAVY DUTY SUSPENSION AERIAL LIFT 40 FT UNIT WITH WORKING PLATFORM TELESCOPING PLATFORM CONTROL FROM GROUND AND RAISED PLATFORM. UNIT TO ROTATE 360 DEGREES AT 2.5 MPH. PLATFORM CAPACITY 1000 lbs. PLATFORM EQUIPPED WITH INTERLOCK SAFETY SYSTEM AND WARNING ALARM.	1		30.9K			30 900					30 900
	TRUCK, 3/4 TON CAPACITY 3/4 TON-HEAVY DUTY SUSPENSION 6 CYLINDER ENGINE POWER STEERING AUTOMATIC TRANSMISSION SIDE MOUNT STORAGE COMPARTMENT UNITS. POWER DISC-BRAKES	6	EA	13.6K			81 600					81 600

CES-2000-0 (4/81)

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/14/82 SHEET 1 OF

JOB NO. 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA TRANSPORTATION VEHICLES

DESCRIPTION

CAPACITY

ACCNT 5.5.6.47.7.35.22

	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	TRUCK, 3/4 TON PLANT SERVICE 3/4 TON HEAVY DUTY SUSPENSION CHASSIS. 6 CYLINDER ENGINE POWER STEERING AUTOMATIC TRANSMISSION SIDE MOUNT STORAGE COMPARTMENT UNITS TRUCK TO BE EQUIPPED WITH PORTABLE GAS DRIVEN ELECTRIC WELDER 300 AMP. PORTABLE OXYGEN AND ACETYLENE WELDING TANKS AND ACCESSORIES.	1		18.2K			18 200					18 200
	TRUCK, 2 TON FLATBED 2 TON HEAVY DUTY SUSPENSION CHASSIS 6 CYLINDER ENGINE POWER STEERING AUTOMATIC TRANSMISSION 10 FT WIDE BY 12 FT LONG FLATBED PLATFORM TRUCK TO BE EQUIPPED WITH HYDRAULIC POWERED TAILGATE ELEVATOR PLATFORM UNIT.	1		15.5K			15 500					15 500

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 8 OF

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA TRANSPORTATION VEHICLES

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.35.22											
	CRAWLER, BULLDOZER UNIT.	1		275K			275 000					275 000
	D9 CATERPILLAR OR EQUAL											
	SPECIFICATIONS:											
	MODEL D9											
	ANGULAR TYPE SCRAPER BLADE											
	AND REAR MOUNT RIPPER											
	UNIT.											
	BACK UP ALARM											
	ENCLOSED CAB UNIT											
	RUNNING LIGHTS											
	DIESEL ENGINE											
	ALL REQUIRED HYDRAULIC											
	CONTROLS.											
	CRANE, CARRYDECK STYLE	1		75K			75 000					75 000
	SPECIFICATIONS TO INCLUDE:											
	THREE SECTION BOOM											
	EXTENDING TO 20 FT.											
	HOOK BLOCK & 7½ TON SINGLE											
	SHEAVE.											
	OPERATOR CAB UNIT											
	RUNNING LIGHTS											
	BACKUP ALARM											
	POWER STEERING											
	HYDRAULIC POWERED											
	OUTRIGGERS											
	4 WHEEL HYD. BRAKES											
	BOOM SWING 360 DEGREES											
	DIESEL ENGINE.											

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 9 OF

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM. | CHECKED BY

UNIT/AREA TRANSPORTATION VEHICLES

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.35 .22											
	CRANE, TRUCK MOUNTED	1		700K			700,000					700,000
	CARRIER UNIT: 200 T CAPACITY											
	TRUCK UNIT											
	TRANSMISSION SPEED											
	5.83, 3.19, 1.75, 1.00, .86 TO 1											
	CLUTCH LINING AREA 416 SQ INS.											
	AIR BRAKES - 4 WHEELS											
	ELECTRIC SYSTEM 12 VOLT,											
	24 AMPS.											
	HYDRAULIC POWER STEERING											
	SLIDING BEAM OUTRIGGERS											
	REAR AXLES DUAL TANDEM											
	FRONT AXLE - SINGLE TANDEM											
	UPPERWORKS SPECIFICATION.											
	POWER TRANSMISSION: ENGINE											
	MOUNTED THREE-STAGE											
	TORQUE CONVERTER DRIVES											
	ON ALL MACHINERY COMPONENTS											
	SPEED AND POWER GOVERNED											
	BY ENGINE RPM.											
	SWING CLUTCH											
	ROTATING BED											
	INDEPENDENT BOOM HOIST											
	BOOM STOPS.											
	BOOM LENGHT 50 FT.											

CES-2000-0 (4/81)

PARSONS

WARM WET. SITE — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 | SHEET 10 OF 1

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA TRANSPORTATION VEHICLES

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.35 .22											
	CRANE, CRAWLER MOUNTED	1		350K			350 000					350 000
	CARRIER SPECIFICATION:											
	HYDRAULIC TRAVEL SYSTEM											
	(A) PUMP SUPPLY RATED FLOW - 80 GPM AT 2000 RPM.											
	(B) HYDRAULIC CONTROL VALVE ONE EACH CRAWLER											
	(C) ONE HYDRAULIC MOTOR FOR EACH CRAWLER											
	CRAWLER POWERED BY DIESEL											
	HIGH SPEED .81 MPH, LOW SPEED .42 MPH.											
	CRAWLER LENGTH OVER 20 FT.											
	THREAD WIDTH 36 INCHES											
	BACKUP ALARM											
	100 TON CAPACITY											
	UPPERWORKS SPECIFICATIONS:											
	POWER TRANSMISSION: ENGINE MOUNTED THREE STAGE TORQUE CONVERTER DRIVES ALL											
	MACHINERY COMPONENTS											
	SPEED AND POWER OUTPUT GOVERNED BY ENGINE RPM.											
	SWING CLUTCH UNIT											
	ROTATING BED STEEL WELDMENT											
	INDEPENDENT BOOM HOIST											
	BOOM STOP - AUTOMATIC TYPE											
	TELESCOPIC BOOM STOP											
	BOOM LENGHT 50 FOOT.											

CES-2000-0 (4/81)

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER PRICED BY DATE 11/4/81 SHEET 11 OF

JOB NO. 6440-70 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA TRANSPORTATION VEHICLES

DESCRIPTION

CAPACITY

ACCNT 5.5.6.47.7.35.22

	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	TRUCK, FIELD SERVICE, 4TON.	1		40.8K			40 800					40 800
	4TON HEAVY DUTY TRUCK CHASSIS											
	4 WHEEL DRIVE											
	POWER BRAKES											
	AUTOMATIC TRANSMISSION											
	POWER STEERING											
	REAR CHASSIS SIDE MOUNT											
	STORAGE AND PARTS COMPARTMENTS											
	UNITS.											
	250 GAL FUEL STORAGE TANK											
	WITH PUMP AND HOSE ASSEMBLY											
	LUBE AND OIL STORAGE SUPPLY											
	TANKS 50 GAL CAPACITY WITH											
	HOSE AND SERVICE NOZZLES											
	PRESSURE AIR SUPPLY TANK											
	WITH SUPPLY HOSE											
	EMERGENCY LIGHTS											
	MECHANIC TOOLS FOR TIRE AND											
	ENGINE REPAIR CAPABILITIES											

CES-2000-0 (4/81)

PARSONS

WARM WKT. SITE — ESTIMATE WORKSHEET

M.T.O. BY D. SCHLOSSER | PRICED BY | DATE 11/14/84 RAM | SHEET 12 OF 12

JOB NO. 6440-70 | CLIENT: DOE/PNL | TYPE OF ESTIMATE | CHECKED BY

UNIT/AREA \ TRANSPORTATION VEHICLES

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.35.22											
	DUMPSTER TRUCK, GARBAGE HEAVY DUTY TRUCK CHASSIS AUTOMATIC TRANSMISSION POWER STEERING DUMPSTER CAN LIFTING HOIST AND DUMPER ATTACTMENTS TRUCK 8 TON CAPACITY "V" 8 ENGINE POWERED	1		150K			150,000					150,000

CES-2000-0 (4/81)

5-210

PARSONS

WARM WET. SITE — ESTIMATE WORKSHEET

M.T.O. BY C. HUCK / AQ | PRICED BY CH / AQ | DATE NOV. 1987 | SHEET 1 OF 2

JOB NO.: 6940-10 | CLIENT: PNL-DOE | TYPE OF ESTIMATE BUDGETARY | CHECKED BY

UNIT/AREA SITE SERVICES BLDG.

DESCRIPTION INSTRUMENTATION

CAPACITY REDUNDANT DISTR. BURIED CONT. SYST.

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.47.7.35.23											
	FROM SHT. 2	1	LOT				521 200	4020				
	FREIGHT, 3%	1	LOT				15 600			—		
	PRODUCTIVITY = 96%							4190				
	LABOR COST	4190	MH			25.72			107800			
	TOTAL	1	LOT				$ 536 800	4190	107800			644 600
	L.A. BASIN											

CES-2000-0 (4/81)

REV 1 1/7/85

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY C. HUCK | PRICED BY C.H./AQ | DATE 10-2-84 | SHEET 2 OF 2

JOB NO.: 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE BUDGETARY | CHECKED BY

UNIT/AREA SITE SERVICES BLDG.

DESCRIPTION INST'N & CONTROL EQUIPT.

CAPACITY

ACCNT 5.5.6.47.7.35.23

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
5.5.6.47.7.35.23	DISTRIBUTED CONTROL SYSTEM, REDUNDANT, OR EQUAL, CONSISTING OF THE FOLLOWING:	1	LOT	506,200	3900		506,200	3900				
	2 EA. PROCESS INFORMATION CTRS.											
	1 EA. CONFIGURATION KEYBOARD											
	1 EA. HISTORICAL DATA STORAGE HARD DISK, 40 MBYTE.											
	1 EA. CONSOLE CONTAINING 4 OPERATOR TERMINALS & CRTS											
	1 EA. CHARACTER PRINTER											
	1 EA. COLOR VIDEO PRINTER COPIER											
	NOTE: THIS SYSTEM SHALL BE REDUNDANT WITH IDENTICAL UNITS LOCATED IN THE R&H BLDG.											
5.5.6.47.7.35.23	PROCESS CCTV SYSTEM, REDUNDANT MONITORS AND CONTROLS MOUNTED WITH THE REDUNDANT DCS CONSOLE.											
	COHU MODEL 9617E/YC YOKE-MOUNTED, 17" TV MONITORS WITH ASSOCIATED VIDEO SWITCHING CONTROLS	3	EA	5,000	40		15,000	120				
	NOTE: THE FOLLOWING CABLES WILL BE REQUIRED TO CONNECT THE REDUNDANT CCTV SYSTEM TO THE PRIMARY SYSTEM IN THE R&H BLDG:											
						S/T	521,200	4020				
5.5.6.47.7.35.23	BELDEN #9259, RG59 CABLE W/ COPPER CORE & FOAM DIELECTRIC	TBD	FT									
" "	BELDEN #8762, 20 AWG SHIELDED TWISTED PAIR CABLE (2 CABLES REQ'D PER MONITOR FROM R&H GALLERY TO SITE SERVICES CONT. ROOM)	TBD	FT		W/ELECT. ACCT.							

CES-2000-0 (4/81)

CARRY

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: GA40-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA: MRS Support Facilities
DESCRIPTION: Warehouse
CAPACITY: Area #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	Warehouse											
	2A Estimate - Direct Cost						1057600			25450		
	Less 2A Prod. Factor									(1018)		
	2A Direct Total	39750	SF				1057600			24432		
	Escalation 2084 to 2085 = 0.042						44400					
	Total Direct Cost (2085)						1102000			24432		

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY V. MESEC | PRICED BY | DATE 12/17/80 | SHEET ____ OF ____

JOB NO.: 6440 | CLIENT: DOE/PNL | TYPE OF ESTIMATE RONT | CHECKED BY

UNIT/AREA

DESCRIPTION WAREHOUSE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.48											
4	SITE WORK											
	CONCRETE						$ 96 500	3510	$ 91 000			$ 187 500
	MASONARY											
	METALS						529 700	4480	115 200			644 900
	WOOD & PLASTICS											
	THERMAL MOIST.						112 500	2040	52 500			165 000
	DOORS & WINDOWS						10 500	150	3 900			14 400
	FINISHES						5 700	640	16 500			22 200
	SPECIALTIES						4 800	60	1 500			6 300
	EQUIPMENT						16 800	80	2 100			18 900
	FURNISHINGS						2 000	20	500			2 500
	SPECIAL CONSTRUCTION											
	CONVEYING SYSTEMS											
	MECHANICAL						50 300	3190	93 900			144 200
	ELECTRICAL						224 300	11240	327 500			551 800
	INSTRUMENTATION						4 500	10	300			4 800
	CATHODIC PROTECTION											
	OTHER											
	SUB TOTAL						$ 1 057 600	25450	$ 704 900			$ 1762 500
	CONTRACTORS OH&P	37%					391 300	—	260 800			652 100
	SUB TOTAL						1448 900	25450	965 700			2414 600
	CONTINGENCY	20%					289 800	5090	193 100			482 900
	TOTAL 5.5.6.48						1738 700	30540	1158 800			$ 2897 500

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY 4P | PRICED BY 4P / RUF | DATE JUN '84 / 10-24-84 | SHEET 2 OF

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
48	WAREHOUSE											
7.19.5	CONCRETE WORK											
	COLUMN FOOTING	100	CY	84	3.51		8 400	351				
	COLUMN PEDESTAL	15	/	187	10.5		2 810	158				
	GRADE BEAM	100	/	84.	3.51		8 400	351				
	SLAB ON GRADE	770	/	93	3.0		71 610	2310				
	WALLS - DOCK & RAMP	40	/	131	5.66		5 240	226				
	REBAR	38	TON	—	—		(INCLUDED IN UNIT PRICE)					
								3396				
	S/T W/ PROD 3396 ÷ 96%					25.7±	96 500	3540	91 000			187 500
7.21	METALS											
	STRUCTURAL STEEL FRM'G	290	TON	1500	12		435 000	3480				
	METAL DECK (ROOF)	39250	SF	2.25	.02		88 310	785				
	PIPE RAIL'G	200	LF	32	.16		6 400	32				
								4297				
	S/T W/ PROD. 4297 ÷ 96%					25.7±	529 700	4480	115 200			644 900
	L.A. BASIN											

CES-2000-0 (4/81)

PARSONS

Warm Met Site

ESTIMATE WORKSHEET

M.T.O. BY 4P | PRICED BY 4P / RUF | DATE JUN '84 / 10-24-84 | SHEET 3 OF ____

JOB NO. G440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRB FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
48	WAREHOUSE											
7.23	THERMAL / MOISTURE PROTECTION											
	METAL SIDINGS, INSULATED INCLUD'G INNER LINER	20 300	SF	4.45	.085		90 340	1726				
	METAL PANEL FACIA	200	′	2.85	.07		570	14				
	MISC. SHT. METAL / WD. BLK / ETC	ALLOW					20 000	200				
	METAL LOUVERS - 3' X 4' - 6 EA	70	SF	22	.29		1 540	20				
								1960				
	S/T W/ PROD. 1960 ÷ 96%					25.71	112 500	2040	62 500			165 000
7.24.7	DOORS & WINDOWS											
	H.M. DOOR, FLUSH, 16 GA W/ FRM & HARDWARE SINGLE	9	EA	400	4		3 600	36				
	OVERHEAD SECTIONAL DOOR, MANUAL INSULATED - 10' X 12'	2	′	1100	16		2 200	32				
	- 12' X 12'	2	′	1300	20		2 600	40				
	- 12 X 16'	1	′	1700	26		1 700	26				
	WINDOWS - ALUM SASH, FIXED GLASS	50	SF	8.50	.17		430	9				
								143				
	S/T W/ PROD. 143 ÷ 96%					25.71	10 500	150	3 900			14 400
	L.A. BASIN											

CES-2000-0 (4/81)

5-324

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY	4P	PRICED BY	4P / RUF	DATE	JUN '84 / 10-24-84	SHEET 4 OF
JOB NO.	6440-10	CLIENT:	DOE	TYPE OF ESTIMATE	ROM	CHECKED BY
UNIT/AREA	M R S FACILITY					
DESCRIPTION						
CAPACITY	5.5.6 SUPPORT FACILITIES					

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
48	WARE HOUSE											
7.25.10	FINISHES											
	GYPSUM WALL BD - 5/8" TK (2 FACE) ON 3 5/8" MTL STUDS, 20 GA	1300	SF	1.23	.08		1600	104				
	GYPSUM WALL BD - DITTO - (1 FACE)	800	SF	.79	.05		630	40				
	BYP BD CEILING 5/8" H_2O PROOF INCL. RIGID FRM	1200	/	.65	.055		780	66				
	CERAMIC TILE - FLOOR	200	/	3.25	.09		650	18				
	- WALL	400	/	1.40	.08		560	32				
	VINYL ASB. TILE - FLOOR	800	/	.90	.01		720	8				
	- BASE	140	LF	.46	.03		60	4				
	PAINTING - GYP. BD WALL & CEILING	4600	SF	.08	.025		370	115				
	- STR'L STL FRM'G	11400	/	.02	.01		230	114				
	- SECTIONAL OVHD DOOR	1500	/	.04	.015		60	23				
	- H.M. DOOR SINGLE	9	EA	5.-	1.2		50	11				
	- PIPE RAILING	200	LF	.08	.40		20	80				
								615				
	S/T W/ PROD. 615 ÷ 96%					25.7	5700	640	16500			22200
	L.A. BASIN											

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY 4P | PRICED BY 4P / RUF | DATE JUN '84 / 10-24-84 | SHEET 5 OF ____

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA M R S FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
48	WAREHOUSE											
7.26	SPECIALTIES											
	TOILET PARTITION	2	EA	595	4		1190	8				
	TOILET ACCESSORIES	1	LS	900	10		900	10				
	WOVEN WIRE - PARTITION 10'	40	LF	22	.23		880	9				
	- CEILING (22 X 16)	352	SF	2.15	.027		760	10				
	- SWING DOOR	3	EA	210	4		630	12				
	SIGNAGE ALLOW	1	LS	400	4		400	4				
								53				
	S/T W/ PROD. 53 ÷ 96%					25.1%	4800	60	1600			6300
7.27.13	EQUIPMENT											
	LOADING DOCK FACILITIES											
	DOCK LEVELER, HYDRAULIC 10 TON	4	EA	3800	13		15200	52				
	RUBBER BUMPERS 12" HIGH, 6" TK 36" LONG	16	EA	55	.45		880	7				
	WHEEL GUARD, C.I. 3' HIGH	6	EA	120	2		720	12				
								71				
	S/T W/ PROD. 71 ÷ 96%					25.1%	16800	80	2100			18900
	L.A. BASIN											

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET 10-31-84

M.T.O. BY 4P | PRICED BY 4P / AZUL | DATE JUN '84 | SHEET 6 OF ____

JOB NO. 6440-1 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MR9 FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
48	WAREHOUSE											
7.28	FURNISHING											
	BLINDS	50	SF	8.1	.02		400	1				
	RECEIVING / WAITING FURNITURES	ALLOW					1 600	16				
							2 000	17				
	S/T W/ PROD. 17 ÷ 96%	20	MH			25.72		20	500			2 500
7.31.16	PLUMBING											
	FIXTURES / RO INS - WATER CLOSET	3	EA	330	13		990	39				
	- URINAL	1	"	467	20		470	20				
	- LAVATORY	2	"	320	16		640	32				
	PIPES & FITTINGS	1	LS				2 000	300				
	FLR DRAIN	6	EA	260	2		1 560	12				
	CLEAN OUT	2	"	110	2		220	4				
							5 900	407				
	S/T W/ PROD. 407 ÷ 96%	420	MH			25.72		420	10 800	(C/F PAGE 8)		(16 700)
7.31.19	FIRE PROTECTION											
	AUTOMATIC SPRINKLER SYSTEM	38750	SF	1.08	.0585		41 850	2267				
	FIRE EXTINGISHER, CAB MTD	10	EA	250	4		2 500	40				
							44 400	2307				
	S/T W/ PROD. 2307 ÷ 96%	2400	MH			25.72		2400	61 700	(C/F PAGE 8)		(106 100)
	L.A. BASIN											

CES-2000-0 (4/81)

10

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BCA | PRICED BY BCA | DATE 7/2/84 | SHEET 7 OF ____

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.0 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
48	WAREHOUSE											
7.31.18	HVAC											
	ACCU 3 TONS	1	EA	2280					2280			
	AHU 1 HP	1	EA	1730					1730			
	ELECT DUCT HTR, 7.5 kw	1	EA	360					360			
	THERMOSTAT	1	/	50					50			
	UNIT HEATER c/w FAN & MTG BRKTS, 480 V, 5 kw	10	EA	380					3800			
	THERMOSTAT	10	/	50					500			
	EXH. FAN ROOF, 8000 CFM	3	EA	1176					3630			
	THERMOSTAT	3	-	65					200			
	MOTORIZED DAMPER 36x42	6	EA	635					3810			
	INTAKE SCREEN W/ FILTER	6	/	176					1060			
	THERMOSTAT	6	/	65					390			
	TOILET EXHAUST FAN 1/6 HP	1	EA	200					200			
	DUCT	1	LS	960					960			
	MANUAL VOL. DAMPER (DUCT)	2	EA	100					200			
	DIFFUSER 18x12	3	EA	100					300			
	RAR 18x18	2	EA	81					60			
	EXH. GRILL	2	EA	31					60			
	T.C.F.							→	19490			

CES-2000-0 (4/81)

PARSONS

WARM WETE SITE — ESTIMATE WORKSHEET

M.T.O. BY BGA | PRICED BY BGA | DATE 7/2/84 | SHEET 8 OF 8

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA WAREHOUSE

DESCRIPTION MRS FACILITY

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	HVAC T.B.F.	—							19 490			
	SUPPLY GRILLE, 36×36	1	EA	100					100			
	REF. PIPING	1	LS	700					700			
	CONTROL WIRE	1	LS	500					500			
	TEST & BALANCE	1	LS	600					600			
7.31.18	S/T H V A C	SHT. 8						370	(21 400)			21 400
7.31.16	/ PLUMBING	SHT 6					5 300	420	10 800			16 700
7.31.19	/ FIRE PROTECT	SHT 6					44 400	2400	61 700			106 100
	TOTAL MECH'L						50 300	3190	93 300			144 200
	L.A. BASIN											

CES-2000-0 (4/81)

WARM WET. SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY FRED G | PRICED BY | DATE 10-26-84 | SHEET 1 OF 7

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE BOM | CHECKED BY

UNIT/AREA MR9 FACILITY

DESCRIPTION

CAPACITY 5,5,6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
48	WARE HOUSE											
7.32	ELECTRICAL SUMMARY											
	PWR GEAR SHT. 2						22 300	194				
	PWR DIST MG SHT. 3 & 4						2 100	90				
							16 300	907				
	LTG / COMM SHT. 5						173 300	9090				
	GR / FIRE ALARM SHT. 6						7 900	390				
	LIGHTNING PROT SHT. 7						2 900	113				
	SUBTOTAL						224 300	10788				
	PROD 96%	10788	MH	÷	.96			11240				
	LABOR RATE	11240	MH			29.19			327 600			
	L.A. BASIN											
							224 300	11240	327 600			551 900

CES-2000-0 (4/81)

5-330

PARSONS

ESTIMATE WORKSHEET

WARM WET SITE

M.T.O. BY FRED G | PRICED BY | DATE 10-25-84 | SHEET 2 OF 7

JOB NO.: 6940-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION WAREHOUSE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECT'L 5.5.6.48.7.32											
	600A 200 AMP 5KV PRIM SW FUSED PAD MTD	1	E				7000	45				
	112½ 75 KVA TX 4.16KV 480/277V 3 Ø 4 W PAD MTD	1	E				10000	58				
	PAD FOR PRIM SW & TX	1	LS				800	30				
	480V LOAD CENTER PNLBOARD 1-5-1 15 ~ 100AF CKT BKR 4 ~ SIZE-1- COMB MAG STR 1 ~ 225AF CKT BKR MAIN	1	LS				4500	65				
	TOTAL THIS SHT.						22300	198				

CES-2000-0 (4/81)

5-331

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY FRED G PRICED BY DATE 10-25-84 SHEET 3 OF 7

JOB NO.: 6440-10 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA

DESCRIPTION WAREHOUSE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	ELECT'L 5.5.6.48.7.32											
	15 KVA TX 480-208/120V 3 Ø 4 W	1	E	750	12.00		750	12				
	MTG TX	1	LS	15.00	6.00		20	6				
	LTG PNLS 480V 208/120V	1	E	450	8.00		450	8				
	LTG PNLS 480V	1	E	800	16.50		800	17				
	MTG LTG PNLS	2	E	15.00	6.00		30	12				
	480V MTR CONNECTIONS 10 HP &	4	E	1.50	2.00		10	8				
	UNIT HEATERS (6.25 KVA)	10	E	2.60	2.15		30	22				
	EHC 805 CONNECTIONS 10 KVA CONNEC	1	E	3.00	2.40		—	2				
	ACCU 804 AIR COOLED UNIT 4.6 KVA CONNECTIONS	1	E	5.80	2.80		10	3				
	TOTAL THIS SHT.						2100	90				

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY: FRED G | PRICED BY: | DATE: 10-25-84 | SHEET 4 OF 7

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE: ROM | CHECKED BY:

UNIT/AREA:

DESCRIPTION: WAREHOUSE

CAPACITY:

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	ELECT'L 5.5.6.48.7.32											
	480V MTR CONDUIT RUNS (150') 10 HP &	4	E	444	45.2		1780	181				
	480V UNIT HEATER 6KW EA CONDUIT RUN 150'	10	E	444	45.2		4440	452				
	480V EHC 805 CONDUIT RUN 150'	1	E	1037	72.2		1040	72				
	480V LTG PNL CONDUIT RUN 150'	2	E	1500	30.00		3000	60				
	480V ACCU 804 AIR COOLED UNIT CONDUIT RUN 150'	1	E	1037	72.2		1040	72				
	4.16KV FEEDER FROM SITE SERVICES BLDG TO 5KV 200A PRIM SW AT WAREHOUSE	1	LS	—			—	—	w/ U.G. UTILITIES			
	FEEDER FROM 5KV PRIM SW TO 75KVA TX	1	LS	—			2000	30				
	FEEDER FROM 75KVA TX TO 480V LOAD CENTER PNL BOARD 1-5-1	1	LS	—			3000	40				
	TOTAL THIS SHT.						16300	907				

CES-2000-0 (4/81)

5-333

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY FREDG PRICED BY DATE 10-25-84 SHEET 5 OF 7

JOB NO.: 6440-10 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM. CHECKED BY

UNIT/AREA

DESCRIPTION WAREHOUSE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL 5.5.6.48.7.32											
	LIGHTING & RECEPT											
	150' x 275' = 41250 □'											
	41250 □' @ $ x 10.00/□' = $ 412500											
	USE 40% MATL & 60% LABOR											
	MATL 412500 x .40 = 165000.											
	LABOR 412500 x .60 = 247500.											
	$ 247500 ÷ $ 28.58/MH = 8659											
	USE	1	LS				165000	8660				
	COMM 41250 □'											
	41250 □' x 0.50 = $ 20625											
	USE 40% MATL & 60% LABOR											
	MATL 20625 x .40 = 8250											
	LABOR 20625 x .60 = 12375											
	$ 12375 ÷ $ 28.58/MH 433 MH											
	USE	1	LS				8300	430				
	TOTAL THIS SHT.						173300	9090				

CES-2000-0 (4/81)

5-334

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY FRED G | PRICED BY | DATE 10-25-84 | SHEET 6 OF 7
JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY
UNIT/AREA
DESCRIPTION WAIREHOUSE
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL 5.5.6.48.7.32											
	GROUNDING ~											
	41250 □'											
	$41250 □' × $0.20/□' = $8250											
	USE 40% MATL & 60% LABOR											
	MATL $8250 × .40 = $3300											
	LABOR $8250 × .60 = $4950											
	$4950 ÷ $28.58/MH = 173 MH											
	USE	1	LS				$3300	170				
	FIRE ALARM ~ 41250 □'											
	$41250 □' × $0.25/□' = $10313											
	USE 40% MAT $ 60% LABOR											
	MATL $10313 × .40 = $4125											
	LABOR 10313 × .60 = 6189											
	$6189 ÷ $28.58/MH = 216											
	USE	1	LS				$4130	220				
	TOTAL THIS SHT.						$7430	390				

CES-2000-0 (4/81)

PARSONS

WARM WGT SITE — ESTIMATE WORKSHEET

M.T.O. BY E FONG | PRICED BY E FONG | DATE 11/14/84 | SHEET 7 OF 7

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA WAREHOUSE
DESCRIPTION
CAPACITY

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	COST OR M/HRS PER UNIT M/H	COST OR M/HRS PER UNIT LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
5.5.6.48.7132												
	LIGHTNING PROTECTION											
	AIR TERMINALS, COPPER ½"	60	EA	11.00	1.00		660	60				
	CABLE, COPPER 347#/MLF	1200	LF	1.65	.036		1980	43				
	USE 10% OF ABOVE FOR SUPPORTS FITTING ETC.	1	LS				260	10				
	TOTAL THIS SHT.						2900	113				

CES-2000-0 (4/81)

5-386

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY C. HUCK | PRICED BY CH / AQ | DATE NOV. 1994 | SHEET 1 OF 1

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE BUDGETARY | CHECKED BY

UNIT/AREA WAREHOUSE

DESCRIPTION INSTR. & CONTROL EQUIPT.

CAPACITY 5.5.6.48

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
7.33	INSTRUMENTATION											
	DEC GENERAL PURPOSE COMPUTER TERMINAL, CONSISTING OF: 1EA. VT220-B VIDEO TERMINAL W/ KEYBOARD 1EA. LA100-BA KSR PRINTER 2EA. DF02-AA MODEM	1	LOT	4390	10		4390	10				
	SUB-TOTAL	1	LOT				4390	10				
	FREIGHT @ 3%	1	LOT				110					
	PRODUCTIVITY @ 96%	1	LOT					10				
	LABOR COST	10	MH			25.74			300			
	TOTAL	1	LOT				$ 4500	10	$ 300			$ 4800
	L.A. BASIN.											

CES-2000-0 (4/81)

5-387

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING. PRICED BY V MESSOC/[illegible] DATE AUG 85 SHEET ____ OF ____

JOB NO.: 6440-1 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY AREA 5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	CONC CASK MFG FACILITY.											
	PART OF OPERATIONS.											
	SHEETS. S-338 THRU S-380 NOT USED											

CEB-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ESTIMATING/ENGRG. PRICED BY RUF DATE AUG-85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY RS

UNIT/AREA MRS SUPPORT FACILITIES

DESCRIPTION BAL OF PLANT

CAPACITY AREA #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	SUPPORT FACILITIES											
	HELIPORT	1	EA.									
	TOTAL DIRECT COST - (2Q85)						20600			355		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA: MRS Support Facilities
DESCRIPTION: Stand-by Generator Bldg.
CAPACITY: Area #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	Stand-By Generator Bldg.											
	2A Estimate - Direct Cost						1940300			29300		
	Less Electrical - Old Est						(1 35 000)			(6150)		
	Less CA Prod. Factor									(686)		
	Less Roof - Old Est						(20 440)			(315)		
	2A - Total Direct						548860			20389		
	Add - New Roof	4525	SF	1.53	0.03		6920			140		
	Add - Electrical - New Est						1890600			7613		
	Add - Equip. Foundations - New Est						5500			360		
	Total Direct						2471880			29002		
	Escalation (2084 to 2085) = 0.042 (575,760 x 0.042)						24180					
	Total Direct Cost (2085)						2496060			29002		
	Add oil Storage Tank						11500			50		
	Add Compressors						16000			100		
	Total Direct Cost (2085)	*11250	SF				2523560			29152		
	* Revised Bldg. Area (20 Est.)					use	2523600					

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY V. MESEC | PRICED BY | DATE 12/17/84 | SHEET ____ OF ____

JOB NO.: 6440 | CLIENT: DOE/PNL | TYPE OF ESTIMATE RON | CHECKED BY

UNIT/AREA

DESCRIPTION STAND-BY GENERATOR

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50											
.6	SITE WORK											
	CONCRETE						$ 360 000	14690	$ 377 800			$ 737 900
	MASONARY						1 300	160	4 100			5 400
	METALS						27 900	820	21 100			49 000
	WOOD & PLASTICS											
	THERMAL MOIST.						68 400	1050	27 000			95 400
	DOORS & WINDOWS						5 200	60	1 500			6 700
	FINISHES						15 400	1610	41 400			56 800
	SPECIALTIES											
	EQUIPMENT											
	FURNISHINGS											
	SPECIAL CONSTRUCTION											
	CONVEYING SYSTEMS											
	MECHANICAL						103 900	3750	96 500			200 400
	ELECTRICAL						1 351 000	6150	179 200			1 530 200
	INSTRUMENTATION						7 200	10	300			7 500
	CATHODIC PROTECTION											
	OTHER											
	SUB TOTAL						$ 1 640 300	28300	$ 740 900			$ 2 609 200
	CONTRACTORS O/H & P 31%						717 900	—	277 100			995 000
	SUBTOTAL						2 658 200	28300	1 026 000			3 684 200
	CONTINGENCY 20%						531 600	5660	205 200			736 800
	TOTAL 5.5.6.50						3 189 800	33960	1 231 200			4 421 000

CSS-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY 4P | PRICED BY 4P | DATE 10-22-84 | SHEET ___ OF ___

JOB NO. 6440-10 | CLIENT: | TYPE OF ESTIMATE PRELIM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5,5,6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
50.	STAND-BY GENERATOR BLDG											
7.19.5	CONCRETE WORK 4000 PSI											
	FOOTINGS - CONCRETE	249	CY	60	.40		14 940	100				
	- REBAR	12000	LBS	.275	.007		3 300	84				
	- FORMS	2960	SF	.50	.08		1 480	237				
	- ACCESSORIES	750	LBS	.60	.18		450	135				
	- EXCAVATION	2180	CY	-	.05		-	109				
	- BACKFILL	1940	/	-	.09		-	175				
	- HAUL SURPLUS	240	/	-	.14		-	34				
	- CONCRETE WASTE	13	/	60	—		780	—				
	SUB TOTAL	249	CY	84	3.51		20 950	874				
	COLUMNS - CONCRETE	42	CY	60	1.51		2 520	63				
	- REBAR	15600	LBS	.275	.007		4 290	109				
	- FORMS	1680	SF	.50	.145		840	244				
	- CONCRETE FINISH	1680	SF	.04	.015		70	25				
	- CONCRETE WASTE	2	CY	60	—		120	—				
	SUB-TOTAL	42	CY	187	10.5		7 840	441				
	WALLS - CONCRETE	1542	CY	60	.71		92 520	1095				
	- REBAR	140	TON	550	14		77 000	1960				
	- FORMS	52 500	SF	.50	.093		26 250	4883				
	- CONC. FINISH	52 500	/	.04	.015		2 100	788				
	- CONC. WASTE	77	CY	60	—		4 620	—				
	SUB-TOTAL	1542	CY	131	5.66		202 490	8726				
	L.A. BASIN PAGE TOTAL	1833	CY				231 280	10 041				

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY 4P | PRICED BY 4P | DATE 10-22-84 | SHEET ___ OF ___
JOB NO. G440-1 | CLIENT: | TYPE OF ESTIMATE PRELIM | CHECKED BY
UNIT/AREA MRS FACILITY
DESCRIPTION
CAPACITY 5,5,6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
50	STAND-BY GENERATOR BLDG											
	CF	1833	CY				231 280	10041				
7.19.5	CONCRETE WORK (CONT'D) 4000 PSI											
	GRADE SLAB - CONCRETE	244	CY	60.	.53		14 640	129				
	- REBAR	19500	LB	.275	.007		5 360	137				
	- FORMS	1500	SF	.50	.096		750	144				
	- VAPOR BARRIER	13200	SF	.03	.003		400	40				
	- EXCAVATION	290	CY	-	.05		-	15				
	- SURPLUS	250	/	-	.14		-	35				
	- SELECT BACKFILL	170	/	4.30	.10		730	17				
	- FINE GRADE	13200	SF	-	.001		-	13				
	- CONC. FINISH	13200	/	.01	.015		130	198				
	- CONC. WASTE	12	CY	60	-		720	-				
	SUB TOTAL	244	CY	93.	3.0		22 730	728				
	SUSPENDED SLAB											
	- CONCRETE	884	CY	60.	.67		53 040	592				
	- REBAR	76	TON	550	14		41 800	1064				
	- FORMS	16800	SF	.50	.088		8 400	1478				
	- CONC. FINISH	13200	SF	.01	.015		130	198				
	- CONC. WASTE	44	CY	60.	-		2 640	-				
	SUB TOTAL	884	CY	120	3.77		106 010	3332				
		2961	CY					14101				
	TOTAL, CONC. WORK W/ PROD. 96%	14101	MH			25.72	360 000	14090	377 800			737 800
	L.A. BASIN											

CES-2000-0 (4/81)

PARSONS

Warm Wet Site — ESTIMATE WORKSHEET

M.T.O. BY	4P	PRICED BY	4P	DATE	10-22-84	SHEET ___ OF ___
JOB NO.	6440-10	CLIENT:		TYPE OF ESTIMATE	PRELIM	CHECKED BY
UNIT/AREA	M R S FACILITY					
DESCRIPTION						
CAPACITY	5.5.6 SUPPORT FACILITIES					

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
50	STAND BY GENERATOR BLDG.											
7.21	METALS (GALV.)											
	GRATING 1" GALV	1430	SF	4.05	.06		5 790	86				
	STAIRS INCL. STRINGER + HANDRAIL 28 TREADS (1.54T)	28	TRD	100	.71		2 800	20				
	LANDING (.64T)	64	SF	5.-	.20		320	13				
	LADDERS W/O CAGE (.57T)	82	LF	25	.25		2 050	21				
	RAILING (.75T)	124	LF	82	.16		3 970	20				
	METAL LINER, BAKED ENAMEL FINISH, 20 GA.	6220	SF	2.00	.05		12 440	311				
	METAL FURRING 1½", 18 GA @ 4'0" O.C.	6220	/	.08	.05		500	311				
	TOTAL, METALS W/ PROD. 96%	782	MH			25.7	27 900	782 820	21 100			49 000
7.20	MASONRY											
	CONC. BLOCKS, 8" CELLS FILLED REINF.	1000	SF	1.30	.15		1 300	150				
	TOTAL, MASORY W/ PROD. 96%	150	MH			25.7		160	4 100			5 400
	L.A. BASIN											

CES-2000-0 (4/81)

PARSONS

Warm Wet Site — ESTIMATE WORKSHEET

M.T.O. BY	4P	PRICED BY	4P	DATE	10-22-84	SHEET ___ OF ___
JOB NO.	6440-10	CLIENT:		TYPE OF ESTIMATE	PRELIM	CHECKED BY
UNIT/AREA	MRB FACILITY					
DESCRIPTION						
CAPACITY	5.5.6 SUPPORT FACILITIES					

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
50	STAND BY GENERATOR BLDG.											
7.23	THERMAL / MOISTURE PROTECTION											
	ROOFING, EPDM SINGLE PLY BALLASTED, 55 MIL	13400	SF	.80	.015		10 720	201				
	INSULATION - RIGID ON ROOF 2" TK	13400	SF	.50	.01		6 700	134				
	- BATT ON WALL W/ VAPOR BARRIER FACE	6200	SF	.40	.005		2 480	31				
	ROOF DRAIN & SCUPPER	9	EA	60.-	1.0		540	9				
	LOUVERS W/ SCREEN, METAL	2180	SF	22.-	.29		47 960	632				
	TOTAL, THERMAL / MOISTURE PROTECTION W/ PROD. 96%	1007	MH			25.7±	68 400	1007 1050	27 000			95 400
	L.A. BASIN											

CES-2000-0 (4/81)

5-387

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY 4P | PRICED BY 4P | DATE 10-22-84 | SHEET ___ OF ___

JOB NO. G440-10 | CLIENT: | TYPE OF ESTIMATE PRELIM | CHECKED BY

UNIT/AREA MRG FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
50	STAND BY GENERATOR BLDG.											
7.24.7	DOORS and WINDOWS											
	H.M. DOOR + PRESSED METAL FRAME + HARDWARE 3°-7"	13	EA	400	4.0		5 200	52				
	TOTAL, D & W W/ PROD. 96%	52	MH			25.72	5 200	60	1 500			6 700
7.25.10	FINISHES											
	PAINTING - DOORS + FRM 3°-7"	13	EA	5.-	1.2		70	16				
	- CONC. WALLS	48000	SF	.25	.025		12 000	1200				
	- CONC. CEILING	13400	/	.25	.025		3 350	335				
								1551				
	TOTAL, FINISHES W/ PROD. 96%	1551	MH			25.72	15 400	1610	41 400			56 800
	L.A. BASIN											

CES-2000-0 (4/81)

58 - STAND BY GEN. BLDG

7..81 - MECH'L

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY ENG. PRICED BY BGA DATE 10-31-84 SHEET ____ OF ____

JOB NO. 0440-10 CLIENT: DOE TYPE OF ESTIMATE CHECKED BY

UNIT/AREA M R G FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
50	STAND BY GENERATOR BLDG.											
7.31	MECH'L SYSTEMS SUMMARY											
.16	PIPING						27 400	1300				
.18	H V A C						75 500	2280				
.19	FIRE PROTECTION						1 000	20				
	SUB TOTAL						103 900	3600				
	PROD. 3600 ÷ 96%	3750	MH			25.Tz			96 500			
	TOTAL MECH'L						103 900	3750	96 500			200 400
	L.A. BASIN											

CES-2000-0 (4/81)

5-388

PARSONS

Warm Wet Site

ESTIMATE WORKSHEET

M.T.O. BY J. MILLER | PRICED BY BGA | DATE 10/84 | SHEET ___ OF ___

JOB NO.: 6440-10 | CLIENT: PNL | TYPE OF ESTIMATE | CHECKED BY

UNIT/AREA

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
.50	STANDBY GENERATOR											
7.31.17	PIPING											
	OILY SEWER	SHT	1	OF	15		730			58		
	PLANT AIR FROM:											
	COMP. TO AFTERCOOLER	✓	2	-	15		1150			26		
	AFTERCOOLER TO END OF SYSTEM	✓	4	-	15		3340			190		
	STARTING AIR SYSTEM	✓	6	-	15		3760			119		
	FUEL OIL FROM:											
	UG TO TRANSFER PUMP	✓	7	✓	15		470			80		
	DAY TANK TO DIESEL GEN.	✓	8	✓	15		300			36		
	RET. DIESEL GEN. TO U.G	✓	9	✓	15		1050			125		
	PROCESS SEWER	✓	11	✓	15		1930			102		
	PROCESS WATER	✓	13	✓	15		2050			113		
	INTRUMENT AIR	✓	14	✓	15		1820			94		
	DIESEL EXHAUST	✓	15	✓	15		10820			359		
	S/T					25%	27400			1302		
	ROUND-OFF ADJ						(20)			(2)		
	TOTAL PIPING						27400			1300		

CES-2000-0 (4/81)

REQUIRED

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY J. MILLER | PRICED BY | DATE 10/1/84 | SHEET ___ OF ___

JOB NO.: 6440 | CLIENT: PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STANDBY GENERATOR

DESCRIPTION OILY SEWER

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.56.7.31.17 PIPING											
	PIPE											
	2"ϕ - ERW C.S., ASTM A120 X-STG T&C ENDS	80	LF	4.65	.35		370			28		
	1/2"ϕ - "	12	LF	1.20	.25		10			3		
	FITTINGS											
	1/2"ϕ ELBOWS 300# M.I. SCR'D ASTM A 197	9	EA	7.50	.5		60			5		
	2"x2"x1/2" TEES "	3	EA	34.25	1.0		100			3		
	2"ϕ PLUG "	1	EA	8.33	1.0		10			1		
	1/2"ϕ UNION "	3	EA	8.-	.5		20			2		
	2"ϕ CPLG "	2	EA	15.60	1.0		30			2		
	VALVES											
T 7-126	1/2" GATE VALVE 200# WOG. SCRD, BRONZE BODY & TRIM, RISING STEM, UNION BONNET, DOUBLE DISC, MAN. STD. PACKING (STOCKROOM)	3	EA	33.60	.8		100			2		
	MISC											
	SUPPORTS U-BOLTS W DOUBLE NUT FOR 2"ϕ PIPE	4	EA	3.40	.25		10			1		
	" FOR 1/2"ϕ PIPE	3	EA	1.65	.25		—			1		
	HYDRO - TEST	1	LS	—	—		10			6		
	AIR LEAK TEST	1	LS	—	—		10			4		

CES-2000-0 (4/81)

S/T

730-

58

5-391

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY J. MILLER | PRICED BY | DATE 10/1/84 | SHEET 2 OF 18

JOB NO.: 6440 | CLIENT: PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STAND BY GENERATOR

DESCRIPTION PLANT AIR FROM COMP TO

CAPACITY AFTER COOLER

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.31.1.7. PIPING											
	PIPE											
	3/4" ERW C.S. ASTM A53 GR. B X-STG. T&C ENDS	15	LF	15⁰⁰	.25		20			4		
	FITTINGS											
	3/4" ϕ 3000# C.S. ASTM A105 SCR'D. ELBOWS	8	EA	9⁹⁵	.5		80			4		
	3/4" ϕ TEES "	7	EA	14⁷⁵	.5		100			4		
R 1-79	3/4" ϕ FLEXIBLE HOSE W/UNION END CONN'S. 1'0" LONG	2	EA	70⁰⁰	.5		140			1		
	VALVES											
T 1-149	3/4" ϕ GATE VALVES, 800# SCR'D OS&Y, BOLTED BONNET C.S. BODY, 12 CHROME TRIM, CONVENTIONAL PORT, JC 187-I PACKING	6	EA	100⁰⁰	1.0		600			6		
	3/4" ϕ PISTON CHECK VALVE 800# SCR'D, BOLTED CAP C.S. BODY, 12 CHROME TRIM	2	EA	77	1.0		150			2		
	MISC											
	SUPPORTS											
	U-BOLTS W/DOUBLE NUT FOR 3/4" PIPE	2	EA	1⁷⁰	.25		—			1		
	AIR FLUSH	1	LS	—	—		50			2		
	AIR TEST	1	LS	—	—		10			2		
	S/T						1150			26		5392

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY J. MILLER | PRICED BY | DATE 10/1/84 | SHEET 3 OF 13

JOB NO.: 6440 | CLIENT: PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STANDBY GENERATOR
DESCRIPTION PLANT AIR FROM AFTER
CAPACITY COOLER TO END OF SYSTEM

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.31.17 PIPING											
	PIPE											
	3/4" ϕ ERW C.S. GALV. ASTM A120 X-STG. T & C ENDS	328	LF	150	.25		490			82		
	FITTINGS											
	3/4" ϕ ELBOWS 300# SCR'D M.I. ASTM 197	31	EA	8-	.5		250			16		
	3/4" ϕ TEES "	25	EA	1026	.5		260			13		
	3/4" ϕ UNIONS "	7	EA	9-	.5		60			4		
	3/4" ϕ CPL'GS "	4	EA	530	.5		20			2		
	3/4" ϕ PLUGS "	4	EA	350	.5		10			2		
	3/4" ϕ FLEXIBLE HOSE W/UNION END CONN'S. 1'-0" LG.	2	EA	70-	.5		140			1		
	VALVES											
T 7-126	1 ϕ GATE VALVES 200# WOG, SCR'D, BRONZE BODY & TRIM, RISING STEM, UNION BONNET, DOUBLE DISC, MANU. STD. PACKING	1	EA	5610	1.2		60			1		
	3/4" "	37	EA	4120	1.0		1520			37		
							2810			158		

CES-2000-0 (4/81)

V-393

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY J. MILLER PRICED BY DATE 10-1-84 SHEET 4 OF 13

JOB NO.: C440 CLIENT: PNL TYPE OF ESTIMATE ROM (IV) CHECKED BY

UNIT/AREA STAND BY GENERATOR

DESCRIPTION PLANT AIR FROM AFTER

CAPACITY COOLER TO END OF SYSTEM

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.31.17 PIPING											
	MISC											
T 10-5-84	3/4"ϕ Y-TYPE STRAINERS 250# C.I. BODY, SCR'D ASTM A-278, 316 S.S. TRIM 304 S.S. SCREEN + E.O. Vol. 6 =20	2	EA	42.	1.0		80			2		
	3/4"ϕ TRAP - 250# C.I. BODY ASTM A-278, S.S. TRIM	2	EA	70	1.5		140			3		
	SUPPORTS											
	U-BOLTS W/DOUBLE NUTS FOR 3/4" ϕ PIPE	30	EA	1.70	.25		50			8		
	" 1" ϕ PIPE	2	EA	1.75	.25		—			1		
	AIR FLUSH	1	EA				250			6		
	AIR TEST	1	EA				10			12		
	S/T THIS SHT 4/15						530			32		
	S/T " SHT 3/15						2810			158		
	S/T PLANT AIR, AFTER COOLER TO END						3340			190		

CES-2000-0 (4/81)

V-394

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY J. MILLER PRICED BY DATE 10-1-84 SHEET 5 OF 18

JOB NO.: 6440 CLIENT: PNL TYPE OF ESTIMATE BOM CHECKED BY

UNIT/AREA STANDBY GENERATOR

DESCRIPTION STARTING AIR SYSTEM

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.31.17 PIPING											
	FITTINGS											
	1"ϕ ELBOWS, 3000# C.S SCR'D ASTM 105	28	EA.	15-	.6		420			17		
	1" TEES "	7	EA	20[15]	.6		140			4		
	1" PLUG "	4	EA	4[50]	.6		20			2		
	1" UNIONS "	4	EA	27[35]	.6		110			2		
	1" CPLG "	2	EA	5[00]	.6		10			1		
	1"x1"x3/4" RED. TEES "	4	EA	25[20]	.6		100			2		
	1"x 3/4" CONC. SWAGE "	2	EA	9.-	.6		20			1		
	1"ϕ FLEXIBLE HOSE W/UNION END CONNECTIONS 1'-0" LONG	2	EA.	80-	1.2		160			2		
	PIPE											
	1"ϕ ERW C.S. ASTM A53 GR. B X-STG. T&C ENDS	200	LF	2[04]	.25		410			50		
	VALVES											
	1"ϕ GATE VALVES - 800# SCR'D. ENDS OS&Y, BOLTED BONNET C.S. BODY, 12 CHROME TRIM CONVENTIONAL PORT, JC187-1 PACKING	6	EA	178-	1.2		1070			7		
	3/4" "	6	EA	100-	1.0		600			6		
	-/T						3060			94		

CES-2000-0 (4/81)

S-395

WARM WET SITE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY J. MILLER PRICED BY DATE 10/1/84 SHEET 6 OF 13
JOB NO.: 6440 CLIENT: PNL TYPE OF ESTIMATE ROM CHECKED BY M

UNIT/AREA STANDBY GENERATOR
DESCRIPTION STARTING AIR SYSTEM
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.31.17 PIPING											
	1"ϕ CHECK VALVES 800# SCR'D. C.S. BODY, PISTON CHECK BOLTED CAP, 12 CHROME TRIM	5	EA	90.	1.2		450			6		
	MISC. SUPPORTS											
	U-BOLTS W/DOUBLE NUT FOR 1"ϕ PIPE	20	EA	175	.25		40			5		
	AIR FLUSH	1	EA				200			4.		
	AIR TEST	1	EA				10			10		
	S/T THIS SHT 6/10						700			25		
	S/T v 5/10						3060			94		
	S/T STARTING AIR						3760			119		

CES-2000-0 (4/81)

5-396

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY J. MILLER | PRICED BY | DATE 10/11/84 | SHEET 7 OF 13

JOB NO.: 6440 | CLIENT: PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STANDBY GENERATOR

DESCRIPTION FUEL OIL SUPPLY FROM

CAPACITY UG TO FUEL TRANSFER PUMP

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.2.31.17 PIPING											
	PIPE											
	1/2"ϕ - SMLS. C.S ASTM A53 GR.B X-STG. P.E.	140	LF	1.20	.25		170			35		
	FITTINGS											
	1/2"ϕ - ELBOWS 3000# C.S. S.W. ENDS, ASTM A105 X-STG BORE	18	EA	7.85	1.10		140			20		
	1/2"ϕ - UNIONS "	6	EA	17.70	1.10		110			7		
	MISC.											
	SUPPORTS ?	1	LS	–	–		30			4		
	HYDRO-TEST	1	EA				10			8		
	AIR LEAK TEST	1	EA				16			6		
	1/2"ϕ SOCKET WELDS	30	EA	(INCL. IN PIPE & FTGS)			–			–		
	S/T						470			80		

CES-2000-0 (4/81)

5-387

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY J. MILLER PRICED BY DATE 10/1/84 SHEET 8 OF 15

JOB NO.: 6440 CLIENT: PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA STANDBY GENERATOR

DESCRIPTION FUEL OIL FROM DAY TANK

CAPACITY TO DIESEL GEN.

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS
				MATL	M/H	LAB $				M/HRS	DOLLARS		M/HRS	DOLLARS		
	5.5.C.50.7.31.7 . PIPING															
	PIPE															
	1/2"ϕ . SMLS. C.S ASTM A53 GR.B X.STG RE.	60	LF	1.28	.25				70				15 .			
	FITTING															
	1/2"ϕ ELBOWS 3000# C.S. S.W. ENDS	12	EA.	7.85	.5				90				6			
	1/2"ϕ UNION "	6	EA	17.70	.5				110				3			
	MISC.															
	SUPPORTS ?															
	U-BOLTS W/DOUBLE NUT FOR 1/2"ϕ PIPE	6	EA	1.65	.25				10				2			
	1/2"ϕ WELDS	30	EA	INCL. IN PIPES & FTGS					—				—			
	HYDRO-TEST	1	EA						10				6			
	AIR LEAK TEST	1	EA						10				4			
	S/T								300				36			

CES-2000-0 (4/81)

5-398

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY J. MILLER | PRICED BY | DATE 10/1/84 | SHEET 9 OF 13

JOB NO.: 6440 | CLIENT: PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STANDBY GENERATOR

DESCRIPTION FUEL OIL RETURN FROM

CAPACITY DIESEL TO U.G.

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.31.7 PIPING											
	PIPE											
	1½"ϕ - SMLS. C.S. ASTM A53 GR. B X-STG P.E.	20	LF	3.34	.30		70			6		
	1"ϕ "	170	LF	2.04	.25		350			43		
	FITTING											
	1½"ϕ ELBOWS 3000# C.S. SW. ENDS	1	EA	21.30	2.0		20			2		
	1"ϕ ELBOWS "	19	EA	11.15	1.4		210			27		
	1"ϕ UNIONS "	6	EA	34.50	1.4		210			8		
	1½"x 1" TEE "	1	EA	42	1.4		40			2		
	1"ϕ TEES "	4	EA	14.50	2.0		60			8		
	1"ϕ CPLGS "	4	EA	5.65	1.4		20			6		
	1½"x1" SWAGE "	2	EA	15.65	2.0		30			4		
	MISC											
	SUPPORTS ?											
	U-BOLTS W/DOUBLE NUT FOR 1"ϕ PIPE	10	EA	1.75	.25		20			3		
	1"ϕ WELDS	48	EA	(INCL	IN	PIPE	+ FTGS)	—		—		
	HYDRO-TEST	1	EA				10			10		
	AIR LEAK TEST	1	EA				10			6		
	S/T						1050			125		

CES-2000-0 (4/81)

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY J. MILLER | PRICED BY | DATE 10/1/84 | SHEET 10 OF 15

JOB NO.: 6440 | CLIENT: PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STAND BY GENERATOR

DESCRIPTION PROCESS SEWER

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.2.31.17 PIPING											
	PIPE											
	2"ϕ ERW C.S. ASTM A120 X-STG T&C ENDS	95	LF	4.63	.35		440			33		
	1ϕ "	30	LF	2.04	.25		60			8		
	FITTINGS											
	2"ϕ ELBOWS - 300# M.I. SCR'D ASTM A197	6	EA	24.	1.0		140			6		
	2"ϕ TEES "	9	EA	29.90	1.0		270			9		
	2"ϕ PLUG "	1	EA	8.35	1.0		10			1		
	2"x1" SWAGE "	3	EA	28.	1.0		80			3		
	2"ϕ CPL'G "	2	EA	15.55	1.0		30			2		
	2ϕ UNIONS "	3	EA	24.33	1.0		70			3		
7-4-57	1"ϕ UNIONS "	3	EA	11.75	.6		40			2		
	1"ϕ ELBOWS "	9	EA	10.26	.6		90			5		
	1"ϕ 45° ELBOWS "	3	EA	10.63	.6		30			2		
	VALVES											
	2" GATE VALVE - 200# WOG SCR'D BRONZE BODY AND TRIM, RISING STEM UNION BONNET, DOUBLE DISC MAN. STD. PACKING	3	EA	145.92	2.4		440			7		
	1" " →	3	EA	56.10	1.2	S/T	170			4		
							1870			85		

CES-2000-0 (4/81)

5-400

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY: J. MILLER | PRICED BY: | DATE: 10/1/84 | SHEET 11 OF 13

JOB NO.: 6440 | CLIENT: PNL | TYPE OF ESTIMATE: R.O.M. | CHECKED BY:

UNIT/AREA: STANDBY GENERATOR

DESCRIPTION: PROCESS SEWER

CAPACITY:

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	5.56.50.7.31.17											
	MISC											
	SUPPORTS ?											
	U-BOLTS W/DOUBLE NUT FOR 2"ϕ PIPE	9	EA	3.40	.25		30			2		
	" FOR 1"ϕ PIPE	3	EA	1.75	.25		10			1		
	HYDRO-TEST	1	EA				10			8		
	AIR LEAK TEST	1	EA				10			6		
	S/T THIS SHT 11/15						60			17		
	S/T ✓ 10/15						1870			85		
	S/T PROCESS SEWER						1930			102		

CES-2000-0 (4/81)

5-401

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY J. MILLER | PRICED BY | DATE 10/1/84 | SHEET 12 OF 15

JOB NO.: 6440 | CLIENT: PNL | TYPE OF ESTIMATE R.O.M. | CHECKED BY

UNIT/AREA STANDBY GENERATOR

DESCRIPTION PROCESS WATER SYSTEM

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.31.7 PIPING											
	PIPE											
	2"ϕ ERW C.S. GALV. ASTM A120 X-STG. T&C ENDS	100	LF	4.60	.35		460			35		
	1½"ϕ "	66	LF	3.34	.30		220			20		
	FITTINGS											
	2"ϕ CPLGS - 300# GALV. M.I. SCR'D. ASTM A197	3	EA	15.55	1.0		50			3.		
	2"x2"x1½" TEES "	3	EA	34.25	1.0		100.			3.		
	2" ϕ 90° ELBOWS	6	EA	24.	1.0		140.			6.		
	1½"ϕ 90° ELBOWS "	6	EA	17.30	.9		100.			5.		
TU-5	1½" ϕ UNIONS "	3	EA	19.65	.9		60.			3.		
	VALVES											
	1½" GATE VALVE, 200# WOG SCR'D, BRONZE BODY AND TRIM, RISING STEM, UNION BONNET, DOUBLE DISC, MAN. STD. PACKING.	3	EA	87.50	2.4		260.			7.		
	FLANGES											
	2" FLANGES - 150# ANSI F.F. SCR'D. C.S.	4	EA	20.10	.9		80			4		
							1470			86		

CES-2000-0 (4/81)

5-402

PARSONS

ESTIMATE WORKSHEET

WARM WET SITE

M.T.O. BY J. MILLER PRICED BY DATE 10/1/84 SHEET 13 OF 18

JOB NO.: 6440 CLIENT: PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA STANDBY GENERATOR

DESCRIPTION PROCESS WATER SYSTEM

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.31.17 PIPING											
	MISC											
	2" BACK FLOW PREVENTER 125# ANSI F.F. FLG'D. BRONZE BODY, S.S. TRIM.	1	EA	500	3.6		500			4		
	SUPPORTS											
	U-BOLTS W/ DOUBLE NUT FOR 2"ϕ PIPE	6	EA	175	.26		10			2		
	" FOR 1½"ϕ PIPE	8	EA	3.30	.25		30			2		
	HYDRO. TEST	1	EA				10			8		
	AIR LEAK TEST	1	EA				10			6		
	BOLTS & NUTS	16	EA	—	—		—			—		
	2" GASKETS	4	EA	5.60	1.2		20			5		
	S/T THIS SHT 13/15						580			27		
	S/T - 13/15						1470			86		
	S/T PROCESS WATER						2050			113		

CES-2000-0 (4/81)

5-403

WARM WET SITE

PARSONS
ESTIMATE WORKSHEET

M.T.O. BY J. MILLER | PRICED BY J. MILLER | DATE 10-1-84 | SHEET 14 OF 15
JOB NO.: 6440 - MRS | CLIENT: PNL | TYPE OF ESTIMATE R.O.M. | CHECKED BY M
UNIT/AREA STANDBY GENERATOR
DESCRIPTION INSTRUMENT AIR SYSTEM
CAPACITY FROM DRY-715 TO END OF SYSTEM

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.31.17 PIPING											
	PIPE											
	3/4"ϕ ERW C.S. GALV. ASTM A120 X-STG, T&C ENDS	95	LF	1.50	.25		140			24		
	FITTINGS											
	3/4"ϕ ELBOWS, 300#, GALV. M.I. SCR'D, ASTM A197	21	EA	8-	.5		170			11-		
	3/4"ϕ TEES, "	26	EA	10.25	.5		270			13.		
	3/4"ϕ PLUGS "	5	EA	3.50	.5		20			3		
	3/4"ϕ CPLGS. "	4	EA	5.30	.5		20			2		
	3/4"ϕ UNIONS "	6	EA	9-	.5		50			3-		
	VALVES											
	3/4"ϕ GATE VALVES, 200#WOG SCR'D, BRONZE BODY & TRIM, RISING STEM, UNION BONNET DOUBLE DISC. MAN. STD. PACKING.	22.	EA	41.20	1.0		910			22.		
	MISC											
	SUPPORTS											
	U-BOLTS W/DOUBLE NUTS FOR 3/4"ϕ PIPE	16	EA	1.70	.25		30			4-		
	AIR FLUSH	1	EA				200			4-		
	AIR TEST	1	EA				10			8-		
	S/T						1820			94		

CES-2000-0 (4/81)

5-404

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY J. MILLER PRICED BY DATE 10/1/84 SHEET 15 OF 15

JOB NO.: 6440 CLIENT: PNL TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA STANDBY GENERATOR

DESCRIPTION DIESEL EXHAUST

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.31.17 PIPING											
	PIPE											
	12"ϕ ERW C.S. ASTM A53 GR.B STD. WT. BEVELED END	48	LF	39.	1.4		1870			67.		
	FLANGES											
	12"-150# C.S. ASTM A105 R.F. WN	9	EA	290.	8.0		2610			72.		
	FITTINGS											
	12" SMLS ASTM A234 GR. WPB B.W. STD. WT 90° ELL	9	EA	310	16		2790			144.		
	MISC											
	12"ϕ BELLOWS TYPE FLANGED FLEX. CONN	3	EA	1016.	6.8.		3050			20.		
	BOLTS & NUTS	144	EA	—	—							
	12" GASKETS	12	EA	41.52	4.7		500			56.		
	S/T						10820			359		

CES-2000-0 (4/81)

5-405

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY AB | PRICED BY | DATE 9-17-84 | SHEET 1 OF 2

JOB NO.: 6440 | CLIENT: PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION MRS FACILITY

CAPACITY 5.5.6

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
.50	STANDBY GENERATOR BLDG											
7.31.18	HVAC											
AHU B10 & B13	AIR HANDLING UNIT (H&V ONLY) 17,000 CFM @ 2" S.P., 10HP MOTOR, WITH EL. HEATING COIL - 32 KW & FILTER SECTION (30% EFFICIENCY)	2	EA	6660	73		13,320			146		
EF-814 thru EF-815 & EF-816 (FUTURE)	EXHAUST FAN, PROPELLER TYPE, 1400 CFM @ 1/4" S.P & 1/4 HP MOTOR, SINGLE SPEED, THREE PHASE	4	EA	485	4		1,940			16		
UH-802, UH-803, UH-824 & UH-823 (FUT)	UNIT HEATER (ELECTRIC) 30 KW, 97,200 BTUH, 480 V, 3 PHASE WITH BUILT IN THERMOSTAT	4	EA	950	12		3,800			48		
	AIR FILTER 24"x24"x2", MEDIUM EFFICIENCY, FRAME INCLUDING	192	EA	20	1.		3,840			192		
	SHEET METAL DUCTWORK	10,000	LB	.38	.09		3800			900		
	CEILING DIFFUSER CD 48 x 48 - 3W	8	EA	312	3.		2,500			24		
	MODULATING DAMPER (WITH PNEUMATIC DAMPER)											
	34"(h) x 40"(w) 1366	2	EA	461	4.75		920			10		
	48"(w) x 34"(h) 1624	2	EA	477	5.75		950			12		
	48"(h) x 78"(w) 3744	2	EA	807	13.10		1,610			26		
	84"(w) x 30"(h) 2520	2	EA	675	8.75		1,350			18		
							34,030			1392		

CES-2000-0 (4/81)

5-406

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY AB | PRICED BY | DATE 9-24-84 | SHEET 2 OF 2

JOB NO.: 6440 | CLIENT: PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION MRS FACILITY

CAPACITY 5.5.6

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
.50	STANDBY GENERATOR BLDG											
7.31.18	HVAC (CONT'D)											
	PNEUMATIC DAMPERS											
	18'(W) x 12'(h) 216,144	3	EA	5380	108		16,140			324		
	8'(h) x 28'(W) 224.144	4	EA	5,630	110		22,520			440		
	BAROMETRIC DAMPER											
	72"(h) x 60"(W)	2	EA	408	15		820			30		
	INSTRUMENTATION & CONTROL	1	LS	-	-		2000			64		
	TEST & AIR BALANCE	1	LS	-	-		-			32		
	S/T THIS SHT 2/2						41480			890		
	S/T SHT 1/2						34030			1392		
	S/T					25%	75510			2282		
	ROUND-OFF ADJ						(-10)			(2)		
	TOTAL HVAC						75500			2280		
	L.A. BASIN											

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

WARM WET SITE

M.T.O. BY | PRICED BY BGA | DATE 10/31/84 | SHEET ___ OF ___

JOB NO.: 6440-10 | CLIENT: | TYPE OF ESTIMATE BOM | CHECKED BY RO

UNIT/AREA / DESCRIPTION / CAPACITY 5.56.	ACCNT	QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	.50 GENERATOR BLDG											
7.31.19	FIRE PROTECTION											
	FIRE EXT. 20# CO_2 W/ CABINETS	4	EA	250	4.		1000			16		
	S/T					25 TH	1000			16		
	LABOR						0			4		
	TOTAL						1000			20		

CES-2000-0 (4/81)

5-408

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BJM | PRICED BY BJM | DATE 10-23-84 | SHEET 6 OF 11
JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY KW
UNIT/AREA MRS FACILITY
DESCRIPTION
CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
50	STAND BY GENERATOR BLDG											
7.32	ELECTRICAL SUMMARY											
	PWR. SWGR. SHEET 2 OF 11						579 300	2899				
	" 3 "						57 200	299				
	" 4 "						336 400	680				
	" 5 "						—	—				
	" 6 "						330 200	450				
	" 7 "						—	—				
	PWR. DIST. HG SHEET 8 OF 11						13 100	914				
	LTG SHEET 9 OF 11						22 500	370				
	CONDUIT "											
	GROUNDING SHEET 10 OF 11						6 900	176				
	LIGHTNING PROT.											
	E.H. SYST SHEET 11 OF 11						5 400	120				
	SUB TOTAL						1 351 100	5908				
	P1200	5908	MH	÷	96%			6150				
	LABOR RATE	6150	MH			29.14			179 200			
	LA BASIN						1 352 600	6150	179 200			1 539 200

CES-2000-0 (4/81)

5-409

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY E FONG | PRICED BY E FONG | DATE 10-12-84 | SHEET 2 OF ____

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STANDBY GENERATOR BLDG

DESCRIPTION DWG NO. H-3-55196 & H-3-55132

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.32 ELECTRICAL											
1	1400KW DIESEL GENERATOR	3	EA	150K	200-		450 000	600				
	INCLUDES CONTROL PANEL, DAY TANK, SILENCER, ETC											
	LAWLESS DETROIT DIESEL											
	CRAIG RICE 283-7528											
	5KV, 3000A BUS DUCT	275	LF	347	5.00		95 430	1375				
	NON-SEGREGATED, COPPER, 65KA SYM IC, ALUMINUM HOUSING											
	UNIBUS INC.											
	REP. MABCO ENGR SALES											
	RON MEYERS											
	714-730-6883											
	TUSTIN, CA 92680											
	VERTICAL ELBOWS	14	EA	451	20-		6 310	280				
	HORIZONTAL ELBOWS	6	EA	624	20-		3 740	120				
	SWITCHGEAR TERMINATIONS	9	EA	867	25-		7 800	225				
	GENERATOR TERMINATIONS	3	EA	1600	25-		4 800	75				
	WALL ENTRANCES 3HR	2	EA	1214	4—		2 430	8				
	TRANSFORMER TERMINATIONS	2	EA	1600	18-		3 200	36				
	BUS DUCT SUPPORTS	28	EA	100-	4-		2 800	112				
	480/277V LIGHTING PANEL	2	EA	780	13-		1 560	26				
	20 CIRCUITS, 100A MAIN LUGS											
	208/120V RECEPTACLE PANEL	2	EA	600	21-		1 200	42				
	100A MAIN CKT BREAKER											
	30 CIRCUITS						579 270	2899				

CES-2000-0 (4/81)

5-410

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY E FONG | PRICED BY E FONG | DATE 10-12-84 | SHEET 3 OF ___

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STANDBY GENERATOR BLDG

DESCRIPTION DWG NO. H-3-55196 & H-3-55132

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.732 - ELECT'L											
6.1	15 KVA DRY TYPE TRANSFORMERS 480-208Y/120V	2	EA	675	12-		1350	24				
	500 KVA DRY TYPE TRANSFORMER 4160-480Y/277V	1	EA	12,300	58-		12300	58				
	125V DC PANELBOARD 8 CIRCUITS.	1	EA	450	8-		450	8				
	125V DC BATTERIES & CHARGER NICAD HIGH RATED BATTERIES NIFE H302, 20AH WITH 6A CHARGER AND CONSOLE CABINET MR. ROBERT S. CARBERRY NIFE INCORP., SAN DIEGO, CA 1-800-542-6092	1	EA	5240	50-		5240	50				
	MOTOR CONTROL CENTER T1-1 480V, 3φ, 4W, 600A CU BUS 22KA SYM BUS BRACING	1	EA	19,199	81-		19200	81				
	#1 FVNR STARTERS 4+1 5X #2 " " 1+1 1X #3 " " 3 6X 100AF BREAKERS 7+1 4X 600AF BREAKERS 2 4X 5 VERTICAL SECTIONS (10X SPACES)											
	MOTOR CONTROL CENTER T1-1A 480V, 3φ, 4W, 600A CU BUS 22KA BRACING	1	EA	18,696	78		18700	78				
	#1 FVNR STARTERS 2+2 4X #2 " " 6+1 7X 100AF BREAKERS 8+2 5X 600AF " 1 2X 4 VERTICAL SECTIONS (6X SPACES)						57240	299				

CES-2000-0 (4/81)

5-411

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY E FONG | PRICED BY E FONG | DATE 10-12-84 | SHEET 5 OF ____

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY W

UNIT/AREA STANDBY GENERATOR BLDG

DESCRIPTION DWG NO. H-3-55132 & H-3-55197

CAPACITY

ACCNT 5.5.6.5a.2.32 - ELECTRICAL

		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SECONDARY POWER SWGR (CONT.)											
	SECTION / DEVICE NO. / QTY											
	AM 1											
	AS 1											
	VM 1											
	VS 1											
	FEEDER 1 TO 7: 52 (1200A, 250MVA) 1											
	CS 1											
	IL 2											
	50/51 3											
	50GS 1											
	AM 1											
	AS 1											
	CT 6											
	GS 1											
	FUTURE FEEDER 8: 52 (SPACE ONLY) 1											
	CT 6											
	GS 1											
							0	0	INCL	w/ SHEET # OF 10		

CES-2000-0 (4/81)

5 of 12

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY E FONG	PRICED BY E FONG	DATE 10-12-84	SHEET 4 OF		
JOB NO. 6440	CLIENT: PNL/DOE	TYPE OF ESTIMATE ROM	CHECKED BY		
UNIT/AREA STANDBY GENERATOR BLDG					
DESCRIPTION DWG NO. H-3-55132 & H-3-55197					
CAPACITY					

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5, 6.5 a. 7.32 - ELECT'L											
	SECONDARY POWER SWITCHGEAR 4.16KV, 3000A CU BUS CONSIST OF THE FOLLOWING:	2	EA	168,195	340-		336,400	680				
	SECTION — DEVICE NO. — QTY											
	AUXILIARY — TIE BUS TERM — 1											
	67 — 3											
	67N — 1											
	32 — 1											
	62 — 2											
	63X — 1											
	27T — 1											
	CT (AUX) — 1											
	PT — 4											
	86L — 1											
	69 — 1											
	43 — 1											
	87B — 3											
	86B — 1											
	81 — 1											
	VM — 1											
	VS — 1											
	KWHM — 1											
	KWM — 1											
	MAIN — 52 (3000A, 350MVA) — 1											
	CS — 1											
	IL — 3											
	50/51 — 3											
	51G — 1											
	87T — 3						336,400	680				
	87TG — 1											
	86T — 1											
	CT — 12											

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY E FONG | PRICED BY E FONG | DATE 10-12-84 | SHEET 6 OF ____

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STANDBY GENERATOR BLDG

DESCRIPTION DWG NO. H-3-55132 &

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS		
				MATL	M/H	LABS				M/HRS	DOLLARS			M/HRS	DOLLARS					
	5.5.6.50.7.32 - ELECT'L																			
1	STANDBY POWER SWITCHGEAR	1	EA	330,200	450			330	200	450										
	4.16KV, 3000A, CU BUS																			
	CONSIST OF THE FOLLOWING:																			
	SECTION DEVICE NO. QTY																			
	GENERATOR 52 (3000A, 350MVA) 1																			
	1, 2 & 3 CS 1																			
	IL 3																			
	87 3																			
	87G 1																			
	86 1																			
	51G 1																			
	50GS 1																			
	60V 1																			
	51V 3																			
	32 1																			
	40 1																			
	46 1																			
	59 1																			
	AM 1																			
	AS 1																			
	VM 1																			
	VS 1																			
	VARM 1																			
	WM 1																			
	FM 1																			
	CT 12																			
	PT 3																			
	FUTURE 52 (SPACE ONLY) 1																			
	GENERATOR CT 6							330	200	450										
	4																			

CES-2000-0 (4/81)

5-414

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY E FONG | PRICED BY E FONG | DATE 10-12-84 | SHEET 7 OF ____

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY (W)

UNIT/AREA STANDBY GENERATOR BLDG

DESCRIPTION DWG NO. H-3-55132 &

CAPACITY

ACCNT 5.5.6.50.Z.32 - ELECT'L

		QTY	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	COST OR M/HRS PER UNIT M/H	COST OR M/HRS PER UNIT LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	STANDBY POWER SWITCHGEAR (CONT.)												
	SECTION DEVICE NO.	QTY											
	TIE 52 (3000A, 350 MVA)	1											
	BREAKER CS	1											
	T1 & T2 1L	2											
	CT	12											
	AUXILIARY PT	2											
	27T	1											
	87B	3											
	86B	1											
	81T	1											
	VM	1											
	VS	1											
	FEEDER 52 (1200A, 250MVA)	1											
	1, 3 TO 8 CS	1											
	1L	2											
	50/51	3											
	50GS	1											
	AM	1											
	AS	1											
	CT	6											
	GS	1											
	FUTURE 52 (SPACE ONLY)	1											
	FEEDER CT	6											
	2 GS	1											
								0	0	INCL.	w/SHEET	6	OF 10

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY E FONG | PRICED BY E FONG | DATE 10-12-84 | SHEET 6 OF

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STANDBY GENERATOR BLDG

DESCRIPTION DWG. H-3-55131 & H-3-55132

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.50.7.32 - ELECT'L											
1100	2" RIGID STEEL CONDUIT	200	LF	2.33	.18		470	36				
	#1/0, 5KV, 1/C, EPR SHIELDED CABLE	200	LF	1.90	.031		380	6				
	#2/0, 600V, THW CONDUCTOR	400	LF	0.93	.031		370	12				
	CONDUIT SUPPORTS & FTG (50% OF RGS)	1	LS	—			240	18				
	MOTOR FEEDERS (BUILT-UP UNITS)											
	0-TO 15HP MOTOR RUNS	8	E	377-	45-		3020	360				
	30HP " "	3	E	544	55-		1630	165				
	60A WELDER RUN	5	E	1022	24.80		5110	124				
	30KW UNIT HTR RUN	3	E	544-	55-		1630	165				
	DRYER UNIT RUN	1	E	377-	45-		380	45				
	1KVA BATTERY CHARGER RUN	2	E	377-	45-		750	90				
	FIRE PROTECTION PNL.	2	E	377-	45-		750	90				
	REDUCTION OF 150' RUNS											
	0 TO 10 HP & OTHERS (50' AV LTH.)	650	FT	1.46	.193		950	125				
	30HP & OTHERS (")	300	FT	2.32	.24		700	72				
							13080	914				

CES-2000-0 (4/81)

5-416

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BJM | PRICED BY BJM | DATE 10-23-84 | SHEET 9 OF ____

JOB NO. 6440 | CLIENT: | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STO. BY - GEN. BLDG

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECT 5.5.6.50.7.32											
	LTG											
	INTERIOR LTG w/ 4 EXTERIOR LTG 150 X 100 = 15000 □' X 1.00 = $15,000 $15,000 ÷ 50/50 cost = $7500 MH-$ $7500 ÷ 30 = 250	1	LS	—			7500	250				
	COMM INTERIOR COMM 150 X 100 = 15000 □' X .30 = $4500 4500 ÷ 60 $40 = MATL $7500 MH = 1800 ÷ 30 = 60 MH	1	LS	—			7500	60				
	INSTR. SAME AS COMM. (460 ea)	1	LS	—			7500	60				
							22 500	370				

CES-2000-0 (4/81)

5-417

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BJM | PRICED BY BJM | DATE 10-23-84 | SHEET 10 OF ____

JOB NO. 6440 | CLIENT: RAIL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STAND-BY GEN BLDG

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECT. 5.5.6.50.7.32											
	LIGHTNING PROTECTION											
	AIR TERM CUPPLEX 1/2"	40	LF	11.00	1.00		440	40				
	COPPER WIRE 375#/MLF	800	LF	1.65	.036		1320	29				
	MISC SUPPORTS E'LITE (10% OF THE ABOVE)	1	LS	—	—		180	7				
	GROUNDING (INTERIOR & EXTERIOR)	1	LS	—			5000	100				
	150 x 100 = 15000 LF x .50 = $7500.00											
	USE 8000 ÷ 60/40 MAT 4800											
	MH $ 3200 ÷ $30 = 107											
							6940	176				

CES-2000-0 (4/81)

5-418

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BJM | PRICED BY BJM | DATE 10-23-84 | SHEET 11 OF 11

JOB NO. 6940 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA STAND-BY GEN BLDG

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECT 5.5.6.50.7.32											
1	F.A. SYST	1	LS	—			5400	120				
	150 x 100 = 15000 □' x .60 = $9000											
	$9000 60/40 = MAT $5400											
	M-H-$ = $3600 ÷ 30 = 120											
				—			5400	120				

CES-2000-0 (4/81)

E-419

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY C. HUCK | PRICED BY C.H. /AA | DATE 8-15-84 | SHEET 1 OF 1

JOB NO.: 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE BUDGETARY | CHECKED BY

UNIT/AREA STANDBY GENERATOR BLDG.

DESCRIPTION INSTN & CONTROL EQUIPT.

CAPACITY 5,5,6,50

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
7.33	INSTRUMENTATION											
	ANALOG MAGNETIC TAPE ACCELEROGRAPH, KINEMETRICS MODEL SMA-2, WITH FORCE BALANCE ACCELEROMETERS	1	EA	7000.	10		7000	10		10		
	FREIGHT, 3%	1	LOT				200					
	PRODUCTIVITY = 96%							10				
	LABOR COST	(10)	MH			25.72			300			
	TOTAL	1	EA				$ 7200	20	$ 300			$ 7500
	LA BASIN											

CES-2000-0 (4/81)

5-420

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 1 OF 4

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY RCM/RG

UNIT/AREA STAND BY

DESCRIPTION GENERATOR, DIL. OF RAM

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA 5											
16200												
	SUBTOTAL SH-2						1,792,100			5500		
	SH-3						73,290			1447		
	SH-4						25,240			666		
	TOTAL						1,890,630			7613		
					USE		189060					
	(Carry Fwd to Standby Gen. Bldg)											
	TOTAL											4

CES-2000-0 (4/81)

5-471

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG 85 SHEET 2 OF 4

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rom/KS

UNIT/AREA STAND BY GENERATOR

DESCRIPTION MRS FACILITY

CAPACITY BAL OF PLANT

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREAS											
16600	1400 KW. GENER. INCLUD. CONTROL PNL, DAY TANK, SILENCER ETC.	4	E	150K	200		600,000			800		
	5 KV 3000A BUS DUCT NON-SEGREGATED COPPER 65 KA SYM IC. ALUM. HOUS'G.	1	LS	-	-		127,260			1834		
	BUS VERTICAL ELBOW	18	E	451	20		8120			360		
	" HORIZ. ELBOW	8	E	624	20		4980			160		
	" SWITCHGEAR TERMIN.	12	E	867	25		10400			300		
	" GENERATOR TERMIN.	4	E	1600	25		6400			100		
	" WALL ENTRANCE	2	E	1214	4		2430			8		
	" TRANSFOR. TERMIN.	2	E	1600	18		3200			36		
	BUS DUCT SUPPORT	38	E	100	4		3800			152		
	SECOND. POWER SWITCH GEAR											
	BUS #1 11 EA CUBICLES 2 EA FOR SWITCHING 1 EA SPACE BUS #2 11 EA CUBICLES 2 EA FOR SWITCHING 1 EA SPACE BUS # T/G. 18 EA CUBICLE 1 EA SPACE						1,025,500			1750		
							1,792,100			5500		

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY J.J. PRICED BY J.J. DATE AUG 85 SHEET 3 OF 4

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rem 185

UNIT/AREA STAND BY GENERATOR

DESCRIPTION BAL OF PLANT

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA 5											
16200	500 KVA XFMR. 4160-480-277	1	E	12,300	58		12,300			58		
	15 KVA XFMR 480-208Y/120	2	E	675	12		1,350			24		
	MCC-T/C-1-1 480V-3φ											
	4W-600A - CU BUS 22KA	1	E	19,100	81		19,200			81		
	MCC-T/C-1-1A 480V. 3φ											
	4W-600A - CU BUS 22KA	1	E	18676	78		18700			78		
	FEEDER 2"φ RGS. PIPE	200	LF	235	.18		470			36		
	SUPPORT & FITTG	50%	-	-	-		230			18		
	2/0 600V.	400	LF	.93	.081		370			12		
	1/0 5 KV-	200	LF	1.9	.031		380			6		
	MOTOR FEEDERS (BUILT-UP UNIT)											
	LIGHTING PANELS 20 CIR.	2	E	780	12		1560			24		
	RECEPT. PANELS 30 CIR.	2	E	600	21		1200			42		
	0-15HP MOTOR RUNS	8	E	377	45		3020			360		
	30HP " "	3	E	544	55		1630			165		
	AIR HANDLING UNITS RUNS	6	E	544	55		3260			330		
	DRYER, FIRE PROT. BATTERCHAIR	3	E	377	45		1130			135		
	60A WELD. RECEPT. & SUPPORT	5	E	560	74		2800			20		
	125VDC PANELBOARD 8 CIRC.	1	E	458	8		450			8		
	125VDC BATTERY RACK NICAD HIGH RATED, NIFE H 302, 20AM W/ 6A CHARGER & CONSOLE CABM. MR ROBERT S. CARBERRY NIFE INC. SAN DIAGO. CAL. 1-800-542-6092	1	E				5240			50		
							73,290			1447		

CES-2000-0 (4/81)

5.483

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.N. PRICED BY J.J. DATE AUG-85 SHEET 4 OF 4

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY D Pumphrey

UNIT/AREA STANDBY GENERATOR

DESCRIPTION BAL OF PLANT

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 16	ELECTRICAL AREA 5											
16200	LIGHTING											
	INTERIOR LIGHTING W/ FOUR EXTERIOR LIGHTS. 150M$ X 1" = 15,000 ÷ 50/50 = 7500 ÷ 30 = 250						7500			250		
	COMMUN.											
	INTERIOR COMMUNICATION 150000# X .30 = 4500 4,500 ÷ 60/40 = 2700/1800 ÷ 30 =						2700			60		
	INSTRUMENT SAME AS COMMUNICATION						2700			60		
	LIGHTNING PROTECT.											
	AIR TERM. COPPER 1/2"	40	E	11	1		440			40		
	COPPER WIRE 325#/MLF	800	LF	1.6	.036		1320			29		
	MISC. SUCRT & ETC. 10%	1	LS				180			7		
	GROUNDING INT. & EXT. 150000# X .50 = 7500 ÷ 60/40	1	LS				5000			100		
	F.A. SYSTEM 15,000# X .60 = 9000 ÷ 60/40	1	LS				5400			120		
							25,240			666		

CES-2000-0 (4/81)

5-424

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY P. Blasa | PRICED BY RBP | DATE AUG 85 | SHEET 3 OF 4

JOB NO.: 6440 -11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM. | CHECKED BY Rem

UNIT/AREA MRS FACILITY

DESCRIPTION Standby Generator BAL of PLANT

CAPACITY AREA #5

ACCNT	DESCRIPTION		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
~~DIV 15~~	MECHANICAL Support FACILITIES												
~~15145~~	COMPRESSORS												
	COM-550A/B												
	STARTING AIR COMPRESSOR		2	EA	7000	50		14000			100		
	PACKAGE												
	OIL-LUBRICATED, TWO STAGE												
	RECIPROCATING AIR COMP.												
	AIR COOLED INTER & AFTER												
	COOLERS												
	MAT'L: MANUFACTURER'S												
	STD												
	38 SCFM CAP @ 350 PSIG												
	DRIVER: 15 HP MOTOR												
	460 VOLTS, 3PH, 60HZ												
	PRICE FOB CHARLOTTE, NC												
	MTD HDWE & Supports	15%						2000					
	TOTAL							16000			100		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY	PF BLASA	PRICED BY	RBP	DATE	AUG 85
JOB NO.:	6440-11	CLIENT:	DOE/PNL	TYPE OF ESTIMATE	FOM
UNIT/AREA	MRS FACILITY				
DESCRIPTION	STANDBY GENERATOR				
CAPACITY	AREA #5		BAL OF PLANT		

SHEET 4 OF 4

CHECKED BY Rem 1/6

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
~~DIV.15~~	MECHANICAL Support FACILITIES											
~~15161~~	TANKS											
	TK-510											
	GENERATOR FUEL OIL STORAGE TK	1	EA				10 000			50		
	CAP- 8000 GAL FIBERGLASS											
	REINFORCED PLASTIC (FRP)											
	DOUBLE WALLED, FOR UNDERGROUND											
	INSTALLATION.											
	DES. PRESS ATM @ 150°F											
	SIZE: 7'-11" DIA x 24'-11" LONG											
	INCLUDE LEAK DETECTOR											
	MONITOR											
	MTG. HWDE. & FRT (15%)	1	EA				1500					
	S/TOTAL	1	EA				11500			50		

CES-2000-0 (4/81)

5-1126

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P.F. BLASA | PRICED BY RAP | DATE AUG 85 | SHEET 3 OF 3

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION STANDBY GENERATORS

CAPACITY AREA #5 BAL OF PLANT

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL											
15151	FILTERS											
	F-550 A/B COALESCING FILTER INLINE FILTER 100 CFM CAP 500 PSIG DES PRESS @ 225°F WITH REPLACEABLE FILTER ELEMENT. C.S. BODY BORO SILICATE MICRO-GLASSFIBER ELEMENT TOTAL PRICE FOR 2	2	EA		10		220			20		
	MTG. HWDE. & FRT. (15A)	2	EA	USE 40			80					
	S/TOTAL	2	EA				300			20		
	THIS WAS NOT INCL IN EST. DUE TO LATE ADDENDA.											

CES-2000-0 (4/81)

5-427

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/INL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA: MRS Support Facilities

DESCRIPTION: Water Treatment Facility

CAPACITY: Area #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	Water Treatment Facility											
	2A Estimate - Direct Cost	2007	SF				248200			2960		
	Less LA Prod. Factor									(118)		
	Less Equipment - Old Est.						(164900)			(620)		
	Add for LA Prod. Factor									25		
	2A Total Direct						83300 ($41.70/SF)			2247 (1.12/SF)		
	Prorate to New Qty	1360	SF				56710			1523		
	Add Equipment (w/ Piping)	1	LOT				116170			540		
	Total Direct (New)	1360	SF				172880			2063		
	Escalation (2984 to 2985) = (56710 x 0.042) 0.042						2380					
	Total Direct Cost (2985)	1360	SF				175260			2063		
						Use	175300					

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY Y. MESEC PRICED BY DATE 12/17/80 SHEET ____ OF ____

JOB NO.: 6440 CLIENT: DOE/PNL TYPE OF ESTIMATE CONT CHECKED BY

UNIT/AREA

DESCRIPTION WATER TREATMENT BLDG.

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.52											
.6	SITE WORK											
	CONCRETE						$ 8 300	410	$ 10 500			$ 18 800
	MASONARY						7 000	570	14 700			21 700
	METALS						25 200	450	11 600			36 800
	WOOD & PLASTICS											
	THERMAL MOIST.						8 900	170	4 400			13 200
	DOORS & WINDOWS						7 000	60	1 500			8 500
	FINISHES											
	SPECIALTIES											
	EQUIPMENT						164 500	620	16 000			180 500
	FURNISHINGS											
	SPECIAL CONSTRUCTION											
	CONVEYING SYSTEMS											
	MECHANICAL						6 000	40	1 000			7 000
	ELECTRICAL						21 400	640	18 600			40 000
	INSTRUMENTATION											
	CATHODIC PROTECTION											
	OTHER											
	SUB TOTAL						$ 248 200	2960	$ 78 300			$ 326 500
	CONTRACTORS OH & PROFIT 37%						91 800		29 000			120 800
	SUB TOTAL						340 000	2960	107 300			447 300
	CONTINGENCY 20%						68 000	590	21 500			89 500
	TOTAL 5.5.6.52						408 000	3550	128 800			536 800

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

Warm Wet Site

M.T.O. BY GJF PRICED BY GJF DATE 10-23-84 SHEET ___ OF ___

JOB NO.: 6440-10 CLIENT: DOE TYPE OF ESTIMATE Rom. CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
52	WATER TREATMENT BLDG.											
7.19.5	CONCRETE WORK											
	SLAB ON GRADE	47	CY	65	2.		3060	94				
	FOUNDATION	50	CY	104.	5.9		5200	295				
	S/T						8260	389				
	PRODUCTIVITY @ .96							21				
	TOTAL					25.12	8300	410	10500			18800
	L.A. BASIN											

CES-2000-0 (4/81)

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY GJF | PRICED BY G.J.F | DATE 10-19-84 | SHEET ___ OF ___

JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY ✓

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
52	WATER TREATMENT FAC - COST DEV.											
7.19.5	CONCRETE WORK 3000 PSI											
	FOUNDATION CONCRETE	58	CY	55	.40		3190			23		
	REBAR	4640	LB	.275	.007		1280			33		
	FORMS	2512	SF	.5	.08		1260			201		
	ACCESSORIES	232	LB	.60	.18		140			42		
	EXCAVATION	279	CY	—	.05		—			14		
	BACKFILL	221	CY	-	.09		—			20		
	EXCAVATION WASTED	58	CY	-	.14		—			8		
	WASTE CONCRETE	3	CY	55			170			—		
	TOTAL						6040			341		
	UNIT PRICE	1	CY				104.[14]			5.88		
	USE						104.			5.9		
	SLAB ON GRADE 6" THK											
	CONCRETE 3000 PSI	58.8	CY	55	.53		3230			31		
	REBAR	271	LB	.275	.007		80			2		
	MESH	2800	SF	.09	.006		250			17		
	FORMS	189	SF	.50	.10		90			19		
	~~VAPOR BARRIER~~	~~2800~~	~~SF~~	~~.05~~	~~.003~~		~~140~~			~~8~~		
	EXCAVATION	59	CY	—	.05		—			3		
	FINE GRADE	2800	SF	—	.001		—			.3		
	FINISH CONCRETE	2800	SF	—	.015		—			42		
	WASTE CONCRETE	3	CY	55	—		170			—		
	TOTAL						3820			117		
	UNIT PRICE	1	CY				65			2		
	LA BASIN											

CES-2000-0 (4/81)

PARSONS

Warm Wet Site

ESTIMATE WORKSHEET

M.T.O. BY GJF | PRICED BY GJF | DATE 10-23-84 | SHEET 8 OF

JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
52	WATER TREATMENT BLDG.											
7.20	MASONRY											
	INTERIOR WALLS											
	8" SPLIT FACE CONCRETE BLOCK	1000	SF	1.92	.15		1920	150				
	EXTERIOR WALLS											
	8" SPLIT FACE CONCRETE BLOCK	2630	SF	1.92	.15		5050	395				
	S/T						6970	545				
	PRODUCTIVITY @ .96							25				
	TOTAL					26.72	7000	570	14700			21700
	L.A. BASIN											

CES-2000-0 (4/81)

5-432

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY GJF | PRICED BY GJF | DATE 10-23-84 | SHEET 1 OF 1

JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE R.O.M. | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
52	WATER TREATMENT BLDG.											
7.21	METALS											
	METAL DECKING	2022	SF	2.25	.02		4550	40				
	METAL LINER PANELS BAKED ENAMEL FIN.	2630	SF	2.00	.05		5260	132				
	METAL FURRING 18GA 4'OC	2630	SF	.08	.05		210	132				
	ROOF FRAMING 2022 SF @ 10#/SF	10.1	TN	1500	12.9		15150	130				
	S/T						25170	434				
	PRODUCTIVITY @ .96							16				
	TOTAL						25200		11600			36800
						25.1±		450				
	LIA. BASIN											

CES-2000-0 (4/81)

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY GJF | PRICED BY GJF | DATE 10-23-84 | SHEET 1 OF 1
JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY
UNIT/AREA MRS FACILITY
DESCRIPTION
CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
52	WATER TREATMENT BLDG.											
7.23	THERMAL & MOISTURE PROTECT.											
	PERIMETER INSULATION	1080	SF	.38	.012		410	13				
	RIGID ROOF INSULATION	2022	SF	.50	.010		1010	20				
	SPRAYED ON CEMENTITOUS INSULATION 1" THK FOR 13'x10' ROLL-UP DOOR	130	SF	.24	.038		30	5				
	ROOFING, SINGLE PLY, BALLESTED	2022	SF	.80	.015		1620	30				
	INSULATION-BATT. ON WALL W/VAPOR BARRIER	2630	SF	.40	.005		1050	13				
	ROOF DRAIN & SCUPPERS	4	EA	60	1		240	4				
	MISC SHEET METAL ALLOW	1	LS				2000	36				
	LOUVERS W/ SCREEN	40	SF	22	.37		880	15				
	ROOF HATCH 5'-0 x 5'-0 GALV STEEL CURB & COVER	1	EA				1000	5				
	METAL PANEL FACIA	180	LF	2.25	.07		410	13				
	VAPOR BARRIER (SLAB)	2022	SF	.05	.003		100	6				
	S/T						8150	160				
	PRODUCTIVITY @ .96	170										
	TOTAL L.A. BASIN					25.TL	8800	170	4400			13200

CES-2000-0 (4/81)

5-434

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY GJF/AJC | PRICED BY GJF | DATE 10-23-84 | SHEET 8 OF ____
JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE R.O.M | CHECKED BY (M)
UNIT/AREA MRS FACILITY
DESCRIPTION
CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
52	WATER TREATMENT BUILDING											
7.24.7	DOORS & WINDOWS											
	ROLL-UP DOOR 13'W x 10'H											
	STEEL 20 GA.	1	EA	1700	160		1700	16				
	ENAMEL FINISH	130	SF	.52	-		70	-				
	SAFETY BAR	1	EA	215	-		220	-				
	WEATHER STRIPPING	33	LF	7	-		230	-				
	MOTOR OPERATOR	1	EA	650	4		650	4				
	SILL	33	LF	3.50	-		120	-				
	EXTERIOR METAL DOORS "A" LABEL											
	1¾" x 7'-0" x 3'-0"	3	EA	280	1		840	3				
	FRAMES											
	7'-0" x 6'-0"	1	EA	144	1		140	1				
	7'-0" x 3'-0"	1	EA	130	1		130	1				
	HARDWARE	1	LOT	690	7		690	7				
	PAGE TOTAL						4790	32				
	L.A. BASIN											

CES-2000-0 (4/81)

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY GJF/AJC PRICED BY GJF DATE 10-23-84 SHEET ___ OF ___

JOB NO. 6440-10 CLIENT: DOE TYPE OF ESTIMATE ROM CHECKED BY (M)

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
52	WATER TREATMENT BLDG.											
7.24.7	DOORS & WINDOWS											
	TOTAL BRGHT. FWD.						4 790	32				
	INTERIOR METAL DOORS "A" LABEL											
	1 3/8" x 7'-0" x 3'-0"	4	EA	210	1		840	4				
	FRAMES											
	7'-0" x 6'-0"	1	EA	144	1		140	1				
	7'-0" x 3'-0"	2	EA	130	1		260	2				
	HARDWARE	1	LOT				1 010	16				
	S/T						7 040	55				
	PRODUCTIVITY @ .96							5				
	TOTAL					25.73	7 000	60	1 500			8 500
	L.A. BASIN											

CES-2000-0 (4/81)

5-436

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY C. GEORGE X-3564 PRICED BY | DATE 10-31-84 | SHEET 1 OF 2

JOB NO.: 6440 CLIENT: DOE/PNL | TYPE OF ESTIMATE PRELIMINARY | CHECKED BY

UNIT/AREA
DESCRIPTION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.52 WATER TREATMENT FACILITY											
	5.5.6.52.7.27 EQUIPMENT											
7.27.13	5.5.6.52.7.27.13 NORMAL EQUIPMENT											
	• P-630 Submersible Well Pump includes motor column pipe and cable FOB LA CA.* WT. 1000#											
	QA ADDER LEVEL I			9000								
	WARM WET SITE	1	EA	4500			13 500	80				
	* FOR BACK-UP SEE CE-10C-003											
	• CHL-630 CHLORINATION SYSTEM** WT. 1000#	1	EA	7000			7 000	40				
	• F-630 ACTIVATED CARBON** FILTER	1	EA	16000			16 000	20				
	** ITEMS ARE VENDOR PACKAGE UNITS, FOR DETAILS OF WHAT IS INCLUDED IN PACKAGE AND SHIPPING WTS SEE CE-10C-004											
	COSTS SHOWN ARE FOR LA, CA.											
	THIS EQUIPMENT IS SHOWN ON WATER SYSTEM - UTILITY FLOW DIA DWG NO. H-3-55144											
	PAGE TOTAL						96 500	140				

CES-2000-0 (4/81)

5-432

CC CHENG 3475

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY C. GEORGE X-3564 PRICED BY DATE 10-31-84 SHEET 2 OF 2

JOB NO.: 6440 CLIENT: DOE/PNL TYPE OF ESTIMATE PRELIMINARY CHECKED BY W

UNIT/AREA

DESCRIPTION COSTS GOOD FOR ALL THREE SITES

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	5.5.6.52 WATER TREATMENT FACILITY											
	5.5.6.52.7.27 EQUIPMENT	C/F					36 500	140				
	5.5.6.52.7.27.13 NORMAL EQUIPMENT											
3500 6PMI	• P 632 A MAIN FIREWATER PUMP - ELEC DRIVEN	1	EA	25000			25 000	180				
	O.A ADDER LEVEL II						10000					
	• P 632 B AUXILIARY FIREWATER PUMP - DIESEL DRIVEN	1	EA	60000			60 000	180				
	O.A. ADDER LEVEL #II						15000					
	• P 631 A WATER DISTRIBUTION PUMP	1	EA	3000			3 000	40				
	• P 631 B WATER DISTRIBUTION PUMP	1	EA	3000			3 000	40				
	• P 631 C WATER DISTRIBUTION PUMP	1	EA	3000			3 000	40				
	QA ADDER LEVEL #I						9 000					
	• TK 632 DIESEL OIL DAY TANK	1	EA	0								
	INCLUDED IN COST OF P 632B											
	NOTES:											
	1. FOR DETAIL DESCRIPTION AND SHIPPING WEIGHTS SEE CE-10C-006											
	2. FOR WELL DRILLING, CASING, SCREEN ETC SEE 5.6.7.55.32.55											
	3. THIS EQUIPMENT IS SHOWN ON WATER SYSTEM - UTILITY FLOW DIA. DWG NO. H-3-55144											
	TOTAL	(PROD. INCLUDED)				25.7	164 500	620	16 000			180 500
	LIA BASIN											

CES-2000-0 (4/81)

5-438

PARSONS

ESTIMATE WORKSHEET

WARM WET SITE

M.T.O. BY GJF PRICED BY GJF DATE 10-23-84 SHEET 1 OF 1

JOB NO.: 6440-10 CLIENT: DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
52	WATER TREATMENT BLDG.											
7.31.18	MECHANICAL											
	16"- 1500 CFM POWERED ROOF VENT	3	EA	1020	6		3060	18				
	5000 CFM POWERED ROOF VENT	2	EA	1460	8		2920	16				
	S/T						5980	34				
	PRODUCTIVITY @ .96							6				
	TOTAL					25.12	6000	40	1000			7000
	L.A. BASIN											

CES-2000-0 (4/81)

5-429

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BJM | PRICED BY BJM | DATE 10-24-84 | SHEET 1 OF 3

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5,5,6 SUPPORT FACILITIES

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
52	WATER TREATMENT BLDG											
7.32	ELECTRICAL SUMMARY											
	PWR & CONT SHEET 2 OF 3						17 700	467				
	PWR. DIST. ITG ✓											
	LTG SHEET 3 OF 3						3 700	150				
	GND. ✓											
	F.A ✓											
	SUB TOTAL						21 400	617				
	PROD.	617	MH	÷ 96%				640				
	LABOR RATE	640	MH			29.14			18 600			
							21 400	640	18 600			40 000
	L.A. BASIN											

CES-2000-0 (4/81)

5-UUD

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY E FONG | PRICED BY E FONG | DATE 10-15-84 | SHEET 2 OF 3

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA WATER TREATMENT FACILITY

DESCRIPTION DWG H-3-55140

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.52.7.32 - ELECTRICAL											
	MOTOR CONTROL CENTER #1-6-1A	1	EA	12,707	60		12710	60				
	480V, 3Φ, 4W, 600A CU BUS											
	22KA BUS BRACING											
	#1 FVNR STARTER 3+1 4X											
	#2 " 1 1X											
	100AF BREAKERS 7+3 5X											
	600AF BREAKER 1 2X											
	3 VERTICAL SECTIONS (6X SPACES)											
	5KVA TX 480/120/208V	1	E	300-	9-		300	9				
	120/208V REC. PNL	1	E	500-	21		500	21				
	480-277V LTG ✓	1	E	800-	23		800	23				
	MOTOR RUNS (150' AV)											
	0 TO 10 HP	7	E	377-	45		2640	315				
	50 HP	1	E	818-	65		820	65				
	0 TO 10KW UNIT HTR.	3	E	377-	45		1130	135				
	20KW ✓ ✓	2	E	514-	52		1030	104				
	DEDUCT 100' FROM MOTOR RUN.											
	0 TO 10 HP & KW	1000	FT	1.45	.19		1450	190				
	20KW	200	FT	2.18	.23		440	46				
	50 HP	100	FT	3.75	.29		380	29				
							17660	467				
	L.A. BASIN											

CES-2000-0 (4/81)

5-UUU

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BJM | PRICED BY BJM | DATE 10-23-84 | SHEET 3 OF 3

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY (W)

UNIT/AREA WATER TREATMENT FAC.

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECT. 55.6.52.7.32											
	LTG 47'x43' = 2021 SF x 1.00 = 2021 SPLIT 50/50 = MATL 1010 MH 1010 ÷ 30 = 34	1	LS	—			1000	35				
	INSTR. SAME AS (4609)	1	LS	—			400	20				
	GND. 47x43 = 2021 SF x 1.50 = 3032 SPLIT 50/50 = MAT'L $1516 MH $1516 ÷ 30 = 51	1	LS	—			1500	55				
	F.N. 47x43 = 2021 SF x .50 = 1011 SPLIT 40/60 = MAT'L $404 MH $606 ÷ 30 = 20 MH	1	LS	—			400	20				
	COMM. SAME AS (4609)	1	LS	—			400	20				
							3700	150				

CES-2000-0 (4/81)

5-1162

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGRG. PRICED BY RWF DATE AUG 85 SHEET 2 OF 2

JOB NO.: Q1110-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY Rem/RL

UNIT/AREA MRS FACILITY

DESCRIPTION BAL OF PLANT

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SUPPORT FACILITIES · AREAS (WTR. TREATMENT FACILITY)											
	WATER TREATMENT PLANT											
	TREATMENT PLANT	1	EA	2550	50		2 550			50		
	ION-EXCHANGER	1	EA				13 800			50		
	WATER DISTRIB. PUMPS	3	EA	1500	16		4 500			50		
	FIRE WTR. PUMP - ELECTRIC	1	EA	29000	100		29 000			100		
	FIRE WTR. PUMP - DIESEL	1	EA	35000	100		35 000			100		
	AREA PIPING 30%	1	LOT				21 320			90		
	TOTAL						~~106~~ 170			~~440~~		
	INSTRUMENTATION	ALLOW					10 000			100		
							~~116~~ 180			~~540~~		

NOTE:-
DIESEL OIL DAY TANK IS INCL. IN FIRE WTR DIESEL PUMP.

CES-2000-0 (4/81)

5-1443

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY P.F. BLASA | PRICED BY RJP | DATE AUG 85 | SHEET 2 OF 2

JOB NO.: 6440 - 11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION WATER TREAT. FACILITY

CAPACITY AREA #5 BAL OF PLANT

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 15	MECHANICAL											
15155	ION EXCHANGER											
	IX - 625 WATER SOFTENER PACKAGED UNIT DUPLEX TYPE. INCLUDES ION EXCHANGERS, BRINE TANK CONTROLS & PIPING ON SKID	1	PKG				12000			50		
	CAP - 105 GPM MAX											
	EXCH. VESSEL - 100 PSIG DES PRESS											
	F.O.B, MILWAUKEE, WIS.											
	MFG. HNDE. & FRT. (15%)	1	EA				1800					
	S/TOTAL	1	EA				13800			50		

CES-2000-0 (4/81)

5-444

PARSONS

CUNCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY | PRICED BY | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA: MRS Support Facilities
DESCRIPTION: Sewage Treatment Facility
CAPACITY: Area #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	Sewage Treatment Facility											
	2A Estimate - Direct Cost	2617	SF				192,900			4030		
	Less LA Prod. Factor									(161)		
	Less Equipment - old Est.						(62,500)			(500)		
	Add for LA Prod. Factor									20		
	2A Total Direct						130,400			3389		
							(@ 49.83/SF)			(1.29/SF)		
	Procate to New Qty	3840	SF				191,350			4954		
	Add Sanitary Sewage Treatment Facility						146,700			2443		
	Total Direct (New)						338,050			7397		
	Escalation (2Q84 to 2Q85) = 0.042 (191,350 x 0.042)						8040					
	Total Direct Cost (2Q85)						346,090			7397		
						USE	346,100					

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY V. MESEC PRICED BY DATE 12/17/84 SHEET ____ OF ____

JOB NO.: 6440 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY DJ

UNIT/AREA

DESCRIPTION SEWAGE TREATMENT BLDG

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.51											
.6	SITE WORK											
	CONCRETE						$ 9,300	480	$ 12,300			$ 22,200
	MASONARY						7,500	610	15,700			23,200
	METALS						31,700	540	13,900			45,600
	WOOD & PLASTICS											
	THERMAL MOIST.						9,200	190	4,900			14,100
	DOORS & WINDOWS						8,600	80	2,100			10,700
	FINISHES											
	SPECIALTIES											
	EQUIPMENT						62,500	500	12,900			75,400
	FURNISHINGS											
	SPECIAL CONSTRUCTION											
	CONVEYING SYSTEMS											
	MECHANICAL						7,400	50	1,300			8,700
	ELECTRICAL						42,400	1340	39,000			81,400
	INSTRUMENTATION						13,700	240	6,200			19,900
	CATHODIC PROTECTION											
	OTHER											
	SUB TOTAL						$ 192,900	4030	$ 108,300			$ 301,200
	CONTRACTORS O&P 37%						71,600	-	40,100			111,500
	SUB TOTAL						264,300	4030	148,400			412,700
	CONTINGENCY 20%						52,900	810	29,700			82,600
	TOTAL 5.5.6.51						317,200	4840	178,100			495,300

CEB-2000-0 (4/81)

Wrem WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY GJF | PRICED BY GJF | DATE 10-19-84 | SHEET ___ OF ___

JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY (N)

UNIT/AREA M.R.S. FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
51	SEWAGE TREATMENT FAC.											
7.19.5	CONCRETE WORK											
	FOUNDATION	58	CY	104.	5.9		6 030	342				
	SLAB ON GRADE	58.8	CY	65.	2.0		3 820	118				
	S/T						9 850	460				
	PRODUCTIVITY @ .96							20				
	TOTAL					25.T	9 900	480	12 300			22 200
	L.A. BASIN											

CES-2000-0 (4/81)

5-447

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY GJF | PRICED BY G.J.F | DATE 10-19-84 | SHEET ___ OF ___

JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
51	SEWAGE TREATMENT FAC. - COST DEV.											
7.19.5	CONCRETE WORK 3000 PSI											
	FOUNDATION CONCRETE	58	CY	55	.40		3190			23		
	REBAR	4640	LB	.275	.007		1280			33		
	FORMS	2512	SF	.5	.08		1260			201		
	ACCESSORIES	232	LB	.60	.18		140			42		
	EXCAVATION	279	CY	—	.05		—			14		
	BACKFILL	221	CY	-	.09		—			20		
	EXCAVATION WASTED	58	CY	-	.14		—			8		
	WASTE CONCRETE	3	CY	55			170			—		
	TOTAL						6040			341		
	UNIT PRICE	1	CY				104.19			5.88		
	USE						104.			5.9		
	SLAB ON GRADE 6" THK											
	CONCRETE 3000 PSI	58.8	CY	55	.53		3230			31		
	REBAR	271	LB	.275	.007		80			2		
	MESH	2800	SF	.09	.006		250			17		
	FORMS	189	SF	.50	.10		90			19		
	VAPOR BARRIER	2800	SF	.05	.003		140			8		
	EXCAVATION	59	CY	—	.05		—			3		
	FINE GRADE	2800	SF	—	.001		—			~3		
	FINISH CONCRETE	2800	SF	—	.015		—			42		
	WASTE CONCRETE	3	CY	55	—		170			—		
	TOTAL						3820			117		
	UNIT PRICE	1	CY				65			2		
	L.A. BASIN											

CES-2000-0 (4/81)

5-1448

PARSONS

ESTIMATE WORKSHEET

Warm Wet Site

M.T.O. BY GJF | PRICED BY GJF | DATE 10-19-84 | SHEET ___ OF ___

JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
51	SEWAGE TREATMENT FAC.											
7.20	MASONRY											
	EXTERIOR WALLS											
	8" SPLIT FACE · CEMENT BLOCK	3012	SF	1.92	.15		5 780	452				
	INTERIOR WALLS											
	8" SPLIT FACE · CEMENT BLOCK	880	SF	1.92	.15		1 690	132				
	S/T						7 470	584				
	PRODUCTIVITY @ .96							26				
	TOTAL					25.12	7 500	610	15 700			23 200
	L.A. BASIN											

CES-2000-0 (4/81)

5-449

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY GJF | PRICED BY GJF | DATE 10-19-84 | SHEET ___ OF ___

JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA M.R.S. FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
51	SEWAGE TREATMENT FAC.											
7.21	METALS											
	ROOF FRAMING											
	2617 SF @ 10#/SF	13	TN	1500.	12.7		19 500	165				
	METAL DECKING	2617	SF	2.25	.02		5 890	52				
	METAL LINER PANELS (INTERIOR)	3012	SF	2.00	.05		6 020	151				
	METAL FURRING 18 GA 4'-0" C.C.	3012	SF	.08	.05		240	151				
	S/T						31 650	519				
	PRODUCTIVITY @ .96							21				
							31 700		13 900			45 600
						25.7±		540				
	L.A. BASIN											

CES-2000-0 (4/81)

5-450

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY GJF | PRICED BY GJF | DATE 10-19-84 | SHEET 8 OF

JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY D

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
51	SEWAGE TREATMENT FAC.											
7.23	THERMAL & MOISTURE PROTECTION											
	PERIMETER INSULATION 2" THK	1254	SF	.38	.012		480	15				
	RIGID ROOF INSULATION	2617	SF	.50	.010		1310	26				
	SPRAYED ON CEMENTITOUS INSULATION 1" THK FOR 13'-10" ROLL-UP DOOR	130	SF	.24	.038		30	5				
	ROOFING, SINGLE PLY, BALLASTED	2617	SF	.80	.015		2090	39				
	INSULATION - BATT ON WALL W/ VAPOR BARRIER	3012	SF	.40	.005		1200	15				
	ROOF DRAIN & SCUPPER	6	EA	60	1		360	6				
	MISC SHEET METAL ALLOW	1	LS				2000	36				
	LOUVERS W/SCREEN METAL	52	SF	22	.37		1140	19				
	METAL PANEL FACIA	209	LF	2.25	.07		470	15				
	VAPOR BARRIER (SLAB)	2617	SF	.05	.003		130	8				
	S/T						9210	184				
	PRODUCTIVITY @ .96							6				
	TOTAL						9200		4900			14100
	L.A. BASIN					25.7%		190				

CES-2000-0 (4/81)

5-451

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY GJF | PRICED BY GJF | DATE 10-22-84 | SHEET ___ OF ___

JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY
DESCRIPTION
CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
51	SEWAGE TREATMENT FAC.											
7.24.7	DOORS AND WINDOWS											
	ROLL-UP DOOR 13'W x 10'H STEEL 20 GA.	1	EA	1700	16		1700	16				
	SAFETY BAR	1	EA	215	-		220	-				
	WEATHER STRIPPING	33	LF	7	-		230	-				
	MOTOR OPERATOR	1	EA	650	4		650	4				
	SILL	33	LF	3.50	-		120	-				
	ENAMEL FINISH	130	SF	.52	-		70	-				
	EXTERIOR METAL DOORS "A" LABEL											
	1¾" X 9'-6" X 3'-6"	2	EA	400	1.5		800	3				
	1¾" X 7'-0" X 3'-0"	1	EA	280	1		280	1				
	FRAME - FIRE DOOR											
	8⅝" X 9'-6" X 7'-0"	1	EA	175	2		180	2				
	8⅝" X 7'-0" X 3'-0"	1	EA	130	1		130	1				
	HARDWARE	1	LOT				490	7				
	SHT. TOTAL						5070	34				

CES-2000-0 (4/81)

5-452

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY GJF / AJC | PRICED BY GJF | DATE 10-22-84 | SHEET ___ OF ___

JOB NO. 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
51	SEWAGE TREATMENT FAC.											
7.24.7	DOORS AND WINDOWS											
	TOTAL BRGHT. FWD.						5070	34				
	INTERIOR DOORS "B LABEL"											
	1 3/8" x 7'-0" x 3'-6"	4	EA	245.	2.		980	8				
	1 3/8" x 8'-0" x 3'-0"	1	EA	240.	1.		240	1				
	1 3/8" x 7'-0" x 3'-0"	1	EA	210.	1.		210	1				
	FRAMES - FIRE DOOR											
	8 3/4" x 7'-0" x 7'-0"	2	EA	150.	2		300	4				
	8 3/4" x 8'-0" x 3'-0"	1	EA	145.	1		150	1				
	8 3/4" x 7'-0" x 3'-0"	1	EA	130.	1		130	1				
	HARDWARE	1	LOT				1560	26				
	S/T						8640	76				
	PRODUCTIVITY @ .96							4				
	TOTAL						8600		.2 100			10 700
	L.A. BASIN					25.72		80				

CES-2000-0 (4/81)

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY C GEORGE x 3564 | PRICED BY | DATE 10-31-84 | SHEET 1 OF 1

JOB NO.: 6440 | CLIENT: DOE / PNL | TYPE OF ESTIMATE PRELIMINARY | CHECKED BY

UNIT/AREA

DESCRIPTION COST GOOD FOR ALL THREE SITES

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.51 SEWAGE TREATMENT FACILITY											
7.27	EQUIPMENT											
.13	5.5 6.51.7.27.13 NORMAL EQUIPMENT											
	• CHF-450 Flocculation Aid System* WT. 4000#	1	EA	$7500			7 500	40				
	• CLR-450 Clarification system* WT. 3000#	1	EA	$20000			20 000	120				
	• F-452 Pressure Filter System* WT. 7000#	1	EA	$20,000			20 000	240				
	• F-451 Filter Press* WT. 2400#	1	EA	$15000			15 000	100				
	* ITEMS LISTED ARE VENDOR PACKAGE UNITS. FOR DETAILS OF WHAT IS INCLUDED IN PACKAGE AND SHIPPING WEIGHTS SEE CE-10C-004											
	ALL COSTS SHOWN ARE FOB LA, CA.											
	THIS EQUIPMENT IS SHOWN ON PROCESS SEWAGE TREATMENT - UTILITY FLOW DIAGRAM DWG NO H-3-55146											
	NOTE NO SANITARY SEWERAGE EQUIPMENT IS LISTED HERE AS NONE IS IN THIS BLDG. - SANITARY SEPTIC TANKS ARE SHOWN IN 6.5.7.55.37.35											
	TOTAL LIA. BASIN	(PROD. INCLUDED)				25.7K	62 500	500	12 900			75 400

CES-2000-0 (4/81)

5 - 44.5K

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY GJF | PRICED BY GJF | DATE 10-24-84 | SHEET ___ OF ___

JOB NO.: 6440-10 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
51	SEWAGE TREATMENT FAC.											
7.31.18	MECHANICAL											
	16" - 1500 CFM POWERED ROOF VENT	3	EA	1020	6		3060	18				
	24" - 5000 CFM POWERED ROOF VENTS	3	EA	1460	8		4380	24				
	S/T						7440	42				
	PRODUCTIVITY @ .96							8				
	L.A. BASIN					25.[illegible]	7400	50	1300			8700

CES-2000-0 (4/81)

5-455

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BJM | PRICED BY BJM | DATE 10-24-84 | SHEET 1 OF 3

JOB NO. 6440-10 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY 5,5,6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
51	SEWAGE TREATMENT BLDG											
7.32	ELECTRICAL SUMMARY											
	PWR GEN'L SHEET 2 OF 3						36 700	1056				
	PWR. DIST. NG. " "											
	LTG. SHEET 3 OF 3						5450	230				
	COMM. " "											
	GND. " "											
	F.A. " "											
	INSTR. " "											
	SUB TOTAL						42 350	1286				
	PROD.	1263	MH	÷	96%			1340				
	LABOR RATE	1340	MH			29.14			39			
							42 400	1340	39 000			81 400
	L.A. BASIN											

CES-2000-0 (4/81)

5-456

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY E FONG | PRICED BY E FONG | DATE 10-15-84 | SHEET 2 OF 3

JOB NO. 6440 | CLIENT: PNL / DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA SEWAGE TREATMENT FACILITY

DESCRIPTION DWG. H-3-55140

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	5.5.6.51.7.32 - ELECT'L											
	MOTOR CONTROL CENTER #1-1-2	1	EA	26,832	125 -		26 830	125				
	480V, 3φ, 4W, 600A CU BUS											
	22KA BUS BRACING											
	#1 FVNR STARTERS 13+3 16X											
	#2 " " 2+1 3X											
	#4 " " 1 2½X											
	100AF BREAKERS 9+1 5X											
	6 VERTICAL SECTIONS (7.5X SPACES)											
	600AF BREAKER 1 2X											
	MOTOR RUNS											
	0 TO 10 HP	13	E	377 -	45 -		4 900	585				
	20/25 HP	2	E	514 -	52 -		1 030	104				
	75 HP	1	E	1290	99 -		1290	99				
	0 TO 10 KW UNIT HTR	4	E	377 -	45		1 510	180				
	20/25 KW " "	3	E	514 -	52		1 540	156				
	PER 4TR 50' FROM MOTOR RUNS											
	0 TO 10HP & KW	850	FT	1.45	.19		1 230	162				
	20/25 HP & KW	250	FT	2.18	.23		550	58				
	75 HP	50	FT	6.34	.49		320	25				
	3 KVA TX 480/120/208V	1	E	375 -	8 -		380	8				
	120/208V PNL RGE, PNL	1	E	500 -	21		500	21				
	480/277V " LTG "	1	E	800 -	23		800	23				
							36 680	1056				

CES-2000-0 (4/81)

5-457

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY BJM | PRICED BY BJM | DATE 10-24-83 | SHEET 3 OF 3

JOB NO. 6440 | CLIENT: PNL/DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA SEWAGE TREATMENT FACIL.

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LABS	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECT 5.5.6.51.7.32											
	LTG											
	42 x 63 = 2646 □' x 1.50 = $3969	1	LS	—			2000	70				
	SPLIT 50/50 = MAT'L $1985											
	MH $1985 ÷ 30 = 66 MH											
	COMM											
	42 x 63 = 2646 □' x .50 = $1323	—	LS	—			530	30				
	SPLIT 40/60 = MAT'L $529											
	MH $794 ÷ 30 = 26 MH											
	GND.											
	42 x 63 = 2646 □' x 1.50 = $3969	1	LS	—			2000	70				
	SPLIT 50/50 MAT'L $1985											
	MH $1985 ÷ 30 = 66 MH											
	F.A											
	42 x 63 = 2646 □' x .50 = $1323	1	LS	—			530	30				
	SPLIT 40/60 MAT'L $529											
	MH $794 ÷ 30 = 26											
	INSTR. SAME AS COMM.	1	LS	—			530	30				
							5650	230				

CES-2000-0 (4/81)

WARM WET SITE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY AQ | PRICED BY AQ | DATE OCT. 1984 | SHEET 1 OF 3

JOB NO.: 6440 - 10 | CLIENT: MRS FACILITY | TYPE OF ESTIMATE ROM | (M) CHECKED BY

UNIT/AREA: MRS FACILITY

DESCRIPTION

CAPACITY: 5.5.6 SUPPORT FACILITIES

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
51	SEWAGE TREATMENT BLDG											
7.33	INSTRUMENTATION											
	CONTROL VALVES											
	SELF CONTAINED CONTROL VALVE											
	1"											
	PCV -	2	EA	300	2		600	4				
	RELIEF VALVES											
	PRESSURE SAFETY VALVE, 1/2" x 3/4"											
	PSV -	4	EA	280	1		1120	4				
	D/P INSTRUMENTS											
	DIFFERENTIAL PRESSURE INDICATOR											
	PDI -	4	EA	800	6		3200	24				
	CARRY FWD TO SHT. 2	10	EA				4920	32				

CES-2000-0 (4/81)

PARSONS

WARM WET SITE

ESTIMATE WORKSHEET

M.T.O. BY AB | PRICED BY AB | DATE OCT. 1982 | SHEET 2 OF 3

JOB NO.: 6440-10 | CLIENT: MRS | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRB FACILITY
DESCRIPTION 5,5,6 SUPPORT FACILITIES
CAPACITY 51 SEWAGE TREATMENT BLDG

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
7.33	INSTRUMENTATION											
	FROM SHT. 1	10	EA				4920	32				
	PRESSURE INSTRUMENTS											
	PRESSURE TRANSMITTER, ELECTRONIC											
	PT -	4	EA	950	8		3800	32				
	THERMOMETERS & WELLS											
	THERMOMETER											
	TI -	3	EA	200	1		600	3				
	ELECTRIC SWITCHES											
	DEW POINT SWITCH											
	MSH -	1	EA	500	4		500	4				
	PRESSURE GAUGES											
	PRESSURE GAUGE											
	PI -	6	EA	50	2		300	12				
	CARRY FWD. TO SHT. 3	24	EA				10120	83				

CES-2000-0 (4/81)

5460

PARSONS

WARM WET SITE — ESTIMATE WORKSHEET

M.T.O. BY AQ | PRICED BY AQ | DATE OCT. 1984 | SHEET 3 OF 3

JOB NO.: 6440-10 | CLIENT: MRS | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRG FACILITY
DESCRIPTION 5.5.6 SUPPORT FACILITIES
CAPACITY 51 SEWAGE TREATMENT BLDG

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
7.33	INSTRUMENTATION											
	FROM SHT. 2	24	EA				10120	83				
	PANEL MTD INSTRUMENTS											
	INDICATORS, LOCAL PANEL											
	PI	4	EA	170	2		680	8				
	RESTRICTION ORIFICE 3/4"											
	RO -	1	EA	50	1		50	1				
	SUB-TOTAL	29	EA				10850	92				
	SUPPORTS, HOOK-UP, CALIBRATION	1	LOT				2430	142				
	INLAND FREIGHT	1	LOT				420	—				
	SUB-TOTAL	29	EA				13700	234				
	PROD. 234 | 96%	240	MH			26.72						
	TOTAL						13700	240	6200			19900
	L.A. BASIN											

CES-2000-0 (4/81)

5-461

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGRG. PRICED BY RWF DATE AUG. 85 SHEET 3 OF 3

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY RCM/RWS

UNIT/AREA MRS FACILITY

DESCRIPTION BAL OF PLANT

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SUPPORT FACILITIES AREA 5											
	SEWAGE TREATMENT FACILITY											
	SANITARY SEWAGE TREATMENT PLANT											
	SEWAGE TREATMENT PLANT	1	LOT				95000			500		
	LIFT PUMP & SPARE INCL. INSTR.	1	LOT				1500			100		
	6" Ø PVC PIPE	2020	LF	9.00	.4		18180			808		
	8" Ø " "	1840	"	16.00	.5		29440			920		
	4" Ø PVC PERF.	120	LF	2.50	.3		300			36		
	4" Ø C.S. CTD/W	110	LF	9.00	.6		990			66		
	SEPTIC TANK											
	750 GAL CAPACITY	1	EA.	900.-	8		900			8		
	ROOFING PAPER 30# FELT	360	SF	.10	.01		40			4		
	SAND	20	CY	17.49	.05		350			1		
	TOTAL						146700			2443		

CES-2000-0 (4/81)

5-462

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY EIGR/RUF | PRICED BY RUF | DATE AUG. 85 | SHEET 1 OF ____

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem JR

UNIT/AREA MRS FACILITY

DESCRIPTION STEAM GENERATION

CAPACITY BAL OF PLANT

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	AREA #5 SUPPORT FACILITIES											
	- SUMMARY -											
	STEAM GENERATION											
	STEAM GEN. BUILDING	9600	SF			*	348 860			12768		
	MECHANICAL EQUIPMENT	1	LOT				5A 600			2754		
	ELECTRICAL	1	LOT				213 500			4073		
	PIPING	1	LOT				126 270			10311		
	INSULATION (PIPING)	1	LOT				11 300			380		
	INSTRUMENTATION	1	LOT				50000			2000		
	UNDERGROUND REINF. CONC. TANK	1	EA				124 900			937		Δ 7/22/85
	TOTAL DIRECT - (2005)						1394430			33463		
				USE			1394400					

CES-2000-0 (4/81)

5-463

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY RUF | PRICED BY RUF | DATE AUG 85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / ONL | TYPE OF ESTIMATE ROM | CHECKED BY Rem/RS

UNIT/AREA

DESCRIPTION BAL OF PLANT

CAPACITY AREA #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	FOR Reference Only											
	STEAM GENERATOR BLDG.											
	REF: STAND-BY GEN. BLDG:- W/O ELECTRICAL	15775	SF				2410100			28329		
							(1890600)			(8013)		
							549500			20316		
	U/G.						34.83			1.33		
	STEAM GEN. BLDG	9600	SF	34.83	1.33		334400			12768		
	2084 TO 2085 (4.2%)						14060					
							348460					

CES-2000-0 (4/81)

5-4600

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET** — 15

M.T.O. BY ENGR. PRICED BY P.B. DATE AUG. 85 SHEET 1 OF 32

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY AM/RC

UNIT/AREA MRS FACILITY
DESCRIPTION BAL OF PLANT
CAPACITY STEAM GENERATION

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	AREA #5											
	MECHANICAL - SUMMARY											
	AGITATORS	4	EA				3,600			24		
	BOILERS	3	EA				310,500			1500		
	FILTERS	3	EA				1,200			12		
	HEAT EXCHANGERS	4	EA				60,000			96		
	TANK	1	EA				48,000			350		
	VESSELS / DRUMS	1	EA				12,000			100		
	DEAERATOR	1	SET				34,500			300		
	CHEM. SOLUTION TANKS	4	EA				6,800			40		
	AIR DISTRIBUTION	1	LOT				4,000			64		
	Pumps	14	EA				39,000			268		
	TOTAL MECH'L						519,600			2754		

CES-2000-0 (4/81)

5-465

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J DATE AUG-85 SHEET 1 OF

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY RCM/KO

UNIT/AREA STEAM GENERATION

DESCRIPTION BAL OF PLANT

CAPACITY MRS. FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA-5											
	SUMMARY											
16400	SUBTOTAL SH-2						78410			551		
16403	3						45120			276		
	4						15870			637		
	5						21440			1203		
	6						53100			1406		
	TOTAL						213,440			4073		
	USE						213500					

CES-2000-0 (4/81)

6-466

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 2 OF

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA STEAM GENERATION

DESCRIPTION SS-06 BAL OF PLANT

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV.16	ELECTRICAL AREAS											
16400	SS-06											
	5KV-600A AIR INTER. SW.	2	E	7870	45		15740			90		
	750 KVA 4160-480/277	2	E	10000	72		20000			144		
	2000/1200A SECOND.	2	E	3000	20		6000			40		
	2000/1200A TRANSF	1	E	3000	20		3000			20		
	800A-600A BRKR	3	E	1800	20		5400			60		
	SPACE	1	E	400	-		400			-		
							50,540			354		
	SS-06-SB											
	5KV-600A AIR INTERP. SW	1	E	7870	45		7870			45		
	750 KVA 4160-480-277	1	E	10000	72		10000			72		
	2000-1200A SECOND.	1	E	3000	20		3000			20		
	2000-1200A TRANSFER	1	E	3000	20		3000			20		
	800A BRKR	2	E	1800	20		3600			40		
	SPACE	1	E	400	-		400			-		
							27,870			197		
							78,410			551		

CES-2000-0 (4/81)

5-467

PARSONS

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET

M.T.O. BY N.J. | PRICED BY N.J. | DATE AUG-85 | SHEET 3 OF ____

JOB NO.: 6440-11 | CLIENT: PNL - DOE | TYPE OF ESTIMATE ROM | CHECKED BY Rem / Rob

UNIT/AREA STEAM GENERATION

DESCRIPTION BAL OF PLANT

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREAS											
16400	MCC-06-1											
	600-400A. BRKR	1	E	1600	7		1600			7		
	100 A "	6	E	410	3		2460			18		
	225 A "	2	E	900	4		1800			8		
	STR COMB. START	3	E	585	4		1760			12		
	SPACES	4	E	180	-		720			-		
							8340			45		
	MCC-06-SB-1											
	600A-400A BRKR	1	E	1600	7		1600			7		
	225 A. "	1	E	900	4		900			4		
	20 HP	3	E	785	5		2360			15		
	15 HP	4	E	785	5		3140			20		
	5 HP	5	E	586	4		2930			20		
	3/2 HP	3	E	585	4		1760			12		
	SPARES	11	E	585	4		6440			44		
	SPACES	4	E	180	-		720			-		
							19,850			122		
	MCC-06-SB-2											
	225 AMP BRKR	1	E	900	4		900			4		
	100 AMP "	3	E	410	3		1230			9		
	150 HP COMB. START.	4	E	2100	15		8400			60		
	75 HP COMB. START.	4	E	1200	9		4800			36		
	SPARES	4	E	400	-		1600			-		
							16,930			109		
							45,120			276		

CES-2000-0 (4/81)

5-468

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY N.J. PRICED BY J.J. DATE AUG-85 SHEET 4 OF ____

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rem

UNIT/AREA STEAM GENERATION BLDG.

DESCRIPTION BAL OF PLANT

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA 5											
16400	MOTOR CONNECTION											
	MCC FEEDERS	3	E	30	5		90			15		
	150 HP MOTOR CONN. P.B/HOA	11	E	160	11		640			44		
	60 HP " " "	4	E	145	9		580			36		
	15 HP " " "	4	E	145	9		580			36		
	20 HP " " "	3	E	145	9		440			27		
	15 HP " " "	5	E	145	9		730			45		
	7½ HTRS.	2	E	5	2		10			4		
	5 HP " " "	15	E	145	9		2180			135		
	3/4 HP " " "	3	E	145	9		440			27		
	LITE PNL "	4	E	5	2		20			8		
	RECEPT. PNL "	4	E	5	2		20			8		
	XFMR. "	3	E	5	2		20			6		
							5750			391		
	XFMRS. 15 KVA & SUPPORT	2	E	620	15		1240			30		
	XFMR 9 KVA & SUPPORT	1	E	500	8		500			8		
	LITE PANEL 90.3 KW.	2	E	1060	32		2120			64		
	LITE PANEL 20 KW	3	E	960	24		2880			72		
	RECEPT. PNL 24 KW	3	E	960	24		2880			72		
							9620			246		
							15,370			637		

CES-2000-0 (4/81)

5-469

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 5 OF

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA STEAM GENERATION BLDG.

DESCRIPTION BAL OF PLANT

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREAS											
16105	MCC FEED 70 x 3 3"φ RGS	210	LF	5.37	.3		1130			63		
	TIE-IN 15 x 1 3"φ RGS	15	LF	"	"		80			5		
	150 HP 110 x 4 3"φ RGS	440	LF	"	"		2370			132		
	75 HP 110 x 4 2"φ RGS	440	LF	2.54	.18		1120			79		
	20 HP 110 x 3 1"φ RGS	330	LF	1.25	.1		410			33		
	15 HP 110 x 5 1"φ RGS	550	LF	"	.1		690			55		
	7½ HTR 40 x 2 3/4"φ RGS	80	LF	.91	.08		70			6		
	5 HP 110 x 15 3/4"φ RGS	1650	LF	"	"		1500			132		
	3/4 HP 40 x 3 3/4"φ RGS	120	LF	"	"		110			10		
	LITE & RECEPT. PNLS 1½"φ RGS	320	LF	1.87	.14		600			45		
	FITTG & SUPPORT	50	%	-	-		4040			280		
							12120			840		
	250 MCM 210 x 3 =	630	LF	2.15	.041		1350			26		
	" " 20 x 3 =	60	LF	"	"		130			3		
	3/0 440 x 3 =	1320	LF	1.85	.033		2050			44		
	3/0 440 x 3 =	1320	LF	"	"		2050			44		
	#8 330 x 3 =	990	LF	.17	.011		170			11		
	#10 550 x 3 =	1650	LF	.10	.009		170			15		
	#12 1850 x 3 =	5550	LF	.065	.008		360			44		
	3/0 80 x 3 =	240	LF	2.15	.041		520			10		
	#6 240 x 3 =	720	LF	.25	.014		180			10		
	NEUTRAL 20%	-	-	-	-		1400			41		
	#12 CONTROL 3600 x 4	14,400	LF	.065	.008		940			115		
							9320			363		
							21,440			1203		

CES-2000-0 (4/81)

5-470

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 6 OF ____

JOB NO.: 6440-11 CLIENT: PNL - DOE TYPE OF ESTIMATE ROM CHECKED BY Rompf 10

UNIT/AREA STEAM GENERATION BLDG

DESCRIPTION BAL OF PLANT

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREAS											
16500	LIGHTING											
	80X120 = 9600 S.F.	9600	SF	3.6	.05		34,560			480		
16500	RECEPTACLES	35	E	20	1.5		700			53		
	COND & WIRE 1000	1000	LF	1.25	.09		1250			90		
	WIRE	3000	LF	.065	.008		200			24		
	FITT'G & SUPPORT 50%						630			45		
	WELDK RECEPT.	10	E	300	10		3000			100		
	COND. 1"ø	650	LF	1.25	.09		810			60		
	FITTING & SUP.	50%		-	-		410			30		
	#8 WIRE 650 x 3	2000	LF	.25	.011		500			22		
16505	UPS SYSTEM.	9600	SF	.45	.01		4320			96		
16700	COMMUNICATION	9600	SF	.35	.02		3360			192		
16600	FIRE ALARM	9600	SF	.35	.02		3360			192		
	TESTING ALL	—	—	-	ZZ		—			ZZ		
							53,100			1409		

CES-2000-0 (4/81)

5-471

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY PIPING | PRICED BY PIPING/RUF | DATE AUG. '85 | SHEET 1 OF 22

JOB NO.: CH140-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem 11/9

UNIT/AREA MRS FACILITY

DESCRIPTION BAL OF PLANT Area 5

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SUPPORT FACILITIES AREA 5											
	STEAM GENERATION PIPING											
	OUTSIDE BUILDING -											
	CS PIPE XS 3" Φ	290	LF	5.00	.48		1450			139		
	XS 14" Φ w/INSUL.	290	LF	110.00	3.2		31900			928		
	DEIONIZED WATER											
	SS PIPE 1½" Φ	290	LF	7.00	.35		2030			102		
	AIR DISTRIBUTION SYSTEM											
	CS PIPE CPD/W ¾" Φ GALV	2130	LF	3.00	.32		6390			682		
	TOTAL - (OUTSIDE)						41770			1851		
	TOTAL - (INSIDE)						84500			8460		
	TOTAL - PIPING						126270			10311		

CES-2000-0 (4/81)

5-472

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. GOMEZ | PRICED BY | DATE AUG 1985 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION BOILER PLANT BAL OF PLANT

CAPACITY AREA #5 ROOM #

ACCNT			QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	MECHANICAL												
15069	INSULATION - HOT W/ ALUMINUM COVER												
	THKNS	IPS											
	1"	1½"	20	LF	6	.28							
		3/4"	105	✓	6	.28							
		1½"	248	✓	6	.29							
		2"	597	✓	6	.30							
		3"	231	✓	7	.34							
		4"	30	✓	7	.34							
		8"	175	✓	10	.47							
	TOTAL	2.8 ϕ	~~1406~~ 1690	LF	6.68	.33		11300			560		

CES-2000-0 (4/81)

5-473

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY RUF/Y.M. | DATE AUG. '85 | SHEET 22 OF 22

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY [illegible]

UNIT/AREA MRS FACILITY

DESCRIPTION BAL OF PLANT

CAPACITY AREA #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	SUPPORT FACILITIES.											
	STEAM GENERATION :-											
	INSTRUMENTATION	BULK					50,000			2000		

CES-2000-0 (4/81)

5-1424

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY RMF | PRICED BY RMF | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE Rom | CHECKED BY Rom/RO

UNIT/AREA BAL OF PLANT

DESCRIPTION MRS FACILITY

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SUPPORT FACILITIES - AREA 5											
	STEAM GENERATION											
	UNDERGROUND REINF. CONCRETE TANK (TANK 600 - 16'W x 56'L x 10')	1	EA									
	(16+10) x 2 x 1 x 56' =	108	CY	754	4.3		81 130			465		
	EXCAVATION (ROCK) (18+28) x 1/2 x 10 x 56 =	477	CY	6.00	.15		2 860			72		
	BACKFILLING	145	CY	3.48	.07		510			10		
	SPOILS DISPOSAL	332	CY	—	—							
	INTERCONN PIPING	ALLOW					10 000			100		
	LINER	1	LOT	25100	240		25 100			240		
	EQUIPMENT REQUIRING INSULATION (ALLOW - $1000/EA @ 10 MH/EA)	5	EA	1000	10		5 000			50		
							124 900			937		

CES-2000-0 (4/81)

5-475

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGR. PRICED BY RUF DATE AUG. '85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY RWT/RL

UNIT/AREA MRS FACILITY

DESCRIPTION BAL OF PLANT

CAPACITY AREA #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SUMMARY											
	UTILITIES											
2560	PROCESS SEWER SYSTEM						191100			4804		5/4 30 a
2565	WATER STORAGE SYSTEM						708250			21868		5/4 30 c
2566	OILY SEWER SYSTEM						51100			2114		5/4 30 a
2576	DIESEL FUEL SYSTEM						283500			7212		30 d
2580	NATURAL GAS SYSTEM						213800			11799		30 i
2582	COOLING TOWER						658630			16236		30 f
							—			—		—
	TOTAL DIRECT COST					1872	2106430			64433	1267000	
					USE		2106000					3308000

CES-2000-0 (4/81)

5-4986

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY ENGR. PRICED BY RUF DATE AUG. 85. SHEET 1 OF 1

JOB NO.: 6410-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY RCM

UNIT/AREA MRS FACILITY
DESCRIPTION BAL OF PLANT
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	AREA #5											
	UTILITIES PROCESS SEWER											
2560	PROCESS SEWER SYSTEM											
2560.01	FIBERGLASS PIPE 6"Ø	4140	LF	15.00	.4		62 100			1656		
.02	" " 8"Ø	885	LF	23.00	.6		20 360			531		
.03	CLEANOUTS	2	EA	250.	14.		500			28		
.04	PACKAGE TREATMENT PLANT EQUIP	1	LOT				42 500			2000.		
	INTERCON. PIPING & INST. 30%	1	LOT				18 750			600		
.05	SPECIAL EQUIPMENT	1	LOT				26 900			89		
	TOTAL DIRECT COST =						191 110			4904		
					USE		191 100					

CES-2000-0 (4/81)

SUB TOTAL 191 110 4815

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY EDGR PRICED BY V MESOC DATE AUG 85 SHEET 1 OF 4

JOB NO.: 6440-11 CLIENT: DOE/PNC TYPE OF ESTIMATE ROM CHECKED BY RMM 11/85

UNIT/AREA MRS FACILITY

DESCRIPTION BAL OF PLANT

CAPACITY AREA 3

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	MECHANICAL EQ.											
	PROCESS EQUIP											
	PUMPS 490 A&P						15000			54		
	AGITATORS 490						2500			15		
	SME 456						9400			20		
	TOTAL						26900			89		

CES-2000-0 (4/81)

V-477

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. BARTOK PRICED BY RBP DATE AUG 1985 SHEET 2 OF 4

JOB NO.: 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY Rem/RS

UNIT/AREA MRS FACILITY

DESCRIPTION PROCESS SEWER SYSTEM

CAPACITY AREA # 5 BAL OF PLANT

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL												
15141	PUMPS												
	P-490 A/B	—	2	EA	6481	22		12400			44		
	PROCESS SEWER LIFT PUMPS — VERTICAL IMMERSION SUMP PUMP - 10'-10" SHAFT, 3 HP MOTOR												
	P-465	—	1	EA	574	10		600			10		
	ACID DRUM PUMP — 1/4 HP PORTABLE DRUM PUMP												
	MTG HDWE & FREIGHT	15%	3	EA				2000					
	S/TOTAL							15000			54		

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY P. BARTOK PRICED BY RJP DATE AUG 1985 SHEET 3 OF 4

JOB NO.: 6440-11 CLIENT: DOE / PNL TYPE OF ESTIMATE ROM CHECKED BY Rem / KL

UNIT/AREA MRS FACILITY

DESCRIPTION PROCESS SEWER SYSTEM

CAPACITY AREA # 5 BAL OF PLANT

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL												
15142	AGITATORS												
	AG-490	—	1	EA	2212	15		2200			15		
	PROCESS SEWER AGITATOR — 10 FT LONG, 3/4 HP PROPELLER MIXER												
	MTG. HDWE & FREIGHT	15%	1	LC				300					
	S/TOTAL							2500			15		

CES-2000-0 (4/81)

S-480

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. BARTOK | PRICED BY RBP | DATE AUG 1985 | SHEET 4 OF 4

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem (RL)

UNIT/AREA MRS FACILITY

DESCRIPTION PROCESS SEWER SYSTEM

CAPACITY AREA #5 BAL OF PLANT

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
					MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 15	MECHANICAL												
15156	SPECIAL MECH. EQUIPMENT												
	SME-450	—	1	EA	8191			8190			20		
	PROCESS SEWER NEUTRALIZATION PACKAGE - SKID MOUNTED, FULLY PIPED. CAUSTIC SYSTEM: 250 GAL TANK 1/4 HP MIXER 1 HP METERING PUMP ACID SYSTEM: 250 GAL TANK 1 HP METERING PUMP												
	MTG. HWDE. & FRT. (15%)		1	EA				1230					
	S/TOTAL		1	EA				9420			20		
						USE		9400					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY RUF | PRICED BY RUF | DATE AUG. '83 | SHEET 1 OF 7

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM/RS

UNIT/AREA MRS FACILITY

DESCRIPTION BAL OF PLANT

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	AREA #5											
	UTILITIES											
	WATER STORAGE											
	WATER STORAGE TANK	1	EA	175000	500		175000			500		
	FOUNDATION	1	EA	30000	2000		30000			2000		
	TANK HEATER	1	EA	40000	200		40000			200		
	INTERCONN. PIPING 30%	ALLOW					73500			700		
	ELECTRICAL	(ALLOW)		10,000			10000			100		
	AREA PIPING						364720			1836B		
	INSULATION	(ALLOW)					15000			200		
	TOTAL DIRECT COST =						708220			21868		

CES-2000-0 (4/81)

V-487

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY RUF | PRICED BY RUF | DATE AUG. 85 | SHEET 2 OF 4

JOB NO.: 6440 - 11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA

DESCRIPTION MRS FACILITY BAL OF PLANT

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	AREA #5											
	UTILITIES WATER STORAGE SYSTEM											
	ELECTRICAL FOR WATER STOR	(PLAN)					10 000-			100		

CES-2000-0 (4/81)

V-489

PARSONS

CLINCH RIVER BASE CASE — **ESTIMATE WORKSHEET**

M.T.O. BY ENGR | PRICED BY RUF | DATE AUG 1985 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS Facility
DESCRIPTION Balance of Plant
CAPACITY Area 5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	Water Storage System											
	Utilities											
	Water System											
	6" PVC Pipe	925	LF	5.50	.5		5090			463		
	8"	11760	✓	9.00	.55		105840			6468		
	10"	5860	✓	13.00	.6		76180			3516		
	12"	850	✓	25.00	.7		21250			595		
	CI Fittings (25% of PVC)	1	LOT				52090			2761		
	6" Cast Iron Pipe	140	LF	10.00	.8		1400			112		
	8" Ductile Iron Cement Lined	1630	LF	15.00	.9		24450			1467		
	6" Gate Valves	52	EA	180	10		9360			520		
	8"	38	✓	300	12		11400			456		
	10"	29	✓	700	15		20300			435		
	12"	3	✓	1000	20		3000			60		
	Valve Boxes	104	EA	75	5		7800			520		
	Post Indicator	17	EA	190	6		3230			102		
	Conc. Thrust Blocks	25	CY	53	.5		1330			13		
	Fire Hydrants	44	EA	500	20		22000			880		
							364720			18368		

CES-2000-0 (4/81)

VC-486

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. 85 | SHEET 4 OF 4

JOB NO.: G440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY RG

UNIT/AREA MRS FACILITY
DESCRIPTION BAL OF PLANT
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	AREA #5											
	UTILITIES WATER STORAGE SYSTEM											
	Tank/Piping Insulation	(ALW)					15000			200		

CES-2000-0 (4/81)

S-425

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY		PRICED BY						DATE	Aug. '85							SHEET 1 OF 3				
JOB NO.:	6440 - 11	CLIENT:	DOE / PNL			TYPE OF ESTIMATE	ROM									CHECKED BY	RM / LS			
UNIT/AREA	MRS FACILITIES																			
DESCRIPTION	BAL OF PLANT																			
CAPACITY																				
ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR			TOTAL DOLLARS			
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS					
	UTILITIES AREA 5																			
	OILY SEWER SYSTEM																			
	OILY SEWER COLLECTION																			
	TANK 452	1	EA					6	500					36						
	453	1						3	000					16						
	454	1						2	400					16						
	455	1						2	000					16						
	4"Φ OILY SEWER C.S. CTD/W	2200	LF	11.00	.65			24	200					1430						
	10"Φ PVC OUTFALL LINE	1000	LF	13.00	.60			13	000					600						
	TOTAL - DIRECT COST							51	100					2114						

CES-2000-0 (4/81)

VC-MBC

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger PRICED BY DATE AUG 1985 SHEET 1 OF 31

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY Pam KP

UNIT/AREA MRS Facility R&H BLDG

DESCRIPTION BAL OF PLANT

CAPACITY Area #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	MECHANICAL											
	OILY SEWER SYSTEM — TANKS	Equal		Det - Vendor								
	TK-452 OILY SEWER COLLECTION DRUM NO. 1											
	Horizontal, cylindrical vessel with semi-elliptical heads. Fiberglass reinforced plastic (FPR). 5'6" diameter, 16'6" tangent to tangent. Capacity = 3,258 gal. DF: ATM, DT: 100°F. Density = 112.3 lb/Ft³. Use 3/8" shell and head thickness.	1	EA	4300	24.		4300			24		
	MANWAY, HOLDDOWNS, ACC. BASE	50	Lb.				2200			12		
	S/TOTAL	1	EA				6500			36		
	TK-453 OILY SEWER COLLECTION DRUM No. 2											
	Horizontal, cylindrical vessel with semi-elliptical heads. Fiberglass reinforced plastic. (FPR). 3'0" diameter, 9'0" tangent to tangent. Capacity = 529 gal. DF: ATM, DT: 100°F Density: 112.3 lb/Ft³. Use 1/4" shell and head thickness	1	EA	1500	8		1500			8		
		337	LB	—	—							
	MANWAY, HOLDDOWNS, ACC. BASE	1	LOT	1500	8		1500			8		
	S/TOTAL	1	EA				3000			16		

CES-2000-0 (4/81)

5487

AREA 5

BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY Jay Hellinger PRICED BY DATE AUG 1985 SHEET 3 OF 3

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY Rem RC

UNIT/AREA MRS Facility RAH. BLDG

DESCRIPTION BAL OF PLANT

CAPACITY Area # 5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	MECHANICAL											
	OILY SEWER SYSTEM											
	TANKS											
	TK-454											
	OILY SEWER COLLECTION DRUM NO. 3											
	Horizontal, cylindrical vessel with semi-elliptical heads.	1	EA	1200	8		1200			8		
	Fiberglass reinforced plastic (FPR). 2'6" diameter, 7'6" tangent to tangent. Capacity = 206 gal. DP: ATM, DT: 100°F Density = 112.3 lb/Ft³. use 1/4" shell and head thickness.	234	LB									
	MH. Hardware Acc. Base	1	LOT	1200	8		1200			8		
	S/TOTAL	1	EA				2400			16		
	TK-455											
	OILY SEWER COLLECTION DRUM NO. 4											
	Horizontal, cylindrical vessel with semi-elliptical heads.	1	EA	1000	8		1000			8		
	Fiberglass reinforced plastic (FPR). 2'0" diameter, 6'0" tangent to tangent. Capacity = 157 gal. DP: ATM, DT: 100°F Density = 112.3 lb/Ft³. use 1/4" shell and head thickness.	153	LB									
	Hardware Access. Pads, etc	1	LOT	1000	8		1000			8		
		1	EA				2000			16		
	4"ø OILY SEWER C.S. CTD/W	2200	LF	11.00	.65		24200			1430		
	10"ø PVC OUTFALL LINE	1000	LF	13.00	.60		13000			600		
	TOTAL OILY SEWER SYSTEM						51100			2114		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE.

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. 85 | SHEET 1 OF 5

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM/KS

UNIT/AREA: MRS FACILITY

DESCRIPTION: BAL OF PLANT

CAPACITY:

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	UTILITIES AREA 5											
	DIESEL FUEL SYSTEM											
	FOUNDATIONS	1	LOT				128400			1644		
	PIPING - P.O. TO BLDGS 1" DIA	1200	LF	2.75	.35		3300			420		
	1/2"	320		2.50	.30		800			96		
	1 1/2"	790		3.00	.35		2370			277		
	2"	640		4.00	.40		2560			256		
	3	2740		5.00	.48		13700			1315		
	TANKS	2	EA				123300			3065		
	(501 & 502 - 33,452 #/EA)											
	MAT'L = 32,39#											
	LABOR (PAD & ERECT) = 30 MH/T											
	Pumps	1	LOT				7940			124		
	FILTER	1	LOT				1150			25		
	TOTAL - DIRECT COST						283520			7212		
					USE		283500					

CES-2000-0 (4/81)

V-489

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY RUF | PRICED BY RUF | DATE AUG-85 | SHEET 2 OF 5

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rum

UNIT/AREA MRS FACILITIES

DESCRIPTION BAL OF PLANT

CAPACITY AREA #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	DIESEL FUEL SYSTEM											
	FUEL STORAGE TANK FDNS.	2	EA.							-		
105 CF	SAND PAD	1220	CY	54.	0.5		65 900			610		
	EARTH DIKE	3560	CY	3.50	0.15		12 500			534		
	DRAINAGE	ALLOW		50K			50 000			500 -		
							128 400			1644		

CES-2000-0 (4/81)

V-490

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY PF BLASA | PRICED BY RBP | DATE AUG 85 | SHEET 3 OF 5

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rum

UNIT/AREA MRS FACILITY

DESCRIPTION FUEL SYSTEMS

CAPACITY AREA #5 BAL OF PLANT

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	MECHANICAL												
	TANKS												
	TK-501 A/B FUEL OIL STORAGE TANKS CAP. 159,600 GAL C.S. MATERIAL, ATM CONE ROOF TANK 34' ϕ x 23'-6" HIGH		33,452	LBS									
	TOTAL FOR 2 66,904 @ 2.50 S/C L&M		66,904	LBS				91000			3,025		
	TK-502 FUEL OIL DAY TANK (FOR STEAM BOILERS) CAP — 12,700 GAL C.S. MAT'L, ATM. 12' ϕ x 16'-0" HIGH		6000	LBS	2.70			16200			40		
	MTG. HWDE. & FRT. (15%)		3	EA				16080					
	S/TOTAL		3	EA				123280			3,065		
			USE					123300					

CES-2000-0 (4/81)

V-491

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. Blasa | PRICED BY RBP | DATE AUG '85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS Facility
DESCRIPTION Fuel Systems
CAPACITY Area #5 Bal. of Plant

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	Mechanical											
	Pumps											
	P-500 A/B Fuel Oil Unloading Pump & Spare Cap - 167 gpm - D.I. Casing & Impeller - ANSI Std - Mech. Seal - 7.5 HP Motor - 460 V, 3 PH, 60 Hz	2	EA	1550	30		3100			60		
	P-501 A/B Fuel Oil Transfer Pump & Spare Cap - 100 gpm @ 154 Ft - DI Casing & Impeller - ANSI Std - Mech. Seal - 10 HP Motor - 460 V, 3 Ph, 60 Hz	2	EA	1900	32		3800			64		
	Mtg. Hdwe. & Fit. (15%)	NIC 4	EA				1040					
	Sub-Total	4	EA				7940			124		

CES-2000-0 (4/81)

V-497

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY RBP | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS Facility
DESCRIPTION Fuel Systems
CAPACITY Area #5 Balance of Plant

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	Mechanical											
13151	Filters											
	F-500											
	Fuel Oil Filter - Duplex	1	EA	1000			1000			15		
	Basket Type Strainer - 100 Mesh S.S. Basket - CI Body, 150# RF Conn. - Price F.O.B. New Jersey											
	Mfg. Howe. & Frt. (15%)	NIL	EA				150					
	Sub-Total	1	EA				1150			15		

CES-2000-0 (4/81)

V-0493

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. 85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM

UNIT/AREA MRS FACILITY

DESCRIPTION BAL OF PLANT

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	UTILITIES AREA 5											
	NATURAL GAS SYSTEM											
	NATURAL GAS FACILITY (Vol. V BOOK VII - 5.5.7.56.48)	1	LOT	(54900 x 1.042)			57 210			2760		
	PIPING CTD/W											
	1" ϕ	0	LF									
	1½"	530	↓	3.00	.40		1 590			212		
	2"	1460	↓	4.00	.40		5 840			584		
	3"	1155	↓	5.00	.48		5 780			554		
	4"	2520	↓	11.00	.65		27 720			1638		
	6"	1050	↓	25.00	.80		26 250			840		
*	PRECAST CONC. METER BOX & COVER	1	EA	490	9		490			9		
	4" METER & PRESSURE REDUCER	1	EA	1000	2		1 000			2		
							125 880			6599		
	ADD:-											
	CS PIPE CTD/W - AREA #7 =	8000	LF	11.00	.65		88 000			5200		
	TOTAL - DIRECT COST =						213 880			11799		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. 85 | SHEET 1 OF 11

JOB NO.: G4140-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM/KL

UNIT/AREA: MRS FACILITY

DESCRIPTION: BAL OF PLANT

CAPACITY: AREA # 5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	COST OR M/HRS PER UNIT M/H	COST OR M/HRS PER UNIT LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	UTILITIES											
	COOLING TOWER											
	FOUNDATIONS	304	CY				24 000			1600		
	COOLING TOWERS	1	SET				190 000			3142		
	MECHANICAL - (PUMPS, TANKS, ETC.)	23	EA				193 900			1636		
	PIPING - OUTSIDE BUILDING	1	LOT				133 500			3650		
	PIPING - INSIDE BUILDING	1760	LF				56 300			4750		
	ELECTRICAL - CHEM BLDG.	1	LOT				930			58		
	INSTRUMENTATION	1	LOT				20 000			200		
	COOLING TOWER CHEM. BLDG	400	SF				40 000			1200		
	TOTAL - DIRECT COST						658 630			16236		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

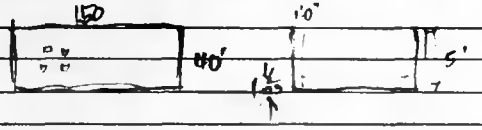
M.T.O. BY RUF | PRICED BY RUF | DATE AUG 85 | SHEET 2 OF 11

JOB NO.: GWHO-11 | CLIENT: DOE / INL | TYPE OF ESTIMATE ROM | CHECKED BY Ken K

UNIT/AREA MRS UTILITIES

DESCRIPTION BAL OF PLANT

CAPACITY AREA #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	UTILITIES											
1.14	COOLING TOWER											
												
	CONCRETE:-											
	40 x 150 x 1.0 = 6000 CF											
	2 (40+150) x 5 x 1 = 1900 "											
	4 x 4 - 2 x 2 - 5 = 320 "											
	8220 CF =	304	CY	80.	5.		24 300.			1600		

CES-2000-0 (4/81)

V-496

PARSONS

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET

M.T.O. BY P. BLASA | PRICED BY PFB | DATE AUG 85 | SHEET 3 OF 11

JOB NO.: 6440 -11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem

UNIT/AREA MRS FACILITY

DESCRIPTION COOLING TOWER

CAPACITY AREA #5 BAL OF PLANT

ACCNT		ROOM #	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	MECHANICAL												
	COOLING TOWERS												
	CWT-600 COOLING TOWER PACKAGE INDUCED DRAFT, VERTICAL DISCH, CROSSFLOW DESIGN. 4-CELL FACTORY FABRICATED COMPONENTS FIELD ERECTED. STEEL STRUCTURE, PVC FILL, FRP FAN BLADES AND STACK. STEEL COMPONENTS TO BE HOT-DIP GALVANIZED. 4-FAN MOTORS 60 HP 460 V 3PH 60 Hz, 2-SPEED REVERSIBLE. DES. DUTY = MMBTU/HR		1	SET	Assume 65%	35% incl	INP 35%	~~$60,000~~ say $180,000			3142		
	BAC BALTIBOND MODEL 4459 OR EQUAL (BASIN BY OTHERS) UNIT COST INCLUDING FIELD ERECTION												
	ADD ON FOR 2-SPEED REVERSING MOTORS FOR (4)		4	EA	2600			10,000					
	TOTAL		4	EA	47,600	785		190,000			3142		

CES-2000-0 (4/81)

V-492

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY P. BLASA | PRICED BY | DATE AUG 85 | SHEET 4 OF 11

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM/KJ

UNIT/AREA MRS FACILITY

DESCRIPTION BAL OF PLANT

CAPACITY AREA #5

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	MECHANICAL											
	Pumps:											
	Summary-											
	P600 A-G 75HP 2150GPM	7	EA	21300	180		149100			1260		
	P-601.3.5.7 1/4 HP 12GPM	4	EA	3200	30		12800			120		
	P609 A-B 30HP 545GPM	2	EA	10700	90		21400			180		
	P602, 604 1/4 HP 14GPM	2	EA	700	6		1400			12		
	S/TOTAL	15	EA	12360	104.80		184700			1572		
	ADD:-											
	AGITATORS	4	EA				3400			32		
	TANKS	4	EA				5800			32		
	TOTAL MECHANICAL	23	EA				193900			1636		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. BLASA | PRICED BY | DATE AUG 85 | SHEET 5 OF 11

JOB NO.: 6440 -11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem / RL

UNIT/AREA MRS FACILITY

DESCRIPTION COOLING TOWER

CAPACITY AREA #5 PART OF PLANT

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	MECHANICAL											
	AGITATORS											
	AG-601, AG-603, AG-605, AG-607 SOLUTION TANK AGITATORS PORTABLE TYPE, GEAR DRIVE WITH BRACKET MOUNTING CLAMP, (SS SHAFT & BLADES) 1/3 HP MOTOR, 120 V, 1 PH, 60 HZ	4	EA	750	8		3000			32		
	MFG HOWC & ERT, 15% (FOR STEAM BOILERS)	4	EA	100			400					
	TOTAL FOR 4											
	S/TOTAL	4	EA	850	8		3400			32		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY P. BLASA | PRICED BY PFB | DATE AUG 85 | SHEET 6 OF 11

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Perm

UNIT/AREA MRS FACILITY

DESCRIPTION COOLING TOWER

CAPACITY AREA #5 BAL OF PLANT

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	MECHANICAL											
	TANKS - CONT'D											
	TK-601, TK-603, TK-605, TK-607 CHEMICAL SOLN TANKS FOR COOLING TOWER WATER TREATMENT 50 GAL CAP CONICAL BOT 2'Ø X 2.5 FT W/ GAGE GLASS, TIGHT LID - VENDOR STD INTERNAL EPOXY COATING	4	EA	1200	8		4800			32		
	MANWAY, HOLO-DOME - MASS 20%	4	EA	USE 250			1000					
	TOTAL PRICE FOR 4 -	4	EA	1450			5800			32		

CES-2000-0 (4/81)

V-500

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE Aug. 85 | SHEET 7 OF 11

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE Rom | CHECKED BY Rom

UNIT/AREA: MRS FACILITY

DESCRIPTION: BAL OF PLANT

CAPACITY:

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
	UTILITIES AREAS											
	COOLING WATER PIPING											
	CS pipe CTD/W 6"Φ	540	LF	25-	.80		13 500			432		
	20"Φ	540	"	100-	2.7		54 000			1458		
	24"Φ	550	"	120-	3.2		66 000			1760		
	TOTAL =						133 500			3650		

CES-2000-0 (4/81)

F-1501

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. 85 | SHEET 8 OF 11

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rom

UNIT/AREA MRS FACILITY

DESCRIPTION BAL OF PLANT

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	UTILITIES AREA 5											
	COOLING TOWER PIPING (INSIDE BUILDING)											
	CARBON STEEL	600	LF				39 600			3180		
	STAINLESS STEEL	880	LF				8 700			1370		
	PPL LINED CARBON STEEL	280	LF				8 000			200		
		1760	LF				56 300			4750		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG 85 | SHEET 9 OF 11

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Tom Post

UNIT/AREA COOLING TOWER CHEMIC. BLDG

DESCRIPTION 20x20 BAL OF PLANT

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTR. AREA 5											
	BRKR PNL	1	E	200	6		200			6		
	LIGHT FIXT	6	E	50	2		300			12		
	COND & WIRE	100	LF	1.20	.1		120			10		
	RECEPT & LITE SW	14	E	10	1.5		140			21		
	GAS DETECT. & FUME	2	E	35	2		70			4		
	ALARM SYSTEM. & SECUR.	1	LS.	100	5		100			5		
							930			58		

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BAS CASE

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 10 OF 11

JOB NO.: G440 - 11 | CLIENT: DOE/PAL | TYPE OF ESTIMATE ROM | CHECKED BY KC

UNIT/AREA

DESCRIPTION MTLS FACILITY BAL OF PLANT

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	AREA 5											
	INSTRUMENTATION	1	LOT	(ATION)			20,000			200		

CES-2000-0 (4/81)

5-504

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY		PRICED BY						DATE AUG. '85												SHEET 11 OF 11	
JOB NO.: 6410-11		CLIENT: DOE / PNL						TYPE OF ESTIMATE ROM												CHECKED BY RCM	
UNIT/AREA MRS FACILITY																					
DESCRIPTION BAL OF PLANT																					
CAPACITY																					
ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS			
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS						
	UTILITIES AREA 5																				
	COOLING TOWER CHEMICAL BLDG.																				
	20' x 20'	400	SF	100.	3			40	000					1200							

CES-2000-0 (4/81)

5-305

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY ENGINEERING PRICED BY V MASSOC/[illegible] Δ DATE AUG 85 SHEET ___ OF ___

JOB NO.: 6440-1 CLIENT: DOE/PNL TYPE OF ESTIMATE CONC. CHECKED BY DM

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	TOTAL SUMMARY AREA #6											
	AREA #6 BY DIVISIONS						17 353 000			218674	3 685 000	20 958 000
	LABOR PRODUCTIVITY-	85%				16%				36 550	633 000	633 000
	S/TOTAL						17 353 000			255224	4 318 000	21 591 000
	CONTRACTORS OH & P	26.5%										5 722 000
	TOTAL COST AREA #6 W/O CONTINGENCY											27 313 000

CES-2000-0 (4/81)

6-1-87

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MIESEC DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT DOE/PNL TYPE OF ESTIMATE ROM. CHECKED BY DH

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY

ACCNT	Summary AREA (S) 6	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
Div 2	SITE WORK					16.08	837,300			117,431	1,858,000	10,261,000
3	CONCRETE					15.31	1,773,000			46,710	718,000	2,491,000
4	MASONARY					16.50						
5	METALS					18.94						
6	WOOD & PLASTICS					16.50						
7	THERMAL MOIST. PROTECTION					16.50						
8	DOORS & WINDOWS					16.50						
9	FINISHES					16.31						
10	SPECIAL TIES					17.61						
11	EQUIPMENT					18.94	581,200			28,260	530,000	6,342,000
12	FURNISHINGS					16.50						
13	SPECIAL CONSTRUCTION					18.94	24,000			768	14,000	38,000
14	CONVEYING SYSTEMS					18.94						
15	MECHANICAL SYSTEMS					18.94						
16	ELECTRICAL					17.85	1,371,000			25,505	458,000	1,876,000
17	INSTRUMENTATION					18.38						
AREA 6	S/TOTAL						17,353,000			718,674	9,605,000	20,958,000

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

BASE CASE

M.T.O. BY ENGINEERING PRICED BY V MESSOC/[illegible] DATE AUG 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY DH

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY

ACCNT DIV 2	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SITE WORK AREA #6											
	Summary											
2100	CLEARING Pg 1						133930			3192		
2200	EARTHWORK 2						6980000			94424		
2220	TRENCH & BACKFILL 4						368610			10911		
2500	SITE DRAINAGE 7						88490			1937		
2511	MEMBRANE LINER 8						1750			125		
2600	ROADS & PAVING 9						589340			3971		
2700	SITE IMPROVEMENTS 10						204700			2790		
2800	LANDSCAPING 12						6460			81		
	TOTAL AREA 6 SITE WORK						8373200			117431		
				USE			8373000					

CES-2000-0 (4/81)

CLINCH RIVER
AREA - #C
BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 1 OF ____

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY RD / RCM

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 2	SITEWORK AREA #C											
2010	SUBSURFACE											
2100	CLEARING											
2102	CLEARING AND GRUBBING	133	AC	1007	24		133 930			3192		
2110	DEMOLITION	1	LOT	LS	LS		—			—		
2100	SUB TOTAL						133 980			3192		

CES 2000-0 (4/81)

CLINCH RIVER AREA #6 BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 2 OF ____

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY RP / RCM

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 2	SITEWORK AREA #6											
2200	EARTHWORK											
10	FINE GRADING - EARTH (MACH)	-	AC	1878	48							
11	EXCAVATION INCL. HAULING - EARTH	102,000	CY	1.09	.01		111,200			1020		
12	EMBANKMENT - COMPACTED FILL	1072650	CY	1.10	.02		1,179,900			21461		
13	ROCK EXCAV. & HAUL - BLASTING	344,000	CY	4.50	.10		1,548,000			34400		
14	ROCK EXCAV. & HAUL - RIPPABLE	0	CY	1.70	.02							
15	ROCK EMBANKMENT - COMP - HAUL	499,800	CY	1.00	.008		499,800			3990		
16	CRUSHING & SCREENING & HAULING	499,800	CY	2.00	.016		999,600			7981		
17	DIKE (EARTH FILL) POND.	0	CY	1.10	.02							
18	EARTH FILL AT EXISTING TUNNEL & DIKES	0	CY	1.10	.02							
19A	EXCAVATION AT PONDS	0	CY	1.09	.01							
19B	Import.	164,000	CY	1.00	.01		1,640,000			16462		
							6,978,300			94424		
						USE	6,980,000					
2200	SUB TOTAL											

CES-2000-0 (4/81)

CLINCH RIVER
AREA #6
BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. 88 | SHEET 3 OF

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM/RD

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 2	SITEWORK AREA #6											
2220	TRENCHING - Incl. DITCHES											
21	EXCAV. AND HAUL - EARTH	5600	CY	1.90	.08		10640			448		
22	EXCAV. AND HAUL - ROCK TRENCHES	25500	CY	6.00	.15		153000			3825		
22.1	1 FT DEEP FOR FOUNDATIONS	0	CY	6.00	.15							
22.2	2 " " " "	19905	CY	6.00	.16		119430			5376		
22.5	VARIOUS " " ELEC. POWER LINES	0	CY	6.00	.15							
22.6	6 FT " " PIPE, DRAINS, ETC	2000	CY	6.00	.16		12000			300		
	SUB TOTAL						295070			10449		

CES-2000-0 (4/81)

CLINCH RIVER
AREA #6
BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 4 OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM / RD

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 2	SITEWORK AREA #6											
2223	BACKFILL	800	Cy	3.48	.07		2780			56		
24	GRAVEL BEDDING	3950	Cy	13.51	.09		53360			356		
25	SHORING. EARTH TRENCH WALLS	0	SF	0.60	.06							
26	SAND (PONDS)	1000	Cy	17.40	.05		17400			50		
	SUB TOTAL						73540			462		
2220	TRENCHING & BACKFILL						368610			10911		

CES-2000 0 (4/81)

CLINCH RIVER
AREA #6
BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 5 OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM/RD

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 2	SITEWORK AREA #6											
2500	SITE DRAINAGE SYSTEM											
2501	CONC. HEADWALL - REINF	9	CY	72.00	3.5		650			32		
02	CONC. RETAINING WALL	0	CY	72.00	3.0							
03	CATCH BASIN	6	CY	99.50	4.0		600			24		
04	FRAMES AND GRATES	2	EA.	221.00	4.0		450			8		
05	CLEAN OUTS	0	EA.	80.00	2.5							
06	CONC. DITCHES 4" THK	1900	SY	7.20	.19		13 680			361		
07	RIPRAP 12" THK	520	SY	10.00	.33		5 200			172		
08	DITCH CHECK CONC.	110	CY	62.40	4.0		6 860			440		
2509	MAN PROOF BARRIER - REINF. CONC.	1	CY	77.20	3.5		80			4		
2509.1	TACK WELDED REINF. BAR SCREEN	120	SF	1.80	.05		220			6		
2509.2	CONC. FLUMES - REINF.	0	CY	169.90	19.3							
2511	MANHOLES - PRECAST CONC.											
2511.1	9'-0" DEEP - 4' DIA.	0	EA.	690.	27							
.2	10'-0" "	0	EA.	750.	30							
.3	6'-0" " - 4' DIA.	0	EA.	600.	25							
	SUB TOTAL						27 740			1047		

CES-2000-0 (4/81)

CLINCH RIVER
AREA #6
BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 6 OF ____

JOB NO.: 6WHO-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM / RD

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LABS		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 2	SITEWORK AREA #6											
2520	DRAINAGE PIPE											
2521	REINF. CONC. PIPE W/ GASKETS											
2521.08	8" DIA.		LF	3.50	.13							
.15	15"			6.70	.16							
.18	18"			9.70	.25							
.21	21"			11.20	.26							
.24	24"			13.30	.31							
.30	30"	130		19.40	.37		2520			48		
.36	36"			21.90	.45							
.48	48"			38.20	1.0							
	SUB TOTAL						2520			48		

CES-2000-0 (4/81)

6-0

CLINCH RIVER
AREA # 6
BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 7 OF

JOB NO.: CMWO-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM/RD

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 2	SITEWORK AREA #6											
1522	CORRUGATED METAL PIPE											
1522.15	15" DIA		LF	8.00	.18							
.18	18"			9.30	.15							
.21	21"			13.20	.18							
.24	24"			15.10	.18							
.30	30"			18.50	.24							
.36	36"	700		29.40	.47		20 580			329		
.42	42"			37.10	.56							
.48	48"	800		41.80	.56		33 440			448		
.60	60"			65.00	.75							
.36	36" PERFORATED	130	↓	32.40	.50		4 210			65		
	SUB TOTAL						58 230			842		
2500	TOTAL SITE DRAINAGE SYSTEM						88 490			1937		

CES 2000 0 (4/81)

CLINCH RIVER
AREA #C
BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 8 OF ____

JOB NO.: GWMD-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM / RD

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS					
DIV. 2	SITEWORK AREA #C																			
2577	MEMBRANE LINER 1.5 mm THK.	12500	SQ	.14	.01			1	750					125						

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY ENGINEERING PRICED BY V. MESSER DATE AUG 85 SHEET 9 OF

JOB NO.: 6440-11 CLIENT: DOE/TVA TYPE OF ESTIMATE P.C.N. CHECKED BY DH

UNIT/AREA MRS FACILITY

DESCRIPTION SITE LOCATION 7

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 2	SITE WORK AREA #6											
2614	CRUSHED ROCK (GRAVEL) PAVING											
.2	2" THICK 152300 x 1/3	50720	SY	.80	.01		40580			507		
.12	12" THICK 281.600 x 1/3	93770	SY	5.00 (20)	.02		468850 (18800)			1875		
		93770	SY							—		
		50720	SY	.027			(1402)			—		
2617	SUBGRADE PREP											
.12	12" (SEE 2241) 477200 x 1/3	15890	SY	.63	.01		100110			1589		
2600	SUB TOTAL						89340			3971		

CES 2000-0 (4/81)

6-12

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY ENGINEERING PRICED BY V MESSER/DH DATE AUG 85 SHEET 10 OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY DH

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SITE WORK AREA 6											
2700	SITE IMPROVEMENTS											
2710 .8	FENCES - CHAIN LINK W/3 STR BW 8'0" HIGH	14000	LF	96	.12		134,400			1680		
2711	FENCE BARB WIRE 4'-6" HI	12000	LF	56	.07		67,200			840		
	TEMP REMOVE/REPLACE	3000	LF		.07		-			210		
2714.30	GATE MOTORIZED 30'x8'	1	EA				2,300			36		
2716.24	GATE DBL SWING 24'x8'	1	EA				800			24		
2700 S	SUB TOTAL						204,700			2790		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG 95 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/ PNL | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA MRS Facility
DESCRIPTION Cask Storage
CAPACITY Area 6

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL.	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
Div. 2	Site Work											
2793	Cat. I Structure Concrete Support Pads - Reinf- For Casks	30260	CY		3.0		To Division 3 - Concrete					
2794.1	Concrete - Reinforced - Cat I	1330	CY		21.2							
2794.2	1/2" S.S. Liner w/ Nelson Studs	2200	SF	11.00	.51							

CES-2000-0 (4/81)

CLINCH RIVER
AREA #6
BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE Aug 1985 | SHEET 12 OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM 35% | CHECKED BY RDJ RLP

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION –
CAPACITY AREA –

ACCNT DIV 2		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	SITE WORK AREA #6											
2800	LANDSCAPING		SY	9.45	.28							
2801	LANDSCAPING & IRRIGATION		SY	10.00	.36							
	GRASS SEEDING	80800	SY	0.06	.001		6,460			81		
2850	RAILROAD WORK											
2851	RAIL – SINGLE		LF	10.75	.42							
2852	TIES		EA	16.35	.53							
2853	BALLAST		CY	13.95	.06							
2854	SUB BALLAST		CY	13.13	.05							
2855	SUB GRADE PREP 6"		SY	.36	.01							
2856	SWITCH		EA	12110	96.0							
2857	RAIL CROSSING (RAIL)		EA	113.00	132.0							
2858	RAIL CROSSING (ROAD) 9'-0 WIDTH		LF	30.00	3.0							
2859	WHEEL STOPS		EA	205.00	2.0							
2800	SUB TOTAL						6,460			81		

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY ENGINEERING PRICED BY V MESSEC DATE AUG 85 SHEET ___ OF ___

JOB NO.: 6440-1 CLIENT: DOE/PNL TYPE OF ESTIMATE FCM CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION CASK STORAGE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 3	CONCRETE AREA 6											
3341	CONCRETE.											
	CAT I STRUCTURE CONCRETE SUPPORT PADS - REINF. FOR CASKS - 30.760 X 1.3	10080	CY	168	4.3		1693440			43344		
	STRUCTS - CONCRETE CAT I 1330 X 1.3	440	CY	163	6.8		71720			2992		
	1/4" S/S LINER W/NELSON STUDS 2200SF X 1.3	733	SF	11.00	.51		8060			374		
3341	SUB TOTAC.						1773220					
		USG					1773000			46710		

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY WESTINGHOUSE | PRICED BY WESTINGHOUSE | DATE AUG 85 | SHEET 1 OF 2

JOB NO.: 6440-11 | CLIENT: DOE/PHL | TYPE OF ESTIMATE ROM | CHECKED BY Rcm

UNIT/AREA MRS FACILITY / AREA 6

DESCRIPTION PRIM. STO. (CONC. CASK)

CAPACITY CONCEPT

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 11	EQUIPMENT AREA 6											
11866	SUMMARY RECAP WESTINGHOUSE EQ											
	PRIM. STO. CONC. CASK CONCEPT.	9	EA				5 500 000			28160		
	FREIGHT	5	%				275 000					
	TRANSP METAL CASK	3	EA				35 000			100		
	FREIGHT	5	%				1 800					
11866	S/TOTAL						5 811 800			28260		
					USE		5 812 000					

CES-2000-0 (4/81)

C-17

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY WESTINGHOUSE | PRICED BY WESTINGHOUSE | DATE AUG-85 | SHEET 2 OF 2

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rom / B

UNIT/AREA MRS FACILITY

DESCRIPTION PRIM. STORAGE (CONC. CASK) CASKS

CAPACITY

ACCNT DIV. 11			QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	NOTE: THIS AREA IS OUTSIDE THE R&H BLDG.	AREA			#K								
11866	STORAGE CASK HANDLING CRANE.	6	1	EA	2500	12000		2500000			12000		
11866	CASK HANDLING/LIFTING FIXTURE STAND.	6	2	EA	10	40		20000			80		
11866	STORAGE CASK TRANSPORT VEHICLE.	6	4	EA	700	4000		2800000			16000		
11866	STORAGE CASK LIFTING/ HANDLING FIXTURE	6	2	EA	90	40		180000			80		
	PAGE TOTAL		9					5500000			28160		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY WESTINGHOUSE PRICED BY WESTINGHOUSE DATE AUG-85 SHEET 1 OF 2

JOB NO.: 6440-11 CLIENT: PNL/DOE TYPE OF ESTIMATE ROM CHECKED BY RCM

UNIT/AREA MRS FACILITY / AREA 6

DESCRIPTION TRANSP. (METAL CASK)

CAPACITY CONCEPT

ACCNT DIV. 11	EQUIPMENT	AREA	QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL $/K	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
11866	TRANSPORTABLE CASK LIFTING YOKE	6	1	EA	20	40		20,000			40		
11866	TRANSPORTABLE CASK LIFTING YOKE STAND	6	1	EA	0.5	20		500			20		
11866	TRANSPORTABLE CASK TRANSFER SKID.	6	1	EA	14.5	40		14,500			40		
	TOTAL							35,000			100		

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY ENGINEERING PRICED BY MESSER DEA DATE AUG 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE FCR CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION CASK STORAGE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 13	SPECIAL CONSTRUCTION AREA	6										
	SUMMARY-											
13610	STORAGE FACILITY GATE STATION	100	SF	(900 CF)			24000			768		
	S/TOTAL	1	EA				24000			768		

CES 2000 0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY: ESTG / ENGRG. | PRICED BY: RUF | DATE: AUG. 85 | SHEET ____ OF ____

JOB NO.: GILLIO-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE: ROM | CHECKED BY: RS

UNIT/AREA: MRS FACILITY

DESCRIPTION: CASK STORAGE

CAPACITY: AREA #6

ACCNT	DESCRIPTION	QUANTITY	UNIT	COST OR M/HRS PER UNIT: MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT: M/HRS	SUBCONTRACT: DOLLARS	LABOR: M/HRS	LABOR: DOLLARS	TOTAL DOLLARS
DIV. 13	SPECIAL CONSTRUCTION	AREA			VOLUME							
13610	PREFABRICATED BUILDING.											
13610	STORAGE FACILITY GATE STATION	100	SF		900 CF		24,200			768		
					USE		24,000					

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

Clinch River Base Case

M.T.O. BY Engineering PRICED BY [illegible] DATE Aug 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/IDL TYPE OF ESTIMATE PCH CHECKED BY

UNIT/AREA MRS Facility

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS					
OVIB	Special Construction-Area 6																			
	6-22																			
	Sheet Not Used																			

CES 2000 0 (4/81)

6-22

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY ENGINEERING PRICED BY [illegible] DATE AUG 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/TVL TYPE OF ESTIMATE PCH CHECKED BY

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 13	SPECIAL CONSTRUCTION AREA 6											
	6-23											
	SHEET NOT USED											

CES 2000 0 (4/81)

6-23

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY GOG | PRICED BY V. MEEC | DATE AUG 85 | SHEET ____ OF ____

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Room

UNIT/AREA MRS FACILITY

DESCRIPTION CASK STORAGE AREA

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA #6											
16400	SERVICE DISTRIBUTION						342000			1190		
16500	LIGHTING						256000			3560		
16550	GROUNDING						16000			371		
16604	SECURITY ALARM						355000			6110		
16900	INST/CONTROL WIRING						502000			14274		
16	S/TOTAL						1371000			25505		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.N. PRICED BY N.N. DATE AUG-85 SHEET ___ OF ___

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Rom CHECKED BY Penn/JS

UNIT/AREA CONCR. CASK STORAGE FACILITY

DESCRIPTION SWGR & XFMRS SS-05

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV-16	ELECTRIC AREA 6											
16405	OUTDOOR SUB STATIONS INCLUDING ENCLOSURES SS-05											
	AIR INTER. SW.	2	E	7870	45		15740			90		
	XFMR 500 KVA	1	E	12300	58		12300			58		
	XFMR 225 KVA	1	E	6500	51		6500			51		
	800A BRKR	9	E	1800	20		16200			180		
	" " " SPACE ONLY	1	E	300	–		300			–		
	MCC-05-1 S/B-01 & S/B-02											
	100AMP BRKR	28	E	410	3		11480			84		
	" SPACE ONLY	6	E	170	–		1020			–		
	FOR ENCLOSURE BLDG						178790			727		
							242330			1190		
					USE		242000					

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY Ruf | PRICED BY Ruf | DATE Aug. 85 | SHEET ____ OF ____

JOB NO.: Gunso-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RCM/RF

UNIT/AREA MRS FACILITIES

DESCRIPTION CASK STORAGE

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 16	ELECTRICAL AREA #6											
16400	SUBSTATIONS: Enclosure											
	#05-1	1600	SF									
	PAD 1'-0" THK	60	CY	519	3		31140			180		
	BLDG (PREFAB)	1600	SF	50	.1		80000			160		
	EARTHWORK	ALLOW		1000	50		1000			50		
	#05-2	800	SF									
	PAD 1'-0" THK	30	CY	519	3		15570			90		
	BLDG (PREFAB)	800	SF	50	.1		40000			80		
	EARTHWORK	ALLOW		500	20		500			20		
	TRANSF. PAD	2	EA									
	FOUNDATION	20	CY	504	6.8		10080			136		
	EARTHWORK	ALLOW		500	20		500			11		
	TOTAL DIRECT COST						178790			727		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.N. PRICED BY N.N. DATE AUG-85 SHEET 1 OF 1

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Rom CHECKED BY Rom HLS

UNIT/AREA ROAD & STREET LIGHTING

DESCRIPTION CASK STORAGE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DW 16	ELECTRICAL AREA 6											
16500	LIGHTING											
	798250 - 542,200 =											
	10676 - 7116 =											
	TOTAL						256,050			3560		
					USE		256000					

CES-2000-0 (4/81)

6-77

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY AJV | PRICED BY J.J. | DATE AUG-85 | SHEET 1 OF 2

JOB NO.: 6440-11 | CLIENT: PNL - DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA ROAD & STREET CLINCH RIVER

DESCRIPTION AREA LIGHTING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL 5&6											
16500	STREET & STORAGE LIGHTING											
	SUBTOTAL SH # 2						681,120			4431		
	SUBTOTAL SH # 3						117,130			6245		
	TOTAL						798,250			10,676		

REFERENCE

CES-2000-0 (4/81)

6-28

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY N.J. DATE AUG-85 SHEET 2 OF 3

JOB NO.: 6440-11 CLIENT: PNL - DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA ROAD & STREET CLINCH RIVER

DESCRIPTION AREA LIGHTING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 16	ELECTRICAL AREA 5 & 6											
16500												
	STREET & STORAGE LIGHTING											
	ROADWAY LIGHTING CROUSE HINDS #RT3-GSNG-W3EA-OV-15 TUDOR, 250 W.	260	E	222	2.5		57,720			650		
	250 W. HPS LAMP	260	E	46	.1		11,960			26		
	30 FEET ROUND TAPERED ST. POLE C-H #RTS8A30SGM16G.	260	E	1155	4		300,300			1040		
	STORAGE AREA FLOOD LIGHTS C-H #KSL10LEC-480-5 1000W 480V 12x4 =	48	E	390	3		18,720			144		
	1000 W. HPS LAMP	48	E	126	.1		6,050			5		
	70 FT TAP. ST. POLES C-H #MTSXF70UMP12	12	E	6,321	10.		75,850			120		
	RODAWAY LITES 6 FT ST. ARMS C-H #66-2	260	E	168	2		43,680			520		
	400 W. HPS FLOOD LIGHTS WESTINGHOUSE #R4G-SPGE-7A	198	E	403	3		79800			594		
	400 W. HPS LAMPS	198	E	49	.1		9700			20		
	30 FT ROUND TAPERED STEEL POLES C-H #RTS-4A30SGM16G.	28	E	1155	4		32340			112		
	POLE BASE ANCHOR BOLTS ETC.	300	E	150	4		45,000			1200		
	REFERENCE ONLY						681,120			4431		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 3 OF 3

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA ROAD & STREET CLINCH RIVER
DESCRIPTION AREA LIGHTING
CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA 5%											
16500	STREET & STORAGE LIGHTING											
	TRENCHING .5 X 2 X 40,000 / 27 =	1482	C.Y	6	.15		8890			222		
	CONCR DUCT. .5 X .5 X 40,000 / 27	370	C.Y	55	.5		20350			185		
	BACKFILL 1482 - 370 =	1112	C.Y	3.5	.07		3890			78		
	2" ϕ PVC CONDUIT	40,000	LF	.76	.08		30400			3200		
	FITTING & SUPPORT 25%	—	—	—	—		7600			800		
	WIRE FEEDERS & GRND #6	120,000	LF	.3	.014		36000			1680		
	CONTACTORS @ MCC FOR LIGHTG 5% ÷ 25	20	E	500	4		10,000			80		
							117,130			6245		

REFERENCE ONLY

CES-2000-0 (4/81)

6-30

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 2 OF 3

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Ram CHECKED BY

UNIT/AREA CLINCH RIVER

DESCRIPTION STORAGE AREA GROUNDING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV-16	ELECTRICAL AREA 6											
16550	GROUNDING											
	3/4 x 200 # 4/0 GRND	7000	LF	1.8	.036		12,600			252		
	TRENCHING .5 x 2 x 7000/27	259	C.Y	6	.15		1550			39		
	BACK FILL	259	C.Y	3.5	.07		910			18		
	GROUNDING WELL	10	E	100	4		1000			40		
	CADWELD	22	E	2	1		40			22		
	TOTAL						16,100			371		
					USE		16000					

CES-2000-0 (4/81)

6-31

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY J.J. DATE AUG-85 SHEET 3 OF 3

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA GENERAL AREA CLINCH RIVER

DESCRIPTION GENERAL AREA GROUNDING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL 5 & 6											
6550	AREA #5 & #6 GROUNDING											
	97.4 x 200' = 19,480 x 1.05 4/0 GRND CABLE	20,500	LF	1.8	.036		36,900			738		
	TRENCHING 6" x 2'-0" .5 x 2/27 x 19,500'	722	C.Y	6	.15		4330			108		
	BACKFILL	722	C.Y	3.5	.07		2530			50		
	GROUND'G WELL W/CLAY PIPE C/C	40	E	100	4		4000			160		
	CADWELD	102	E	2	1		200			102		
							47,960			1158		

REFERENCE ONLY

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 2 OF 2

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rem/KS

UNIT/AREA ALARM ZONE

DESCRIPTION FENCE INTRUSION DETECT

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV 6	ELECTRICAL AREA-6											
16604	SECURITY ALARM											
	AREA # 6						355,240			6110		
	$\frac{742780 \times 6,600}{13,800} =$				USE		355,000					
	$\frac{12775 \times 6600}{13,800} =$											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 1 OF 3

JOB NO.: 6440-11 CLIENT: PNL - DOE TYPE OF ESTIMATE ROM CHECKED BY R Rimple

UNIT/AREA CLINCH RIVER

DESCRIPTION FENCE INTRUSION DETCT.

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 6	ELECTRICAL B&G											
16600	INTRUSION DETCT. & SECUR LIGHTS											
	SUBTOTAL SH# 2						516440			9643		
	SH # 3						226340			3132		
	TOTAL						742,780			12,775		

REFERENCE ONLY

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. | PRICED BY J.J. | DATE AUG-85 | SHEET 2 OF 3.

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA CLINCH RIVER

DESCRIPTION FENCE INTRUSION DETECT.

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA # 6											
16604	FENCE INTRUSION DETECT. SYST.											
	USING PREVIOUS ESTIMATE											
	A TOTAL OF 11,000 L.F. FOR											
	1 LOT # 533,400											
	THE NEW REVISED DWG.											
	HAS 14,200 L.F.											
	$\frac{533,400 \times 14,200}{11,000} = \#688,570$											
	USING A 1 TO 3 RATIO											
	688,570 ÷ 4 = 172,142											
	172,142 ÷ 17.85 = 9643 MH.						516,430			9643		
	688,570 - 172,140 =											
	REFFERENCE ONLY											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 3 OF 3

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Rom CHECKED BY

UNIT/AREA CLINCH RIVER

DESCRIPTION SECURITY LIGHTING.

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 15	ELECTRICAL AREA-86											
16604	SECURITY LIGHTING (11-14)											
	FLOODLIGHT 1000W. HPS. 277V. HOLOPHANE # VFLDC10HP27SQ	140	E	671	3		93940			420		
	10 FT ROUND STEEL POLE	130	E	402	2		52260			260		
	DIRECT BARIAL CABLE	14000	LF	25	.037		35000			518		
	1000 W. H.PRESS. SOD. LAMP	140	E	126	.1		17640			14		
	TRENCHING & BACK FILL	14,000	LF	1.5	.1		21000			1400		
	CONCRETE FOUNDATION	130	E	50	4		6500			520		
							226,340			3132		

REFERENCE ONLY

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 2 OF 2

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Rom CHECKED BY Rom

UNIT/AREA AREA # C

DESCRIPTION INSTRUMENT CABLE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV-16	ELECTRICAL AREA 6											
16900	INST/CONTROL											
	SUBTOTAL SH-2						464,640			12,448		
	HALF OF SH-9						18,580			913		
	HALF OF SH-10						18,580			913		
							501,800			14,274		
				USE			502,000					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 1 OF 10

JOB NO.: 6410-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rom K

UNIT/AREA ALL OUTSIDE AREAS.

DESCRIPTION INSTRUM. CABLE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV-16	ELECTRICAL 5&6											
16900	SUMMARY											
	SUBTOTAL SH # 2						464,640			12448		
	3						10720			390		
	4						8060			293		
	5						60400			3059		
	6						3350			150		
	7						26630			1148		
	8						3410			198		
	9						37170			1825		
	10						37170			1825		
	TOTAL						651,850			21,336		

REFERENCE ONLY

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 2 OF 10

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA PRI STORAGE AREA CASK

DESCRIPTION INSTRUMENT. WIRING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA - 5 & 6											
16900												
	272 INSTR. @ CASKS											
	(A) DUCT BANK 8.75 X 200 (1'-6" / 14")	1750	LF	-	-	-	-			-		
	(B) DUCT BANK 6 X 600 ± (14" / 8")	3600	LF	-	-	-	-			-		
	EXCAVAT. (1750 x 1.5 x 4.5) ÷ 27 =	438	C.Y	6	.15		2630			66		
	EXCAVAT. (3600 x 1.5 x 4 - ÷ 27 =	613	C.Y	6	.15		3680			92		
	CONCRETE 1750 x 1.5 x 1.2) ÷ 27 =	117	C.Y	55	.5		6440			59		
	CONCRETE 3600 x 1.15 x .87) ÷ 27 =	103	C.Y	55	.5		5670			52		
	BACKFILL 438 - 117 =	321	C.Y	35	.07		1120			22		
	BACKFILL 613 - 103 =	510	C.Y	35	.07		1790			36		
	2" ϕ PVC CONDUIT	17,700	LF	.76	.08		13450			1416		
	(1750 x 6) + (3600 x 2) FITT'G & SUP	25%	-	-	-		3360			354		
	2" ϕ RGS CONDUIT 272 X 3'-0"	820	LF	2.54	.18		2080			148		
	2" ϕ RGS INSIDE R&H 6 X 300	1800	LF	2.54	.18		4570			324		
	FITTING & SUPPORT 50%	-	-				3330			236		
	J.B BOX & SUPPORT	272	E	60	3		16320			816		
	WIRE CONN. 272 X 6	1632	E	1 -	.25		1630			408		
	MULTI-PLEXER	4	E	10000	20		40,000			80		
	3/C #18 272 x 300 =	81,600	LF	.149	.012		12,160			980		
	5/C #18 272 x 1800 =	489,600	LF	.7	.015		342,720			7344		
	MANHOLE 6'X6'X8'	2	E	1700	4		3400			8		
	EXCAVATION	42	C.Y	6	.15		250			6		
	FILL	10	C.Y	35	.07		40			1		
	REFERENCE ONLY						464,640			12448		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 3 OF 10

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Room CHECKED BY RMM/DO

UNIT/AREA FOR SECURITY BLDG

DESCRIPTION INSTRUM. WIRING - MRS FACILITY

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA - 5 & 6											
16900												
	OUTSIDE SECURITY CABLE TO R&H BLDG	-										
	DUCTBANK 6X200 = 18" OD 10"	1200	LF	-								
	TRENCHING 1200 X 1.5 X 4.5 ÷ 27	300	C.Y	6	.15		1800			45		
	CONCRETE 1200 X 1.5 X .85 ÷ 27	57	C.Y	55	.5		3140			29		
	BACKFILL 300 - 57	243	C.Y	3.5	.07		850			17		
	2" φ PVC. COND. 1200 X 2	2400	LF	.76	.08		1820			192		
	FITTING & SUPPORTS 25%	-	-	-	-	-	460			48		
	CABLE 6 COND. 1200 X 2 X 1.3	3120	LF	.85	.019		2650			59		
							10720			390		

REFERENCE ONLY

CES-2000-0 (4/81)

G-40

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY J. J. PRICED BY J. J. DATE AUG-85 SHEET 4 OF 10

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Rom CHECKED BY

UNIT/AREA PROTECTED AREA GATE HOUSE

DESCRIPTION OUTSIDE INSTRUM. WIRING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA-5 & 6											
16900												
	OUTSIDE INSTR. CABLE TO R&H BLDG											
	DUCT BANK 4.5 X 200 = 18" 00 10"	900	LF									
	TRENCHING 900 X 1.5 X 4.5 ÷ 27	225	C.Y.	6	.15		1350			34		
	CONCRETE 900 X 1.5 X .85 ÷ 27	43	C.Y	55	.5		2370			22		
	BACKFILL 225 - 43 =	182	C.Y	3.5	.107		640			13		
	2" ϕ PVC COND. 900 X 2	1800	LF	.76	.08		1370			144		
	FITTING & SUP. 25%	-	-	-	-		340			36		
	CABLE 900 X 2 X 1.3	2340	LF	.85	.019		1990			44		
							8060			293		

REFERENCE ONLY

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N. J. | PRICED BY N. J. | DATE AUG-85 | SHEET 5 OF 10 | Rev. KS

JOB NO.: 6440-11 | CLIENT: PNL-DOE | TYPE OF ESTIMATE ROM | CHECKED BY

UNIT/AREA: SITE SERVICES BLDG

DESCRIPTION: OUTSIDE INSTRUM. WIRING

CAPACITY: MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA-5 & 6											
16900												
	OUTSIDE INSTR. CABLE											
	COAX CABLE	14000	LF	1.1	.02		15400			280		
	SHIELDED CABLE (1.5, 12")	8000	LF	.133	.008		1060			64		
	DUCTBANK 4000×1.5×4.5÷27	1000	C.Y.	6	.15		6000			150		
	CONCR. 4000×1.5×1÷27	222	C.Y.	55	.5		12220			111		
	BACKFILL 1000-222	778	C.Y.	3.5	.07		2720			54		
	2"ϕ PVC. 4000×6	24000	LF	.76	.08		18240			1920		
	FITTING & SUPPORT 25%	-	-	-	-		4560			480		
							60,200			3059		

REFERENCE ONLY

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.N. PRICED BY J.N. DATE AUG-85 SHEET 6 OF 10

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY RamRS

UNIT/AREA FOR WAREHOUSE

DESCRIPTION OUTSIDE INSTRUM. WIRING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	ELECTRICAL AREA-5 & 6											
16900												
	OUTSIDE INSTRUM. CABLE											
	COAX CABLE	1000	LF	1.1	.02		1100			20		
	DUCT BANK [8" ⊙ 1"] 1000 x .66 x .66 / 27	17	C.Y.	55	.5		940			9		
	TRENCH. 1000 x .66 x 4 ÷ 27 =	97	C.Y	6	.15		580			15		
	BACKFILL 97-17 =	80	C.Y	3.5	.07		280			6		
	2" ϕ PVC.	1000	LF	.76	.08		760			80		
	FITTING & SUPPORT 25%	-	-	-	-		190			20		
							3850			150		

REFERENCE ONLY

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY N.J. DATE AUG-85 SHEET 7 OF 10

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Rom CHECKED BY Rom

UNIT/AREA FOR ADMINISTRATION BLDG

DESCRIPTION OUTSIDE INSTRUMENT. WIRING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA-5 & 6											
16900												
	OUTSIDE INSTRUM. CABLES											
	COAX CABLE	10,000	LF	1.1	.02		11,000			200		
	BUCTBANK 1'-6" 8"×8" 14" CONC.											
	1400 × 1.5 × 1.17 ÷ 27	91	C.Y	55	.5		5000			46		
	TRENCH 1400 × 1.5 × 4 ÷ 27	311	C.Y.	6	.15		1870			47		
	BACKFILL 311 - 91	220	C.Y	3.5	.07		770			15		
	2"φ PVC. 1400 × 6 =	8400	LF	.76	.08		6390			672		
	FITT'G & SUPPORT 25%	—	—	—	—		1600			168		
							26,630			1148		

REFERENCE ONLY

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 8 OF 10

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA FOR CH TRU STORAGE AREA

DESCRIPTION OUTSIDE INSTR. CABLE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA	5&6										
16900	OUTSIDE INSTRUM. CABLE											
	DUCTBANK 14" 14" 400x1.17x1.17/27	20	CY	55	.5		1100			10		
	TRENCH. 400x1.17x4÷27	70	CY	6	.15		420			11		
	BACKFILL	50	CY	3.5	.07		180			4		
	2"ϕ PVC. 400x4	1600	LF	.76	.08		1210			128		
	FITT'G & SUPPORT 25%	-	-				300			32		
	SINGLE TW. PR. 400x1.3	520	LF	.133	.008		70			4		
	#14 CABLE 400x1.3x3	1560	LF	.083	.006		130			9		
							3410			198		

REFERENCE ONLY

CES-2000-0 (4/81)

6-45

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.N. PRICED BY J.N. DATE AUG-85 SHEET 9 OF 10

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Rom CHECKED BY

UNIT/AREA ALL AREA

DESCRIPTION INVIROMT INSTRUM. WIRING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
	ELECTRICAL AREA	S&G										
16903												
	INVIROM. OUTSIDE WIRING TO FOUR STATIONS LOCATED @ ALL FOUR CORNER OF THE SITE											
	DUCT BANK [0] 4" 13,000 x .66 x .66 / 27	210	CY	55	.5		11550			105		
	TRENCHING 13,000 x .66 x 4 ÷ 27	1270	CY	6	.15		7620			190		
	BACKFIL 1270 - 210 =	1060	CY	3.5	.07		3710			74		
	2" ϕ PVC COND.	13,000	LF	.76	.08		9880			1040		
	FITTING + E SUPPORT 25%	—	-	—	—		2470			260		
	3/C #18	13,000	LF	.149	.012		1940			156		
							37,170			1825		
	REFERENCE ONLY											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 10 OF 10

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA ALL AREA

DESCRIPTION METROLOG. OUTSIDE WIRING

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA	5&6										
16900												
	METROLOG. OUTSIDE WIRING											
	USING AN ESTIM. BY DUPLICATING THE INVIROMENT QUANTITY.											
	DUCT BANK 10 .66 13000 X .66 X .66 / 27	210	CY	55	.5		11550			105		
	TRENCH'G 13000 X .66 X 4 ÷ 27	1270	CY.	6	.15		7620			190		
	BACKFILL 1270 - 210 =	1060	CY	3.5	.07		3710			74		
	2" ϕ PVC. COND.	13,000	LF	.76	.08		9880			1040		
	FITTING & SUPPORT. 25%	—	—	—	—		2470			260		
	3/C # 18	13,000	LF	.149	.012		1940			156		
							37,170			1825		
	REFERENCE ONLY											

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY V. MESEC PRICED BY V. MESEC DATE AUG 85 SHEET ___ OF ___

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM CHECKED BY RS/AP

UNIT/AREA M23 FACILITY

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	TOTAC SUMMARY AREA #7 INCLUDING CONTRACTORS OHD-PROFIT											
	AREA #7 BY DIVISIONS					16.67	580,000			122002	2021000	7822000
	LABOR PRODUCTIVITY	85	%							21530	357000	357000
	S/TOTAC						580,000			143532	2378000	8179000
	CONTRACTORS OHD-PROFIT	26.5	%									2167000
	TOTAC AREA #7 W/OUT CONTINGENCY											10346000

CES-2000-0 (4/81)

7-1/24

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY ENGINEERING PRICED BY V. MESEC DATE AUG. 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNL TYPE OF ESTIMATE ROM. CHECKED BY Rem RS

UNIT/AREA MRS FACILITY

DESCRIPTION OFF SITE IMPROVEMENTS

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SUMMARY AREA (S) #7											
DIV 2	SITE WORK					16.08	4445 000			88436	1442000	5867 000
3	CONCRETE					15.31	0			0	0	0
4	MASONARY					16.50	0			0	0	0
5	METALS					18.44	0			0	0	0
6	WOOD & PLASTICS					16.50	0			0	0	0
7	THERMAL MOIST. PROTECTION					16.50	0			0	0	0
8	DOORS & WINDOWS					16.50	0			0	0	0
9	FINISHES					17.50	0			0	0	0
10	SPECIALTIES					17.01	0			0	0	0
11	EQUIPMENT					18.71	0			0	0	0
12	FURNISHINGS					16.50	0			0	0	0
13	SPECIAL CONSTRUCTION					18.71	0			0	0	0
14	CONVEYING SYSTEMS					18.71	0			0	0	0
15	MECHANICAL SYSTEMS					18.01	0			0	0	0
16	ELECTRICAL					17.05	1356 000			33566	599 000	1955 000
17	INSTRUMENTATION					18.35	0			0	0	0
	S/TOTAL						5801 000			122002	2021 000	7822 000

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG 85 | SHEET 1 OF 1

JOB NO.: 6490-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rom/RD

UNIT/AREA MRS FACILITY

DESCRIPTION SITE LOCATION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 2	SITEWORK AREA # 7											
2100	CLEARING						32220			768		
2200	EARTHWORK						2420000			38958		
2220	TRENCHING & BACKFILL						50180			1048		
2500	SITE DRAINAGE SYSTEM						2940			89		
2520	DRAINAGE PIPE						44860			663		
2580	NATURAL GAS SYSTEM						TO UTILITIES - AREA # 5					
2600	ROADS & PAVING						220750			1859		
2800	LANDSCAPING						1038450			27031		
2860	TUNNELS & BRIDGES						634910			18020		
							4444310			88436		
DIV 2	TOTAL SITEWORK AREA # 7				USC		4444500					

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '05 | SHEET 1 OF 13

JOB NO.: 6440 - 11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem / RO

UNIT/AREA MRS FACILITY

DESCRIPTION SITE LOCATION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT			LABOR			TOTAL DOLLARS
				MATL	M/H	LAB $				M/HRS	DOLLARS		M/HRS	DOLLARS		
DIV. 2	SITEWORK AREA 7															
2010	SUBSURFACE															
2100	CLEARING															
2102	CLEARING AND GRUBBING	32	AC	1007	24			32	220				768			
2110	DEMOLITION	1	LOT	LS	LS											
2100	TOTAL CLEARING							32	220				768			

CES 2000 0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 2 OF 13

JOB NO.: 6440-11 | CLIENT: DOE / PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem / RO

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 2	SITEWORK AREA 7											
2200	EARTHWORK											
10	FINE GRADING - EARTH (MACH)		AC	1878	48							
11	EXCAVATION INCL. HAULING - EARTH	622800	CY	1.09	.01		678850			6228		
12	EMBANKMENT - COMPACTED FILL	651560	CY	1.10	.02		716720			13031		
13	ROCK EXCAV. & HAUL - BLASTING	66600	CY	4.50	.10		299750			6550		
14	ROCK EXCAV. & HAUL - RIPPABLE		CY	1.70	.02							
15	ROCK EMBANKMENT - COMP - HAUL	2960	CY	1.00	.003		2960			89		
16	CRUSHING & SCREENING & HAULING	2960	CY	2.00	.016		5920			47		
17	DIKE (EARTH FILL) POND		CY	1.10	.02							
18	EARTH FILL AT EXISTING TUNNEL & DIKES	653960	CY	1.10	.02		719330			13078		
19	EXCAVATION AT PONDS		CY	1.09	.01							
							2418530			38958		
2200	TOTAL EARTHWORK				USE		2420000					

CES 2000 0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. 86 | SHEET 3 OF 13

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem/AO

UNIT/AREA MRS FACILITY

DESCRIPTION SITE LOCATION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV 2	SITEWORK AREA 7											
2220	TRENCHING - INCL. DITCHES	-										
21	EXCAV. AND HAUL - EARTH	4500	CY	1.90	.08		8550			360		
22	EXCAV. AND HAUL - ROCK TRENCHES		CY	6.00	.15							
22.1	1 FT DEEP FOR FOUNDATIONS		CY	6.00	.15							
22.2	2 " " " "		CY	6.00	.15							
22.5	VARIOUS " " ELEC. POWER LINES		CY	6.00	.15							
22.6	6 FT " " PIPE, DRAINS, ETC	3005	CY	6.00	.16		18030			457		
2220	SUB TOTAL TRENCHING						26580			811		
	TRANS TO SHT 4											

CES 2000 0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 4 OF 13

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem/RD

UNIT/AREA MRS FACILITY

DESCRIPTION SITE LOCATION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 2	SITEWORK AREA 7											
2223	BACKFILL	1695	CY	3.48	.07		5900			119		
24	GRAVEL BEDDING	1310	CY	13.51	.09		17700			118		
25	SHORING. EARTH TRENCH WALLS		SF	0.60	.06							
	SAND (PONDS)		CY	17.40	.05							
	TRENCHING S/T FM SHT 3						26580			811		
2220	TOTAL TRENCHING & BACKFILL						50180			1048		

CES 2000 0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 5 OF 13

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rev/DD

UNIT/AREA MRS FACILITY

DESCRIPTION SITE LOCATION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 2	SITEWORK AREA 7											
2500	SITE DRAINAGE SYSTEM											
2501	CONC. HEADWALL - REINF	3	CY	72.00	3.5		220			11		
02	CONC. RETAINING WALL		CY	78.40	3.0							
03	CATCH BASIN	7	CY	99.50	4.0		700			28		
04	FRAMES AND GRATES	5	EA.	224.00	4.0		1120			20		
05	CLEAN OUTS		EA.	80.00	2.5							
06	CONC. DITCHES 4" THK		SY	7.20	.19							
07	RIPRAP 12" THK	90	SY	10.00	.33		900			30		
08	DITCH CHECK CONC.		CY	62.40	4.0							
2509	MAN PROOF BARRIER - REINF. CONC.		CY	77.00	3.5							
2509.1	TACK WELDED REINF. BAR SCREEN		SF	1.80	.05							
2509.2	CONC. FLUMES - REINF.		CY	169.00	19.3							
2511	MANHOLES - PRECAST CONC.											
2511.1	9'-0" DEEP - 4' DIA.		EA.	690.	27							
	10'-0" " "		EA.	760.	30							
	6'-0" " - 4' DIA.		EA.	600.	25							
2500	TOTAL SITE DRNGE SYS						2940			89		

CES 2000 0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 6 OF 13

JOB NO.: 6HHO-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rem/RD

UNIT/AREA MRS FACILITY

DESCRIPTION SITE LOCATION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 2	SITEWORK AREA 7											
2520	DRAINAGE PIPE											
2521	REINF. CONC. PIPE W/ GASKETS											
2521.08	8" DIA.		LF	3.50	.13							
.15	15"			6.90	.16							
.18	18"			9.70	.25							
.21	21"			11.20	.26							
.24	24"	430		13.30	.31		5720			133		
.30	30"			19.40	.37							
.36	36"			21.90	.45							
.48	48"		↓	38.80	1.0							
2520	SUB TOTAL RCP						5720			133		
	TRANS TO SHT 8											

CES 2000 0 (4/81)

PARSONS

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 1 OF 13

JOB NO.: GWJO-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rom/RO

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 2	SITEWORK AREA 7											
1512	CORRUGATED METAL PIPE											
1512.15	15" DIA		LF	8.00	.14							
.18	18"			9.30	.15							
.21	21"			13.20	.18							
.24	24"			15.10	.18							
.30	30"			18.50	.24							
.36	36"	100		29.40	.47		2940			47		
.42	42"			37.10	.86							
.48	48"	460		41.80	.96		19230			258		
.60	60"	190		65.00	.75		12350			143		
.36	36" + PERFORATED		↓	32.50	.50							
2520	SUB TOTAL CORR METAL PIPE						34520			448		
	TRANS TO SHT 8											

CES 2000 0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 8 OF 13

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY Rom/RD

UNIT/AREA MRS FACILITY

DESCRIPTION SITE LOCATION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 2	SITEWORK AREA 7											
	DRAINAGE PIPE (CONT)											
2523	CMP END SECTIONS											
2523.15	15" DIA.		EA	88.00	1.6							
.18	18"		EA	98.00	1.7							
.21	21"		EA	68.50	2.0							
.24	24"		EA	103.00	2.2							
.30	30"		EA	127.00	2.3							
.36	36"	4	EA	184.50	2.6		740			11		
.42	42"		EA	215.00	3.5							
.48	48"	12	EA	248.00	4.7		2 980			56		
.60	60"	3	EA	300.00	5.0		900			15		
2524	PVC PERFORATED PIPE											
2524.6	6" DIA		LF	1.40	0.06							
.8	8" "		LF	2.00	0.07							
	RCP S/T FM SHT 6						5720			133		
	CORR METAL PIPE S/T FM SHT 7						34 520			448		
2520	TOTAL DRAINAGE PIPE						44 860			663		

CES 2000 0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. '85 | SHEET 9 OF 13

JOB NO.: CONMD-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RD

UNIT/AREA MRS FACILITY

DESCRIPTION

CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	AREA 7											
2580	NATURAL GAS SYSTEM											
	C.S. PIPE CTD/W 1"Ø		LF	2.80	.72		TO UTILITIES - AREA #5 (SEPARATE SHT - NAT. GAS SYS)					
	1½"Ø			3.00	.40							
	2"Ø			4.00	.40							
	3"Ø			5.00	.48							
	4"Ø			11.00	.65							
	6"Ø		↓	25.00	.80							
	PRE-CAST CONC. METER BOX & COVER		EA.	490-	9							
	4" METER & PRESSURE REDUCER		EA	1000-	2							
2580	TOTAL NAT GAS SYS						TO UTILITIES - AREA 5					

CES 2000 0 (4/81)

AREA 7

BASE CASE

PARSONS

ESTIMATE WORKSHEET

| | | |

CLINCH RIVER
AREA 7
BASE COST

PARSONS
ESTIMATE WORKSHEET

11 13

M.T.O. BY | PRICED BY | DATE Aug 1985 | SHEET 7 OF 9
JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RM/RC
UNIT/AREA MRS FACILITY
DESCRIPTION Site Location - OFFSITE
CAPACITY AREA - 7

ACCNT		QUAN-TITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS					
DIV 2	SITE WORK																			
	ROADS & PAVING (CONT)																			
2618	CONC CURBS		LF	5.40	.21															
2619	CONC CURB & GUTTER		LF	6.25	.42															
2620	CONC STAIRS		CY	129.00	16.4															
2622	PAVEMENT STRIPING	2100	LF	.06	.01				130					21						
2623	PAVEMENT MARKINGS		SY	9.45	.72															
2626	SIGNS	18	EA	48.00	.74				860					13						
2628	PRECAST CONC BUMPERS	—																		
2628.4	4 FT		EA	12.00	.33															
.8	8 FT		EA	24.00	.41															
2628.12	12 FT		EA	36.00	.50															
	ROADS & PAVING S/T FM SHT 10							29	760					1825						
2600	TOTAL ROADS & PAVING							220	750					1859						

CES-2000-0 (4/81)

CLINCH RIVER
AREA 7
BASE CASE

PARSONS

ESTIMATE WORKSHEET

12 13

M.T.O. BY | PRICED BY | DATE Aug 1985 | SHEET 8 OF 9

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE ROM | CHECKED BY RMM/RS

UNIT/AREA MRS FACILITY
DESCRIPTION SITE LOCATION - OFFSITE
CAPACITY AREA - 7

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE			SUBCONTRACT				LABOR				TOTAL DOLLARS		
				MATL	M/H	LAB $				M/HRS	DOLLARS			M/HRS	DOLLARS					
DN2	SITE WORK																			
2800	LANDSCAPING		SY	9.45	.28															
2801	LANDSCAPING & IRRIGATION		SY	10.00	.36															
2850	RAILROAD WORK																			
2851	RAIL - SINGLE (21,000 LF ON ℄)	42,000	LF	10.75	.42			451	500					17640						
2852	TIES	12,600	EA	16.35	.53			206	010					6678						
2853	BALLAST	11,800	CY	13.95	.06			164	610					708						
2854	SUB BALLAST	14,100	CY	13.19	.05			185	190					705						
2855	SUB GRADE PREP 6"	70,000	SY	.36	.01			25	200					700						
2856	SWITCH		EA	12110	96.0															
2857	RAIL CROSSING (RAIL)		EA	1130	132.0															
2858	RAIL CROSSING (ROAD) 9'-0 WIDTH	200	LF	30.00	3.0			6000						600						
2859	WHEEL STOPS		EA	205.00	2.0															
2800	TOTAL LANDSCAPING							1038	490					27031						

CES-2000-0 (4/81)

7-15

PARSONS

CLINCH RIVER BASE CASE — ESTIMATE WORKSHEET

M.T.O. BY | PRICED BY | DATE AUG. 1985 | SHEET 14 OF 13

JOB NO.: CLLIO_11 | CLIENT: DOE | TYPE OF ESTIMATE ROM | CHECKED BY Rmc/mp

UNIT/AREA MRS FACILITIES
DESCRIPTION SITE LOCATION
CAPACITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	SITE WORK AREA 7											
2860	TUNNELS & BRIDGES											
	CORR. METAL PIPE, PEAR SHAPE, 90'SPAN x 31'2R	100	LF	2500	6		250 000			600		
	EXCAVATION (ROCK)	2500	CY	31.05	1.5		77 630			3750		
	EXCAVATION (EARTH)	13200	CY	1.09	0.01		14 390			132		
	GRAVEL BEDDING	9350	CY	13.51	0.09		126 320			842		
	CONC. CRIB WALL	4800	SF	15.	0.30		72 000			1440		
	ASPHALT CONCRETE, 6" THK	960	SY	7.26	0.09		6 970			86		
	GUARD RAILS	400	LF	6.00	0.05		2 400			20		
	DEMOLISH & DISPOSE (AC PAVEMENT)	910	SY	1.02	0.14		930			127		
	TEMPORARY DETOUR											
	FILL (EARTH)	5340	CY	1.10	0.02		5 870			107		
	AGGREGATE BASE, 12" THK	7750	SY	2.20	0.07		17 050			543		
	ASPHALT CONCRETE, 5" THK	6550	SY	7.26	0.09		47 550			590		
	SUBGRADE PREP, 6" THK	8550	SY	0.36	0.01		3 080			86		
	DEMOLITION & DISPOSE TEMP. DETOUR	8550	SY	1.02	0.14		8 720			1197		
	TRAFFIC CONTROL	1	LOT	2000	8500		2 000			8500		
2860	TOTAL TUNNELS & BRIDGES						634 910			18020		

CES 2000 0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY VM DATE Aug 85 SHEET ____ OF ____

JOB NO.: 6440-11 CLIENT: DOE/PNC TYPE OF ESTIMATE ROM. CHECKED BY Rom Kos

UNIT/AREA MRS FACILITY

DESCRIPTION PHONE TRUNK LINES

CAPACITY OFFSITE

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA 7											
	SUMMARY											
16350	OVERHEAD POWER LINE						1309000			31126		
16100	PHONE TRUNK LINES						47000			2440		
	S/TOTAL						1356000			33566		

CES-2000-0 (4/81)

7-13

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 1 OF 7

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Rom CHECKED BY Pem RS

UNIT/AREA OVERHEAD POWER LINE
DESCRIPTION BASE CLINCH RIVER
CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA-7											
16350	-SUM. OVERHEAD PWR LINES											
	SUBTOTAL SH-2						640,330			11528		
	3						25,780			1931		
	4						384,260			11393		
	5						25,000			1825		
	6						108,560			3680		
	7						25,000			769		
	SUBTOTAL						1,208,930			31,126		
					1/SL		1209000					
	TOTAL											

CES-2000-0 (4/81)

7-16

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J. J. PRICED BY J. J. DATE AUG - 85 SHEET 2 OF 7

JOB NO.: 6440 - 11 CLIENT: PNL - DOE TYPE OF ESTIMATE ROM CHECKED BY RM RM

UNIT/AREA OVERHEAD POWER LINE
DESCRIPTION BASE CLINCH RIVER
CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA 7											
16300	500 KV. POWER LINE											
	ADD 13,600 ÷ 800 = 17+1 TRANSMISSION TOWER H FRAME WT #7500	18	E	5000	160		90,000			2880		
	INSULATORS 10½ DIA. 54 PER POLE	972	E	21.15	.15		20,560			146		
	CABLE 13,600 x 9 500 MCM	122,400	LF	3.98	.05		487,150			6120		
	#2 GROUND CABLE 13,600 x 2	27,200	LF	.666	.05		18,120			1360		
	TRANSM. TOWER FOUND. 18 x 4 = 72 x 1.85 C.Y = 134											
	20% PIER	27	C.Y	234	7		6320			189		
	80% PAD	107	C.Y	72	3		7700			321		
	GUY ASSEMBLY	5	E	670	77		3350			385		
	SUSPENSION CLAMPS O. BRASS 18 x 3 = 54	54	E	8.15	.20		440			11		
	O. BRASS STRAIN CLAMPS 18 x 3 = 54	54	E	6.10	.20		330			11		
	TRIANGLE CABLE SPACERS 13,600 ÷ 100 = 136	136	E	10	.33		1360			45		
	TAP TO EXIST LINE (INSULATION SWITCHES ETC).	1	SET	5,000	60		5000			60		
	TOTAL						640,330			11,528		

CES-2000-0 (4/81)

7-17

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY N.N. PRICED BY N.N. DATE AUG-85 SHEET 3 OF 7

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY Rom TRS

UNIT/AREA OVERHEAD POWER LINE
DESCRIPTION BASE CLINCH RIVER
CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DW.16	ELECTRICAL AREA 7											
16300	500KV DEMOLITION											
	REMOVE 9,700 ÷ 800 = TOWER	13	E	-	60		-			780		
	REMOVE INSULATORS 13 x 54 =	702	E	-	.10		-			70		
	REMOVE CABLE 9700 x 9 =	87,300	LF	-	.01		-			873		
	REMOVE GRND'G - 9700 x 2 =	19400	LF	-	.01		-			194		
	DISCONN. FEEDERS @ STATIONS TEST & SHIFT POWER	1	LS	-	14		-			14		
	EQUIPMENT USAGE	ALLOW					25780					
	TOTAL						25780			1931		

CES-2000-0 (4/81)

7-24

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY J.J. PRICED BY J. J. DATE AUG-85 SHEET 4 OF 7

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA OVERHEAD POWERLINE

DESCRIPTION BASE CLINCH RIVER

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DW.16	ELECTRICAL AREA 7											
16300	161 KV. POWER O.H. LINE											
	ADD 14,700 ÷ 800 = 19 TRANSMISSION TOWER H FRAME WT # 7560	19	E	5000	160		95,000			3040		
	INSULATORS 10½" DIA. 38 PER POLE	722	E	21.15	.15		15,270			108		
	CABLE 14,700 x 9 =	132,300	LF	1.82	.05		241,050			6615		
	GROUND CABLE 14,700 x 2 =	29,400	LF	.2581	.011		7590			323		
	TRANSM. TOWER FOUNDATION 19 x 4 = 76 X 1.85 C.Y. = 140											
	20% PIER	30	C.Y.	234	7		7020			210		
	80% PAD	110	C.Y.	72	3		7920			330		
	GUY ASSEMBLY	7	E	670	77		4690			539		
	SUSPENSION CLAMP O. BRASS 19 x 3 =	57	E	8.15	.20		460			11		
	O. BRASS STRAIN CLAMP 19 x 3 =	57	E	6.00	.20		350			11		
	TRIANGLE CABLE SPACERS 14,700 ÷ 100 x 3	441	E	10.00	.33		4440			146		
	TAP TO EXIST LINE SWITCHES, INSULATOR ETC.	1	LS.	500	60		500			60		
							384,260			11,393		

CES-2000-0 (4/81)

Total

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY N.J. DATE AUG-85 SHEET 5 OF 7

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA OVERHEAD POWER LINE

DESCRIPTION BASE CLINCH RIVER

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA 7											
16300	161 KV. DEMOLITION.											
	REMOVE 9500 ÷800 = TOWER	12	E	–	60		–			720		
	REMOVE INSULATORS 12X38=	456	E	–	.10		–			46		
	REMOVE CABLE 9500X9=	85,500	LF	–	.01		–			1855		
	REMOVE GROUND'G 9500X2	19,000	LF	–	.01		–			190		
	DISCONN. FEEDERS @ STATIONS TEST & SHIFT POWER	1	LS	–	14		–			14		
	EQUIPMENT						25,000					
	TOTAL						25,000			1825		

CES-2000-0 (4/81)

CLINCH RIVER BASE CASE

PARSONS

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 6 OF 7

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE Rom CHECKED BY RMC

UNIT/AREA OVERHEAD POWER LINE

DESCRIPTION BASE CLINCH RIVER

CAPACITY MRS FACILITY

ACCNT DWG No		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRICAL AREA 7											
16300	13.8 KV POWER O.H. LINE											
	ADD 10,800 ÷ 300 = POLE WOOD 60-0" HIGH. CLASS-1	36	E	700	30		25200			1080		
	CROSS ARMS. 36 X 2	72	E	30	.5		2160			36		
	INSULATORS 36 X 4 =	144	E	21.13	.5		3050			72		
	DRILL HOLES & FOUND. FOR POLES	36	E	-	1		-			36		
	CONCRETE 2 C.Y.	72	E	60	1.5		4320			108		
	POWER CABLE 10,800 X 3 =	32,400	LF	1.822	.05		59080			1620		
	GRND CABLE	10,800	LF	.667	.05		7200			540		
	GANG' EN. POLE	36	E	100	4		3600			144		
	TAP TO EXIST LINE (SWITCHES, INSULATOR ETC.)	1	LS	4000	44		4000			44		
							108,560			3680		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY N.J. PRICED BY N.J. DATE AUG-85 SHEET 7 OF 7

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA OVERHEAD POWERLINE

DESCRIPTION BASE CLINCH RIVER

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DW.16	ELECTRICAL AREA 7											
6300	13.8 KV. DEMOLITION											
	REMOVE 6,700 ÷ 300 = WOODPOLE	23	E	-	20		-			460		
	REMOVE CROSS ARMS 23X2	46	E	-	.5		-			23		
	REMOVE INSULATORS 23X4=	92	E	-	.20		-			18		
	REMOVE POWER CABLE 6700 X 3 =	20,100	LF	-	.01		-			201		
	REMOVE GROUND	6700	LF	-	.01		-			67		
	EQUIPMENT						25,000					
							25,000			769		

CES-2000-0 (4/81)

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-81 SHEET 1 OF 2

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA GENERAL AREA

DESCRIPTION PHONE TRUNK LINE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
	ELECTRIC. AREA-	7										
16700	PHONE TRUNK LINE											
	TOTAL						146,670			2440		
					USE		147000					

CES-2000-0 (4/81)

7-26

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY J. J. | PRICED BY J. J. | DATE AUG-85 | SHEET 1 OF 1

JOB NO.: 6440-11 | CLIENT: DOE/PNL | TYPE OF ESTIMATE Rom | CHECKED BY Rom

UNIT/AREA GENERAL AREA

DESCRIPTION PHONE TRUNK LINE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	ELECTRICAL AREA 7											
	PHONE TRUNK LINE AND OUTSIDE PHONE BOOTHS											
	AREA - 7 SH # 1						146,670			2440		220,000
	AREA - 5 SH # 2						89,380			2720		
	TOTAL						236,050			5160		

CES-2000-0 (4/81)

PARSONS

ESTIMATE WORKSHEET

CLINCH RIVER BASE CASE

M.T.O. BY J.J. PRICED BY J.J. DATE AUG-85 SHEET 1 OF 2

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY from KS

UNIT/AREA TELEPHONE TRUNK LINE

DESCRIPTION OFFSITE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT MATL	M/H	LAB $	MATERIAL EXPENSE	SUBCONTRACT M/HRS	SUBCONTRACT DOLLARS	LABOR M/HRS	LABOR DOLLARS	TOTAL DOLLARS
DIV. 16	ELECTRICAL AREA 7											
16700	TELEPHONE											
	TRUNK LINE 10 MILES	1	LS						200,000			
	PER AT&T QUOTATION SEP-11-84 TO ED HITCHCOCK											
	FROM MICHAEL C. MOREY AT&T INFORMAT. CENTER SUITE 1000, 333 S. BEAUDRY AVE L.A. CAL. 90017 (213) 481-9000											
	SUB TOTAL								200,000			
	GEN. CONTR MARK-UP								20,000			
	220,000 ÷ 3 = 73,335 ÷ $30					<	146,670	2440	>		EQUAL TO =	220,000
	TOTAL											220,000

CES-2000-0 (4/81)

2-27

PARSONS

CLINCH RIVER BASE CASE

ESTIMATE WORKSHEET

M.T.O. BY T.J.T. PRICED BY J.J. DATE AUG 85 SHEET 2 OF 2

JOB NO.: 6440-11 CLIENT: PNL-DOE TYPE OF ESTIMATE ROM CHECKED BY

UNIT/AREA GENERAL AREA

DESCRIPTION OFFSITE

CAPACITY MRS FACILITY

ACCNT		QUANTITY	UNIT	COST OR M/HRS PER UNIT			MATERIAL EXPENSE	SUBCONTRACT		LABOR		TOTAL DOLLARS
				MATL	M/H	LAB $		M/HRS	DOLLARS	M/HRS	DOLLARS	
DIV. 16	PHONE AREA 7											
	00 0											
	PHONE DUCT BANK											
	TRENCHING $\frac{4000}{27} \times 2 \times 4$	1480	CY	6	.15		8880			222		
	CONCR. $\frac{4000}{27} \times 1 \times 2$	296	CY	55	.5		16280			148		
	BACKFILL	1184	CY	3.5	.07		4140			83		
	TRENCHING $\frac{2400}{27} \times 1 \times 3$	267	CY	6	.15		1600			40		
	CONCR $\frac{2400}{27} \times 1 \times 1$	89	CY	55	.5		4900			45		
	BACK FILL	178	CY	3.5	.07		620			12		
	4"ϕ PVC. COND. 8000+2400	10400	LF	2.25	.12		23400			1248		
	SPACERS $(\frac{4000}{10} \times 4) + (\frac{2400}{10} \times 2) =$	2080	E	.5	.1		1040			208		
	1/2" ROD FOR SPACERS 640x2	1280	E	3	.05		3840			64		
	PVC FITTINGS 20% OF CONDT	—	—	—	—		4680			250		
							69380			2320		
	PHONE BOOTH	20	E	1000	20		20000			400		
	REFERENCE ONLY											
							89380			2720		

CES-2000-0 (4/81)

7-20