CHANGE ORDER FORM
DEP Contract No. SP644

Change Order No.: SP644-017 **Contractor Name:** CDM Constructors, Inc. (CDM)

Contractor Contract Manager: Dean Carter **Phone No:** (407) 660-6423

Description of Change(s) (Attach additional documents if referenced in description below.):

Activity Reference Code[1]	Change(s) authorized by this Change Order	Deliverable(s) and Due Date(s)	DEP Deliverable Review in Work Days	Payment Method	Dollar Value of Change (+ or -)[2]	Change in Payment Basis
C2d.	Pursuant to paragraph 34.C, Task C2d. was modified to revise the quantity of gypsum fill include in the design of the NGS-N Relief ditch following review of the previously agreed upon quantities as discussed in the attached January 17, 2007 CDM request. Based on the BAFO unit rate of $5.97 / cy, the revision to the agreed upon design fill quantity results in a cost increase of $58,267.	As noted	No Change	No Change	$58,267.00	Yes
A.	Pursuant to paragraph 34.D. and Attachment C of DEP Contract No. SP644, this Change Order provides a lump sum cost as identified in CDM's January 15, 2007 correspondence for work that was needed to support the installation of a temporary piezometer in the lined OGS–S storm water ditch, and repair of the liner following its removal. The temporary piezometer installation was performed by the Engineer to confirm the inward ground water gradient in this vicinity and the correct functioning of the buried seepage collection drain.	As noted	No Change	No Change	$1,784.00	Yes

Total Increase or Decrease in Project Costs resulting from this Change Order:	$60,051.00
Ceiling Amount of Contract Impacted? (Yes or No)	Yes
Total Impact on Ceiling Amount all Change Orders (SP644-001 to SP644-017) to Date:	$612,934.00
Ceiling Adjustments made by Amendments (-- to --) to Date:	$0.00
Current Ceiling Amount Adjustments Needed:	$612,934.00

Notes: [1]Activity Reference Code shall conform to the activity code system established in Attachment C. [2]Contractor understands that all funding for DEP Contract SP644 is established by authorized funding increment amounts. This Change Order does not increase or decrease the authorized funding increment amount of the Contract. All changes in authorized funding increment amounts shall be processed by letter or contract amendment as addressed in paragraph 7 of the Contract.

Change(s) in Contract Completion Date Needed as a Result of this Change Order:

Current Contract Completion Date (without renewals):	February 22, 2010
Completion Date of Contract (without renewals) impacted by this Change Order? (Yes or No)	No
Increase or Decrease, in Calendar Days, Needed as a Result of this Change Order:	0
Total Increase/Decrease, in Calendar Days, Needed as a Result of all Change Orders (SP644-001 to SP644-017) to Date:	0
Completion Date Changes (in Calendar Days) Authorized by Amendments (-- to --) to Date:	0
Current Completion Date Changes, in Calendar Days, Needed by Amendment:	0

This Change Order is a modification to the Contract between the Contractor and the Department (DEP), and all contract provisions shall apply unless specifically exempted. The amount and time change designated are the maximum agreed to by both the Department and the Contractor for this change. In consideration of the foregoing adjustments in contract time and contract sum the Contractor hereby releases Department from all claims, demands or causes of action arising out of the transactions, events and occurrences giving rise to this Change Order. This written Change Order is the entire agreement between the Department and Contractor with respect to this Change Order. No other agreements or modifications shall apply to this Change Order unless expressly provided herein.

Approval Required	Signature	Date
Director or Deputy Director, Division of Water Resource Management (Contract Authority, DEP):	Richard W. Cantrell	Jan. 25, 2007
DEP Contract Manager, Bureau of Mine Reclamation:	Joe A. Cotton	1/24/2007
Vice President, CDM Constructors Inc.:		1/22/07

List of Attachments/Exhibits Included with this Change Order:

Specify Type/Reference	Title/Description of Document	Number of Pages
DEP Contract No. SP644, Attachment C	DEP Contract No. SP644, Attachment C revised per Change Order SP644-017	8
CDM's January 17, 2007 correspondence	CDM's January 17, 2007 correspondence requesting an increase in the design gypsum fill quantity for the NGS-N Relief ditch.	3
CDM's January 15, 2007 correspondence	CDM's January 15, 2007 correspondence requesting the lump sum amount for support and liner repair related to the OGS-S temporary piezometer installation.	4

cc: Gwenn Godfrey, Procurement Section (MS93)
DEP Contracts Disbursements Section (MS78) - 2 Copies

ATTACHMENT C
PAYMENT AND DELIVERABLE SCHEDULE

	DESCRIPTION	Fixed-Price	Lump Sum Unit Rate	APPROVAL PERIOD [5]	DELIVERABLES	PAYMENT BASIS [8]
A. OPERATION AND MAINTENANCE						
OPERATION AND MAINTENANCE, Years 1-2		$6,552,794	NA		Operation and Maintenance activities are to be reported in the "Piney Point Operation and Maintenance Status Report" (Monthly Status Report) to be submitted with the monthly Operation and Maintenance Invoices. The format for the Monthly Status Report shall provide sufficient detail and summary information for the Department Contract Manager to determine the extent to which contract requirements are being met. The specific format will be mutually agreed upon by the Contractor and the Department.	Monthly invoice line items shall be provided as follows: 1. During the first contract month only for Operation & Maintenance (O&M), an invoice line item shall include the price for "O&M Activities and Mobilization" based on the agreed upon lump sum allocation of $ 375,000. 2. During the second month, and on a monthly basis thereafter, the lump sum O&M amounts shall be invoiced as "Site Operation & Maintenance Activities" based on the agreed upon O&M Monthly Lump Sum Allocation Values shown below for this Scope of Services. The invoice line item should reference the corresponding year and month for services. O&M Monthly Lump Sum Allocation Values, not to exceed: - Contract Year 1, Months 2-12 shall be $ 268,600 / month - Contract Year 2, Months 1-12 shall be $ 268,600 / month - Contract Year 3, Months 1-12 shall be $ 149,950 / month - Contract Year 4, Months 1-12 shall be $ 100,000 / month - Contract Year 5, Months 1-12 shall be $ 79,939 / month Retainage: None, unless otherwise specified in Change Order after contract execution. 3. Per Change Order SP644-007, a one-time lump sum amount of $ 16,884 may be added to an O&M monthly invoice to reimburse agreed upon costs for the unexpected cleanup of oil contaminated water and soil materials following leakage of oil from the abandoned ball mill lube oil tank that was located in the vicinity of the process water pumps in the phosphoric acid plant on July 25, 2005.
OPERATION AND MAINTENANCE, Years 3-5		$3,958,663	NA			
A1	Site Operation and Maintenance (Including Process Water and Runoff Management, Inspections, Site Security, Mowing, Repairs, and Post-Closure Care & Maintenance)				Activity to be included on the Monthly Status Report.	
A2	Utilities (Power, excluding power used in process water consumption, Water, Domestic Wastewater, Refuse Collection, etc.)				Include KWH consumption in the Monthly Status Report.	
A3	Safety Training and Safety Compliance				1. Incident Reports to be included in the Monthly Status Report and verbal notifications provided to DEP Contract Manager as needed. 2. A copy of an Employee Training Log shall be provided monthly showing the required training for employees performing services under this contract, and either the planned or actual dates of corresponding employee training.	
A4	Groundwater Monitoring Plan Implementation				Reporting according to Discharge Monitoring Reports (DMRs) per Administrative Agreement, National Pollutant Discharge Elimination System (NPDES) permit, or other Department issued orders as may be effective, issued, or amended during contract period for the subject site/facilities.	
A5	Surface Water Monitoring Plan Implementation				Reporting according to DMRs per Administrative Agreement, NPDES permit, or other Department issued orders as may be effective, issued, or amended during contract period for the subject site/facilities.	
A6	Project Coordination, Direction & Reporting				Include activity summary information in the Monthly Status Report including Monthly Site Meeting minutes between DEP contract manager, Receiver, Engineer, and Contractor's team.	
A7	Liability Insurance Coverage (Including Pollution Liability)				Copy of effective Insurance Policy showing policy type, coverage limits, and policy term.	
	July 25, 2005 Ball Mill Lube Oil Leak and Cleanup	$16,884			Copy of related invoices, and identification of costs for personnel and equipment used to contain and cleanup the July 25, 2005 Ball Mill Lube Oil Tank Leak.	
	February 7, 2006 OGS-S Subgrade and Liner Repair	$1,660			Copy of related invoices, and identification of costs for personnel and equipment used to repair the subgrade and liner on February 7, 2006, as submitted for Change Order SP644-016.	
	October 2006 maintenance and liner repair work needed to support temporary piezometer installation through the OGS-S lined ditch.	$1,784			Copy of related invoices, and identification of costs for personnel and equipment used to support temporary piezoemter installation and repair of the liner following removal on October 3-4, 2006, as submitted for Change Order SP644-017.	

Task A, Total Lump Sum: **$10,531,785**

	DESCRIPTION	Fixed-Price	Lump Sum Unit Rate	APPROVAL PERIOD [5]	DELIVERABLES	PAYMENT BASIS [8]
B. PROCESS WATER CONSUMPTION						
B1	Years 1-2, Up to 712.5 MGal Consumption [10] Years 3-5, Greater than 712.5 MGal Consumption up to 950 MGal Consumption Water consumption shall continue under contract terms for process water consumption; however, volumes greater than 950 MGal are not billable beyond the lump sum amount, except as specified for Tasks B2 and B3. At the end of Years 1-2 from the effective start date for this task, any remaining lump sum balance of the Years 1-2 fixed-price, if any, will be paid upon satisfactory completion of Years 1-2 process water consumption tasks as outlined in this contract. At the end of Years 3-5 from the effective start date for this task, any remaining lump sum balance of the Years 3-5 fixed-price, if any, will be paid upon satisfactory completion of Years 3-5 process water consumption tasks as outlined in this contract.	$ 6,971,211 $ 2,021,268 $ 0.00	$ 10.70 / 1,000 gal. $ 8.51 / 1,000 gal. $ 0.00 / 1,000 gal.		Weekly Water Report spreadsheet including, but not limited to: - daily rainfall, pond water levels, and water volumes for each consumption method (i.e., Double-lime, RO, Spray Evaporation, or Spray Irrigation), - daily measured ammonia nitrogen and estimated total nitrogen concentrations at Outfall 003, - calculated daily total discharge load in lbs. for total nitrogen and ammonia nitrogen at Outfall 003, and - the total discharge volume at Outfall 003, the 15-day rolling average and 30-day rolling average ammonia nitrogen and total nitrogen load (in lbs.) at Outfall 003. The Weekly Water Report shall reflect the weekly period from Tuesday - Monday of a given week and be submitted to the Department within 48 hours of the end of the weekly period. The content and format for the Weekly Water Report shall be as agreed upon by the Department Contract Manager.	Monthly Invoice line items shall be provided as follows: 1. Each monthly invoice shall specify the total water consumption for each day in the period based on: - measured water consumption volumes (by final disposal / discharge method) for double lime, RO permeate, and/or spray irrigation discharges in accordance with Note [1], and - spray evaporation consumption based on the reported Operation Factor for the period, and the agreed upon monthly adjusted baseline evaporative loss design rates in Note [2], corresponding to each Department approved spray evaporation system. Retainage: None, unless otherwise specified in Change Order after contract execution.
	Spray Evaporation Consumption Adjustment	See B1	See B1			2. An additional invoice line item shall be added to reflect any invoiced amount or credit to be applied for an anticipated semi-annual "Spray Evaporation Consumption Adjustment" that will be determined based on semi-annual water balance modeling results provided by the Engineer. The water balance modeling results, or an alternative method proposed by the Engineer where mutually agreed upon, will be used to determine the spray evaporation consumption taking into consideration the measured or estimated water inputs/outputs and changes in water inventory.
B2	Year 1, Additional 10.6 MGal / inch rainfall above 55 inches Year 2, Additional 7.1 MGal / inch rainfall above 55 inches Year 3, Additional 4.1 MGal / inch rainfall above 55 inches	NA	$ 12.40 / 1,000 gal. $ 13.02 / 1,000 gal. $ 14.66 / 1,000 gal.			3. Pursuant to the Contract terms, an additional invoice line item shall be added at the end of Years 1, 2, and 3 to reflect any additional "Contract Allowance for Rainfall greater than 55 inches/year."
B3	Year 1, Debited 10.6 MGal / inch rainfall less than 50 inches Year 2, Debited 7.1 MGal / inch rainfall less than 50 inches Year 3, Debited 4.1 MGal / inch rainfall less than 50 inches	NA	$ 5.63 / 1,000 gal. $ 5.63 / 1,000 gal. $ 1.66 / 1,000 gal.			4. Pursuant to the Contract terms, an additional invoice line item shall be added at the end of Years 1, 2, and 3 to reflect any "Contract Deduction for Rainfall less than 50 inches/year."
B4	Years 1-2, Allowance for variation in drainable pore water volume and rate	$211,500	NA			5. A monthly invoice line item shall include a uniformly allocated "Pore Water Allowance" cost based on the lump sum amount for the indicated period. Accordingly, Years 1-2 shall be invoiced for a total not to exceed $211,500, or $8,812.50 / month and Years 5 shall be invoiced for a total not to exceed $70,500, or $1,985.34 / month.
	Years 3-5, Allowance for variation in drainable pore water volume and rate	$70,500	NA			

Task B, Total Lump Sum: $9,274,479 [3]

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	DESCRIPTION	Fixed-Price	Lump Sum Unit Rate	APPROVAL PERIOD [5]	DELIVERABLES	PAYMENT BASIS [8]
C. CLOSURE CONSTRUCTION ACTIVITIES					Monthly submittals with Closure Construction Invoice: - Weekly construction meeting minutes, prepared by Engineer - Copies of agenda/minutes from ad hoc construction coordination and update meetings - Percent completion of each phase of each activity and work element - Conditional acceptance by Engineer of each phase/work element for invoicing of closure construction activities. See Note [4]. End of Construction Phase: - Engineer's certification of completion of construction for each activity - As Built drawings for each activity	1. Invoice based on Percent Complete, approved by Third Party Engineer, of the lump sum amount for each construction phase and each work segment. Retainage: 25% of each submitted invoice amount, except as specified below for seeding activities, to be released following Engineer's conditional acceptance of a given phase/work segment. Upon completion, submittals shall include a copy of the Engineer's Completion of Construction Certification and As-built Drawings provided by the Contractor. Retainage - seeding subtasks/activities: 40%, with the retainage to be released six months after seeding activity resulting in successful establishment of grassed cover following approval of Engineer. 2. In accordance with Change Order SP644-005, invoices for Task C1 (NGS-S Lined Slopes) and Tasks C2a, C2b, C2c, and C2d may include a percent complete and corresponding lump sum allocation reflecting borrow source preparation for materials stockpiled for the Gulfstream borrow source as of June 1, 2005. The percent complete for soil cover borrow source preparation activities under Task C1 (NGS-S Lined Slopes) and Tasks C2a, C2b, C2c, and C2d shall be determined based on not more than the agreed upon quantity estimate for the stockpiled soil cover materials, stockpiled as of June 1, 2005, where the estimated quantity has been approved by the Engineer and has an equivalent value not to exceed $5.50 per cy. The Department may release retainage for invoiced amounts for soil cover borrow source preparation only after the stockpiled materials have been screened for potential pollutants in accordance with a sampling plan accepted by the Department. 3. Invoices may include a lump sum allocation for stored materials under Task C3a (Phase I Slopes) where provided in accordance with Note [9] below.
	RESERVOIR SLOPE COVER (All 4 Ponds)					
C1	Reservoir Slope Cover (All 4 Ponds)	$6,543,346	[4]	10		
	PHASE III - NGS-S COMPARTMENT					
C2a	NGS-S Reservoir (2005)	$4,136,718	[4]	10		
C2b	NGS-S Cap Area (2005)	$842,958	[4]	10		
C2c	OGS Cap Areas (2005)	$956,053	[4]	10		
C2d	NGS-N Relief Ditch (2005)	$912,406	[4]	10		
C2e	Re-Closure of NGS-N Relief Ditch if Used for Disposal of Plant Scale (at FDEP's Option)	$1,413,000	[4]	10		
	STACK SLOPES AND DITCHES					
C3a	Phase I Slopes - OGS (2005)	$2,540,065	[4]	10		
C3b	Phase II Slopes - NGS (2006)	$3,163,511	[4]	10		
	COOLING/SLUDGE PONDS & DITCHES					
C4a	NCP Closure	$3,787,926	[4]	10		
C4b	SCP Closure	$7,654,041	[4]	10		
C5	Gypsum Fill Management	$305,877	[4]	10		

Task C, Total Lump Sum: **$32,255,901**

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	DESCRIPTION	Fixed-Price	Lump Sum Unit Rate	APPROVAL PERIOD [5]	DELIVERABLES	PAYMENT BASIS [8]
	MISCELLANEOUS BILLABLE ITEMS					
E2	Transport Plant Scale to Stack (25,000 cy)	$250,000	$ 10.00 / cy	10	Documentation showing percent complete approval from Engineer for scale placement.	Invoice line items to be included on Construction Invoice based on percent task completion as approved by Engineer.
F5	Miscellaneous Lump Sum Costs other than Fluctuation and Plant Scale Costs	$956,000	NA		Record keeping as required by state law.	Invoice as a separate lump sum line item as "Miscellaneous Lump Sum Costs other than Fluctuation and Plant Scale Costs." This separate invoice item shall be included on the monthly Operation and Maintenance invoices based the contract fixed-price amount, uniformly allocated over the expected 5 year term of the contract.
	Fluctuation in Electric Power Costs - Operation and Maintenance			10	Documentation showing the applicable power usage (in KWH), and the change in unit power cost from Florida Power and Light (FPL) for most favored commercial customers in the Tampa Bay area after considering an escalation corresponding to 3% per year from the FPL base rate charged for such customers in December 2004.	An additional invoice line item shall be added to reflect an invoiced amount (invoice debit or credit) to be applied for the annual "Fluctuation in Electric Power Costs" that shall be determined as outlined in Note [6] for electric power costs applicable to Operation and Maintenance activities and electric power costs associated with Process Water Consumption. The line item and amount (invoice credit or debit) shall be invoiced in the monthly invoice for the end of Contract Years 2, 3, 4, and 5.
	Fluctuation in Liner Resin Costs			10	Documentation showing the neat liner quantities for 40-mil, 60-mil, and 80-mil liner determined by the Engineer for planned construction activities in Contract Years 1, 2, and 3, and Liner Resin unit price quotes and unit conversions as outlined in Note [7]. The documentation shall show the change in actual liner resin unit cost for Contract Years 1, 2, and 3 after considering an escalation corresponding to 3% per year from the November 2004 Base Liner Resin Unit Cost established as outlined in Note [7].	Documentation showing the neat liner quantities for 40-mil, 60-mil, and 80-mil liner determined by the Engineer from detailed construction drawings for planned construction activities in Contract Years 1, 2, and 3, and supporting documentation for determination of the "lowest adjusted price" (expressed in dollars per square feet) as outlined in Note [7].

Notes:

[1] For days where the calculated 30-day rolling average ammonia nitrogen discharge is greater than 20 lbs./day and less than or equal to 50 lbs./day, the "billable consumption volume" for discharges to Bishop Harbor will be adjusted to reflect 90% of the actual corresponding volume (i.e., equivalent to 0.9 times the lump sum unit price for <= 50 lbs./day ammonia nitrogen). For days where the calculated 30-day rolling average ammonia nitrogen discharge is greater than 50 lbs./day, the "billable consumption volume" for discharges to Bishop Harbor shall be shown as zero. For days where the calculated 30-day rolling average ammonia nitrogen discharge is less or equal to 20 lbs./day, the "billable consumption volume" for discharges to Bishop Harbor shall be the water treatment volume.

[2] Monthly Adjusted Baseline Evaporative Loss Design Rates are provided below, for each Department approved system, based on 24-hour/day, 7-days/week operation with an Operating Factor of 0.80.

2.1 SE-1, Existing Spray Evaporation System in NGS-N reservoir where the average Net Spray Consumption rate (in MGD) for the values from January through December is 0.200 MGD, when operating with 1169 nozzles at a minimum nozzle pressure and rate of 50 psi and 2.91 gpm/nozzle, respectively. When operating at sprayfield pressures between 25 and 50 psi, the Net Spray Consumption (MGD) at the given operating pressure may be determined by interpolating or extrapolating the Spray Consumption Factor from those shown in the corresponding table, multiplied by the listed monthly Net Spray Consumption (MGD) for the values at 50 psi to yield the reduced Net Spray Consumption (in MGD) for periods during that month when operating at pressures between 25 and 50 psi.

Month	Average Pond Evaporation (in)	Average Net Spray Consumption (MGD)
Jan	2.48	0.116
Feb	2.62	0.135
Mar	3.88	0.181
Apr	5.42	0.261
May	6.26	0.292
Jun	6.13	0.295

Month	Average Pond Evaporation (in)	Average Net Spray Consumption (MGD)
Jul	5.70	0.267
Aug	5.23	0.244
Sep	4.52	0.218
Oct	3.43	0.160
Nov	2.47	0.119
Dec	2.34	0.109

Spray Consumption Factors

Pressure (psi)	Net Spray Consumption (MGD)	Spray Consumption Factor (factor)
30	0.08	0.400
40	0.131	0.655
50	0.2	1.000

2.2 Pursuant to Change Orders SP644-004 and SP644-009, the Average Net Spray Water Consumption rates are shown below for areas SE-3, SE-4, SE-7, and SE-10, as described below, when operating at minimum nozzle pressure of 50 psi and inflow rate of 2.91 gpm/nozzle, respectively. Subject to Department approval, where the indicated number of operating spray system nozzles are changed from those indicated, the net spray consumption rate (in MGD) shall be adjusted accordingly, per nozzle increased or decreased, in the system as constructed. Reflecting changes from SP644-009, previously authorized, but not constructed SE-9 is removed and replaced with SE-10 as described herein. Per Change Order SP644-009, the quantity of spray evaporation nozzles and resulting evaporative consumption rates were changed from 360 to 208 and from 203 to 255 for SE-4 and SE-7 spray evaporation systems, respectively. Construction and operation of additional spray systems listed below shall provide for drift and erosion monitoring and immediate suspension of individual or all segments of such systems as the Department may determine is warranted.

When operating at sprayfield pressures between 25 and 50 psi, the Net Spray Consumption (MGD) at the given operating pressure may be determined by interpolating or extrapolating the Spray Consumption Factor from those shown in the corresponding table, multiplied by the listed monthly Net Spray Consumption (MGD) for the values at 50 psi to yield the reduced Net Spray Consumption (in MGD) for periods during that month when operating at pressures between 25 and 50 psi.

- SE-3, Spray Evaporation System in South Cooling Pond (SCP) Internal Dams and Ditch Area between Dams.
- SE-4, Spray Evaporation System in North Cooling Pond (NCP).
- SE-7, Spray Evaporation System along the northern and western dikes of SCP-N.
- SE-10, Spray Evaporation System addition in process water return canal.

Month	SE-3 Average Net Spray Consumption for 614 nozzles (MGD)	SE-4 Average Net Spray Consumption for 208 nozzles (MGD)	SE-7 Average Net Spray Consumption for 255 nozzles (MGD)	SE-10 Average Net Spray Consumption for 97 nozzles (MGD)
Jan	0.0777	0.0210	0.0292	0.0111
Feb	0.0821	0.0222	0.0309	0.0117
Mar	0.1215	0.0329	0.0457	0.0174
Apr	0.1698	0.0459	0.0639	0.0243
May	0.1961	0.0530	0.0737	0.0280
Jun	0.1920	0.0519	0.0722	0.0274
Jul	0.1786	0.0482	0.0672	0.0255
Aug	0.1638	0.0443	0.0616	0.0234
Sep	0.1416	0.0382	0.0532	0.0202
Oct	0.1075	0.0291	0.0404	0.0154
Nov	0.0774	0.0210	0.0291	0.0110
Dec	0.0733	0.0198	0.0276	0.0104

Spray Consumption Factors

Pressure (psi)	Net Spray Consumption (MGD)	Spray Consumption Factor (factor)
30	0.08	0.400
40	0.131	0.655
50	0.2	1.000

(3) Total Lump Sum for Process Water Consumption subject to adjustment for items B2 and B3 as governed by contract terms.

(4) Closure Construction Activities subject to schedule subdivision and future updates by Engineer, including subdivision into mutually agreed upon releasable work segments for progress monitoring and payment purposes. Please see Attachment C, Table 1, Closure Task Breakdown, Piney Point ITN 2005002C for current subdivision of Closure Construction Activities.

(5) The Approval Period shall be five (5) working days to inspect and approve the invoiced services for payment, unless another period of working days is specified herein.

(6) The adjustment to pricing, if any, for fluctuations in electric power costs will be made based upon the posted unit price (in $ per KWH) as charged by Florida Power and Light to its most favored commercial customers in the Tampa Bay area, compared to the adjusted unit price charged by Florida Power and Light to the same customers in December 2004 but after considering an escalation corresponding to 3% inflation per year. The change in unit power cost, relative to the escalated base unit price, in December 2005, December 2006, December 2007 and December 2008 will be used for making the adjustment (either debit or credit) for electric power costs during contract years 2, 3, 4 and 5, assuming a theoretical power usage of 11.3 Million KWH (Year 2), 3.8 Million KWH (Year 3), 2.6 Million KWH (Year 4) and 2.0 Million KWH (Year 5), respectively, during each of the corresponding four contract years.

(7) The adjustments to pricing, if any, for fluctuations in Liner Resin prices will be made based upon the neat liner quantities determined by the Engineer from detailed design drawings (without any adjustment for liner overlaps, liner buried in anchor trenches, increased liner area due to sloping surfaces, liner for repair patches, waste, etc.) for planned liner installation activities during each calendar year. The adjustment (either debit or credit) will be based upon the lower of either:

1) The lowest documented change in liner sheet unit price from at least two liner manufacturers (expressed in dollars per square feet) for orders placed in November 2004 escalated by 3% inflation per year, compared to orders placed in February 2005 and in December 2005 and December 2006, respectively, for planned construction activities in each of the first three contract years; or

2) The lowest documented change in Liner Resin unit price from at least two liner manufacturers or resin suppliers for orders placed in November 2004 compared to orders placed in February 2005 and in December 2005 and December 2006, respectively, for planned construction activities in each of the first three contract years. The change in actual liner resin unit price (expressed in dollars per pound of resin), after accounting for 3% escalation per year from the November 2004 BAFO unit price of $0.64/lb. shall be multiplied by 0.237 lb/ft2, 0.347 lb/ft2 and 0.442 lb/ft2 for 40-mil, 60-mil and 80-mil liner, respectively.

The lowest adjusted price as determined above (expressed in dollars per square feet) shall be multiplied by the neat liner quantity from detailed design drawings (expressed in square feet) times a factor of 1.10 adopted herein to accommodate additional liner buried in anchor trenches, liner overlaps, waste, etc.

(8) Lump Sum Unit rates or monthly allocations of the fixed cost amounts are rounded to the nearest cent or dollar as shown. In all cases, the final monthly invoice for a given period shall reflect the necessary amount so that the indicated fixed-price is not exceeded. There shall be no adjustment to the lump sum pricing presented in Attachment C for any fluctuations in Contractor's costs, including lime costs, fuel costs or any other utility or commodity cost during the term of the contract, except as specifically provided for herein, including Notes (6) and (7).

(9) In accordance with Change Order SP644-011, invoices for Task C3a (Phase I Slopes) may include a percent complete and corresponding lump sum allocation reflecting stored silica gravel to be used during the installation of drains associated with this Task, where the stored material quantity and value has been approved by the Engineer. Supporting documentation shall be provided with the invoice for the Engineer's review to determine that the stored materials conform to that specied for the task.

(10) In accordance with Change Order SP644-012, the Year 1-2 lump sum amount for water consumption was adjusted from $7,624,007 to 6,971,211 based on Year 1 adjustments for rainfall deficit, 30-day rolling average ammonia-nitrogen treatment compensation, and OGS-N fresh water input adjustements.

(11) In accordance with Change Order SP644-013, invoices for Task C3b (Phase II Slopes) and C4b. (SCP) may include a percent complete and corresponding lump sum allocation reflecting stored silica gravel and HDPE piping, manholes, and related structures to be used during construction associated with these Tasks, where the stored material quantity and value has been approved by the Engineer. Supporting documentation shall be provided with the invoice for the Engineer's review to determine that the stored materials conform to that specied for the task.

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CLOSURE TASK BREAKDOWN
PINEY POINT - ITN 2005002C

Item	Closure Construction Element		Engineer's Estimate	CDM BAFO Estimate	CDM BAFO PRICE	Computed Unit Rate	CDM BAFO Unit Rate	Totals	
	ITEM C1. RESERVOIR SLOPE COVER (All 4 Ponds)								
	Soil Cover (NGS-N, OGS-S & OGS-N Lined Slopes)	cy	270,000	270,000	$ 3,350,000	$ 12.41	$ 12.41		
	Soil Cover (NGS-S Lined Slopes - From C2)	cy	130,000	140,000	$ 1,580,924	$ 11.29	$ 11.29		
	80-Mil HDPE Liner (Crest Roads)	sf	175,000	175,000	$ 120,000	$ 0.69	$ 0.69		
C1	Drain Composite (All 4 Ponds)	sy	85,000	85,000	$ 816,000	$ 9.60	$ 9.60		
	Sodding NGS-N, OGS-S & OGS-N Slope Cover	ac	40	40	$ 351,700	$ 8,792.50	$ 8,792.50		
	Sodding NGS-S Slope Cover (From C2)	ac	18	18	$ 158,300	$ 8,794.44	$ 8,794.44		
	Seed or Sod (Soil Crest Cover)	ac	4	4	$ 9,400	$ 2,350.00	$ 2,350.00		**TOTAL ITEM C1**
	Other Ancillary (See Notes 16 and 17)	lump	lump	lump	$ 157,022	-			**$ 6,543,346**
	ITEM C2. PHASE III - NGS-S COMPARTMENT								
	Task C2a. NGS-S Reservoir (2005)								
	Sludge Excavation (see Note 4)	cy	5,000	0	$ -	$ -	$ 8.80		
	Gypsum Fill (see Note 4)	cy	380,000	206,500	$ 1,547,675	$ 7.49	$ 5.97		
	80-Mil HDPE Liner (see Note 5 and Note 33)	sf	3,000,000	3,000,000	$ 2,200,476	$ 0.733	$ 0.68		
	Soil Cover	cy	3,000	3,000	$ 30,794	$ 10.26	$ 11.29		
	Seed or Sod (West Dike Crest Road)	ac	1	1	$ 2,342	$ 2,341.67	$ 2,341.67		
	Outlet Structure	lump	lump	lump	$ 10,000	-	-	**Total Task C2a**	
	NGS-S Reservoir - Soil Cover Mobilization (see Note 6)	lump	lump	lump	$ 3,083	-	-		
	Other Ancillary	lump	lump	lump	$ 342,349	-	-	**$ 4,136,718**	
	(Note: Soil cover and associated drain composite and sodding were moved from Item C2 to Item C1)								
	Task C2b. NGS-S Cap Area (2005)								
	Gypsum Fill (see Note 12)	cy	5,000	46,700	$ 278,962	$ 5.97	$ 5.97		
	40-Mil HDPE Liner (see Note 7)	sf	500,000	354,250	$ 152,645	$ 0.431	$ 0.40		
	Soil Cover (See Note 26)	cy	25,000	29,150	$ 290,400	$ 9.96	$ 11.29		
	Seed or Sod	ac	10.5	10.5	$ 24,588	$ 2,341.67	$ 2,341.67		
	Outlet Structure	lump	lump	lump	$ 10,000	-	-	**Total Task C2b**	
	NGS-S Cap Area Soil Cover Mobilization (see Note 6)	lump	lump	lump	$ 38,771				
	Other Ancillary (see Note 34)	lump	lump	lump	$ 47,593	-	-	**$ 842,958**	
	Task C2c. OGS Cap Areas (2005)								
	Gypsum Fill (see Note 13)	cy	10,000	39,500	$ 235,953	$ 5.97	$ 5.97		
	60-Mil HDPE Liner (see Note 8)	sf	450,000	419,487	$ 215,462	$ 0.514	$ 0.47		
	Soil Cover (see Note 26)	cy	24,000	33,600	$ 344,479	$ 10.25	$ 11.29		
C2	Seed or Sod	ac	7.5	7.5	$ 17,563	$ 2,341.67	$ 2,341.67		
	Outlet Structures (2)	lump	lump	lump	$ 6,000	-	-	**Total Task C2c**	
	OGS Cap Areas Soil Cover Mobilization (see Note 6)	lump	lump	lump	$ 34,942				
	Other Ancillary (see Note 35)	lump	lump	lump	$ 101,654	-	-	**$ 956,053**	
	Task C2d. NGS-N Relief Ditch (2005)								
	Gypsum Fill (see Notes 14 and 39)	cy	5,000	37,860	$ 226,122	$ 5.97			
	60-Mil HDPE Liner (see Note 9)	sf	300,000	292,703	$ 150,342	$ 0.514	$ 0.47		
	Soil Cover (see Note 27)	cy	18,000	27,500	$ 287,335	$ 10.45	$ 11.29		
	Seed or Sod (Soil Cover)	ac	5	5	$ 11,708	$ 2,341.67	$ 2,341.67		
	Amended Gypsum Grassing (From C3)	ac	10	10	$ 66,636	$ 6,663.64	$ 6,663.64		
	Outlet Structure	lump	lump	lump	$ 3,000	-	-	**Total Task C2d**	
	NGS-N Relief Ditch Soil Cover Mobilization (see Note 6)	lump	lump	lump	$ 23,204				
	Other Ancillary (see Note 36)	lump	lump	lump	$ 144,059	-	-	**$ 912,406**	
	Task C2e. Re-Closure of NGS-N Relief Ditch if Used for Disposal of Plant Scale (at FDEP's Option)								
	60-Mil HDPE Liner	sf	500,000	500,000	$ 235,000	$ 0.47	$ 0.47		
	Soil Cover	cy	50,000	50,000	$ 531,000	$ 10.62	$ 10.62		
	Sodding	ac	12	12	$ 105,000	$ 8,750.00	$ 8,750.00		
	Outlet Structure Modification	lump	lump	lump	$ 3,800		-		
	Gypsum Fill (Encapsulate Scale)	cy	75,000	75,000	$ 273,000	$ 3.64	$ 3.64		
	Gypsum Borrow Area Work						-		
	Remove & Restore Soil Cover	cy	25,000	25,000	$ 93,500	$ 3.74	$ 3.74		
	Remove & Replace 40-Mil Liner	sf	350,000	350,000	$ 139,000	$ 0.40	$ 0.40		
	Restore Grass (Seed or Sod)	ac	8	8	$ 18,400	$ 2,300.00	$ 2,300.00	**Total Task C2e**	**TOTAL ITEM C2**
	Other Ancillary	lump	lump	lump	$ 14,300	-	-	**$ 1,413,000.00**	**$ 8,261,135.00**
	ITEM C3. STACK SLOPES AND DITCHES								
	Task C3a. Phase I Slopes - OGS (2005)								
	Gypsum Earthwork (see Note 15)	cy	50,000	111,250	$ 229,239	$ 2.06	$ 2.06		
	80-Mil HDPE Liner (Runoff Ditches) (see Note 10)	sf	575,000	524,457	$ 387,956	$ 0.740	$ 0.69		
	60-Mil HDPE Liner (Transfer Pond) (See Note 11)	sf	130,000	0	$ -	--	$ 0.47		
	60-Mil HDPE Liner (OGS Slope Pond) (See Note 11)	sf	70,925	70,925	$ 36,483	$ 0.514	$ 0.47		
	Drains	lf	5,500	5,610	$ 647,240	$ 115.37	$ 115.37		
	Soil Cover (see Note 24)	cy	80,000	43,000	$ 543,251	$ 12.63	$ 12.63		
	Soil Cover (OGS Slope Pond) (See Note 24)	cy	80,000	7,565	$ 95,574	$ 12.63	$ 12.63		
	Soil Grassing								
	Seeding (Stormwater Ponds)	ac	3	3	$ 7,031	$ 2,343.75	$ 2,343.75		
	Sodding (Runoff Ditches)	ac	13	13	$ 114,263	$ 8,789.47	$ 8,789.47		
	Amended Gypsum Grassing	ac	23	23	$ 153,264	$ 6,663.64	$ 6,663.64	**Total Task C3a**	
	Additional Panel Drains - OGS (see Note 30)								
	OGS Slope Pond and OGS-N Cap Area	lump	lump	lump	$ 21,941				
	Phase I (OGS) Ditches	lump	lump	lump	$ 10,749				
C3	Deepening the OGS-S South slope seepage drain (see Note 32)	lump	lump	lump	$ 90,000	-	-		
	Regrading - west slope of the NGS-N (See Note 38)	lump	lump	lump	$ 2,487	-	-		
	Other Ancillary (see Note 37)	lump	lump	lump	$ 200,586	-	-	**$ 2,540,065**	

CLOSURE TASK BREAKDOWN
PINEY POINT - ITN 2005002C

Item	Closure Construction Element		Engineer's Estimate	CDM BAFO Estimate	CDM BAFO PRICE	Computed Unit Rate	CDM BAFO Unit Rate	Totals	
	Task C3b. Phase II Slopes - NGS (2006)								
	Gypsum/Earthwork (see note 28)	cy	50,000	72,995	$ 150,411	$ 2.06	$ 2.06		
	Soil Import/Earthwork (see note 29)	cy	na	25,313	$ 271,608	$ 10.73	na		
	80-Mil HDPE Liner (Runoff Ditches) (see Note 18)	sf	225,000	400,350	$ 321,644	$ 0.803	$ 0.69		
	60-Mil HDPE Liner (Stormwater Pond) (see Note 19)	sf	570,000	409,250	$ 231,043	$ 0.565	$ 0.47		
	Drains	lf	7,000	7,140	$ 823,760	$ 115.37	$ 115.37		
	Soil Cover (see Note 25)	cy	70,000	81,200	$ 1,025,860	$ 12.63	$ 12.63		
	Soil Grassing								
	Seeding (Stormwater Pond)	ac	13	13	$ 30,469	$ 2,343.75	$ 2,343.75		
	Sodding (Runoff Ditches)	ac	6	6	$ 52,737	$ 8,789.47	$ 8,789.47		
	Amended Gypsum Grassing	ac	22	22	$ 146,600	$ 6,663.64	$ 6,663.64	**Total Task C3b**	**TOTAL ITEM C3**
	Additional Panel Drains - Phase II (NGS) Ditches (see Note 30)	lump	lump	lump	$ 5,248				
	Repair NGS-S South Slope Cavities (see Note 31)	lump	lump	lump	$ 8,373	-	-		
	Other Ancillary	lump	lump	lump	$ 95,759	-	-	**$ 3,163,511**	**$ 5,703,576.00**
	ITEM C4. COOLING/SLUDGE PONDS & DITCHES								
	Task C4a. NCP Closure								
	Earthwork (Soil)	cy	200,000	198,050	$ 1,351,225	$ 6.82	$ 6.82		
	80-Mil HDPE Liner (Runoff Ditches)	sf	100,000	100,000	$ 68,500	$ 0.685	$ 0.69		
	40-Mil HDPE Liner	sf	1,300,000	1,300,000	$ 514,800	$ 0.396	$ 0.40		
	Drains	lf	2,500	2,560	$ 293,880	$ 114.80	$ 114.80		
	Soil Cover	cy	110,000	103,184	$ 1,400,008	$ 13.57	$ 13.57		
	Soil Grassing								
	Seeding (Cap Areas)	ac	30	30	$ 70,292	$ 2,343.08	$ 2,343.08		
	Sodding (Runoff Ditches)	ac	4	4	$ 35,180	$ 8,795.00	$ 8,795.00	**Total Task C4a**	
	Other Ancillary	lump	lump	lump	$ 54,041			**$ 3,787,926**	
	Task C4b.1 SCP-S Phase I Closure (see note 21)								
	Earthwork (Soil) (see Note 22)	cy	25,000	43700	$ 298,034	$ 6.82	$ 6.82		
	80-Mil HDPE Liner (Process Water Sump) (see Notes 18)	sf	485,000	496,908	$ 391,062	$ 0.787	$ 0.69		
C4	Construct SCP Relief Ditch	cy	- -	11,000	$ 38,304	$ 3.48	- -		
	Construct Partition Dike	cy	- -	25,000	$ 170,500	$ 6.82	- -		
	Grade/Dewater for Sump	lump	- -	lump	$ 37,000		- -		
	Seepage Relief Drain	lf	- -	470	$ 58,656	$ 124.80	$ 114.80		
	Soil Grassing								
	Seeding (Limited Cap Areas for Process Water Sump)	ac	- -	1	$ 2,343	$ 2,343.00	$ 2,343.08	**Total Task C4b.1**	
	Other Ancillary	lump	lump	lump	$ 117,242			**$ 1,113,141.00**	
	Task C4b.2 SCP-S Phase II and SCP-N Closure								
	Earthwork (Soil)	cy	25,000	24754	$ 168,888	$ 6.82	$ 6.82		
	80-Mil HDPE Liner (Runoff Ditches) (see Note 18)	sf	415,000	415000	$ 302,178	$ 0.728	$ 0.69		
	40-Mil HDPE Liner (see Note 20)	sf	3,200,000	3,200,000	$ 1,321,513	$ 0.413	$ 0.40		
	Drains	lf	6,030	6195	$ 711,166	$ 114.80	$ 114.80		
	Soil Cover	cy	290,000	266360	$ 3,613,992	$ 13.57	$ 13.57		
	Soil Grassing								
	Seeding (Cap Areas and Plant Areas)	ac	99	99	$ 231,965	$ 2,343.08	$ 2,343.08		
	Sodding (Runoff Ditches)	ac	16	16	$ 140,720	$ 8,795.00	$ 8,795.00	**Total Task C4b.2**	**TOTAL ITEM C4**
	Other Ancillary	lump	lump	lump	$ 50,479			**$ 6,540,900**	**$ 11,441,967**
	ITEM C5. GYPSUM FILL MANAGEMENT								
	Task C5a. Phase I Slopes - Excess Placement (See Note 23)								
	OGS West Slope Fattening and Slope Pond	cy	- -	17,680	$ 69,129	$ 3.91	$ 3.91		
	OGS-S Cap West Dike Relocation	cy	- -	3,920	$ 23,402	$ 5.97	$ 5.97		
	Northeast Corner NGS-N Ramp Fattening	cy	- -	2,900	$ 17,313	$ 5.97	$ 5.97	**Total Task C5a.**	
	OGS S., NGS-N Rel. Ditch S. and OGS S. at NGS-N W. Slopes	cy	- -	8,405	$ 17,314	$ 2.06	$ 2.06	**$ 127,158**	
	Task C5b. Phase I Excess Gyp/Soil Stockpiles (See Note 23)								
	Gypsum Stockpiles (1-10) & OGS Ditch Deficiency (see Note xx)	cy	- -	11,500	$ 43,930	$ 3.82	$ 3.82		
	Gypsum from OGS S. berm to Phase II NGS Slopes	cy	- -	3,700	$ 25,789	$ 6.97	$ 6.97	**Total Task C5b.**	**TOTAL ITEM C5**
	Gypsum/Soil mix stockpile - SCP Process Water Sump Partition	cy	- -	25,000	$ 109,000	$ 4.36	$ 4.36	**$ 178,719**	**$ 305,877**
	ITEM C - CLOSURE CONSTRUCTION TOTAL								**$ 32,255,901**

See Notes on Following Page.

CLOSURE TASK BREAKDOWN
PINEY POINT - ITN 2005002C

Item	Closure Construction Element	Engineer's Estimate	CDM BAFO Estimate	CDM BAFO PRICE	Computed Unit Rate	CDM BAFO Unit Rate	Totals

NOTES:

1. The "Engineer's Estimate" column reflects those quantities provided by the Engineer for the Department under the ITN and BAFO.
2. In some cases, the values for the CDM BAFO Estimate and the CDM BAFO Price indicate task breakdowns that were computed proportionately to the Department's breakdown values for elements where CDM's BAFO quantity is less than or greater than the Engineer's estimated quantity.
3. CDM's BAFO values for Other Ancillary items were prorated to individual tasks on the basis of total task price.
4. CDM's original BAFO Estimate and Price for Sludge Excavation was revised from 5,000 cy and $44,000 to 0 cy and $0 per Change Order SP644-002. CDM's original BAFO Estimate and Price for Gypsum Fill was revised from 373,740 cy and $2,232,530 to 206,500 cy and $1,547,675 per Change Order SP644-002.
5. CDM's original BAFO Price for 80-mil HDPE liner was revised from $2,054,000 to $2,222,208 per Change Order SP644-003 for the fluctuation in liner resin costs.
6. CDM's original BAFO Prices for soil cover placement Tasks C2a, C2b, C2c, and C2d were reduced to allocate prorated costs from the existing lump sum prices for expedited cover soil mobilization work elements per Change Order SP644-005.
7. CDM's original BAFO quantity for 40-mil liner on the NGS cap area was revised from 373,000 sf and $198,000 to 354,219 sf and $152,645, per Change Order SP644-006, based on updated quantities and fluctuation in liner resin costs.
8. CDM's original BAFO quantity for 60-mil liner on the OGS cap area was revised from 450,000 sf and $ 211,800 to 419,487 sf and $215,462, per Change Order SP644-006, based on updated quantities and fluctuation in liner resin costs.
9. CDM's original BAFO quantity for 60-mil liner for the NGS Relief Ditch area was revised from 300,000 sf and $ 141,200 to 292,703 sf and $150,342, per Change Order SP644-006, based on updated quantities and fluctuation in liner resin costs.
10. CDM's original BAFO quantity for 80-mil liner for the OGS runoff ditches was revised from 575,000 sf and $393,875 to 524,457 sf and $387,956, per Change Order SP644-006, based on updated quantities and fluctuation in liner resin costs.
11. CDM's original BAFO quantity for the 60-mil liner for the OGS Transfer Pond was revised from 130,000 sf and $61,286 to 0 sf and $0, per Change Order SP644-006, based on elimination of this pond from the design. The 60-mil lined OGS Slope pond was added at 70,925 sf and $36,453 based on similar BAFO unit rates and adjusting for fluctuation in liner resin costs per Change Order SP644-006.
12. CDM's original BAFO quantity for Gypsum Fill for the NGS-S Cap area was revised from 5,000 to 46,700 cy per Change Order SP644-007.
13. CDM's original BAFO quantity for Gypsum Fill for the OGS Cap areas was revised from 10,000 to 39,500 cy per Change Order SP644-007.
14. CDM's original BAFO quantity for Gypsum Fill for the NGS-N Relief Ditch was revised from 5,000 to 28,100 cy per Change Order SP644-007.
15. CDM's original BAFO quantity for Phase I Slope areas (OGS West and South Slopes) was revised from 94,318 to 111,250 cy after excluding 15,650 cy earthen material (as neat fill assuming 15% shrinkage) from the OGS south slope toe per Change Order SP644-007.
16. CDM's original BAFO Lump Sum Price for Other Ancillary under Task C1, Reservoir Slope Cover, was revised from $68,000 to $104,892 per Change Order SP644-008 based on modifications needed for the existing OGS-S compartment drain as specified by the December 16, 2005 Slope Cover Construction Drawings for the OGS Ponds.
17. CDM's BAFO Lump Sum Price for Other Ancillary under Task C1, Reservoir Slope Cover, was revised from $104,892 to $157,022 per Change Order SP644-009 based on modifications needed for the existing OGS-N compartment drain and inlet stem wall additions for the OGS-S and OGS-N compartments as specified by the December 16, 2005 Slope Cover Construction Drawings for the OGS Ponds.
18. CDM's original BAFO quantity for 80-mil liner for the Phase II Runoff Ditches, SCP Process Water Sump, and SCP ditches were revised from 225,000 sf and $154,125 to 400,350 sf and $ 321,644; from 485,000 sf and $332,225 to 496,908 sf and $391,062; and from 415,000 sf and $284,275 to 415,000 sf and $302,178 per Change Order SP644-010, based on updated quantities and fluctuation in liner resin costs.
19. CDM's original BAFO quantity for 60-mil liner for the Phase II Stormwater Pond was revised from 570,000 sf and $268,714 to 409,250 sf and $231,043 per Change Order SP644-010, based on updated quantities and fluctuation in liner resin costs.
20. CDM's original BAFO quantity for 40-mil liner for the SCP Cap area was revised from 3,200,000 sf and $1,267,200 to 3,200,000 sf and $1,321,513 per Change Order SP644-010, based on updated quantities and fluctuation in liner resin costs.
21. The Task Breakdown for Task C4b. was modified into Tasks C4b.1 and C4b.2 per the June 9, 2006 Dispute Resolution Agreement - Process Water Sump Cost Breakout. Task elements under Task C4b.1 and Task C4b.2 have been modified as specified under this June 9, 2006 agreement.
22. CDM's original BAFO earthwork quantity for the SCP was revised from 49,508 to 24,754 cy for SCP-S Phase II and SCP-N activity with the balance (I.e., 24,754 cy) being allocated and increased to 43,700 cy for the process water sump under SCP-S Phase I tasks per the June 9, 2006 Dispute Resolution Agreement - Process Water Sump Cost Breakout.
23. Task 5, Gypsum Fill Management, added in accordance with Change Order SP644-013, in order to provide for increased quantities of gypsum fill that needed to be either placed and compacted in addition to design quantities (Task C5a.), or material that needed to be stockpiled or placed (Task C5b.) for future works in relation to the Phase I gypsum/earthwork activities under the contract.
24. CDM's original BAFO quantity for Phase I (OGS) soil cover changed from 88,878 cy and $1,121,598 to 43,000 cy and $543,251 for the OGS ditches and 7,565 cy and $95,574 for the OGS Slope Pond per Change Order SP644-014.
25. CDM's original BAFO quantity for Phase II (NGS) soil cover changed from 77,681 cy and $981,402 to 81,200 cy and $1,025,860 per Change Order SP644-014.
26. CDM's original BAFO quantities for NGS-S Cap Area soil cover changed from 37,725 cy and $387,232 to 29,150 cy and $290,400; and CDM's original BAFO quantity for OGS Cap Areas changed from 34,000 cy and $348,996 to 33,600 cy and $344,479, based on the original BAFO lump sum with a unit rate of $11.29 / cy, per Change Order SP644-014.
27. CDM's original BAFO quantity for NGS-N Relief Ditch soil cover changed from 22,578 cy and $231,754 to 27,500 cy and $287,335, based on the original BAFO lump sum with a unit rate of $11.29 / cy, per Change Order SP644-014.
28. CDM's original BAFO quantity for Phase II Slopes gypsum fill/earthwork was revised from 94,319 cy and $194,351 to 72,995 cy and $150,411 per Change Order SP644-014.
29. CDM's original BAFO quantity and the Engineer's estimate for Phase II Slopes gypsum fill/earthwork did not include a quantity for imported soil fill that was needed in addition to local soil fill to complete construction of the Phase II ditch and stormwater pond system. The calculated imported soil fill/earthwork quantity (neat) of 25,313 cy and cost of $271,608 were added per Change Order SP644-014.
30. Task C3 was modified to include additional panel drains (as noted above), based on the Engineer's revised drawings, for a total cost of $37,938 per Change Order SP644-014.
31. Task C3b. was modified to provide a lump sum cost of $8,373 for repairs of the NGS-S South Slope solution cavities discovered during in the Phase II slope closures per Change Order SP644-015.
32. Task C3a. was modified to provide an agreed upon lump sum cost of $90,000 for deepening of the OGS-S South Slope seepage drain per Change Order SP644-015.
33. CDM's lump sum price for 80-mil HDPE liner under Task C2a. for the NGS-S reservoir was revised from $2,222,208 (as previously revised per Change Order SP644-005) to $2,200,476 to provide a credit of $21,732 for the Department's costs for the Engineer's professional services that were required in conjunction with liner repair work in the NGS-S compartment per Change Order SP644-015.
34. The lump sum cost for Other Ancillary items under Task C2b was modified from $53,851 to $47,593 based on Change Order SP644-016 for the Phase I outlet/piping changes.
35. The lump sum cost for Other Ancillary items under Task C2c was modified from $53,114 to $101,654 based on Change Order SP644-016 for the Phase I outlet/piping changes.
36. The lump sum cost for Other Ancillary items under Task C2d was modified from $39,686 to $144,059 based on Change Order SP644-016 for the Phase I outlet/piping changes.
37. The lump sum cost for Other Ancillary items under Task C3a was modified from $97,241 to $200,586 based on Change Order SP644-016 for the Phase I outlet/piping changes.
38. Task C3a. was modified to include $2,487 for the costs necessary to regrade (cut) the existing west slope of the NGS-N compartment to match design grades at the interface with the Phase I storm water ditch in accordance with Ardaman's 1/9/2006 directions per Change Order SP644-016.
39. CDM's quantity for Gypsum Fill for the NGS-N Relief Ditch, Task 2d., was revised from 28,100 cy and $167,855 to 37,860 cy and $226,122 per Change Order SP644-017.

Coates, John

From: Carter, Dean [CarterDE@cdm.com]
Sent: Wednesday, January 17, 2007 8:55 AM
To: Coates, John
Cc: RWerner@ardaman.com; Fuleihan, N (Priority)
Subject: RE: Piney NGS-N Relief Ditch - Apparent Moretrench Fill Quantity Discrepancy

John,
CDM would like to request a change order for the 9,760 CY of additional gypsum fill in the NGS Relief Ditch as detailed in Rob's email below. The additional gypsum fill would be at the BAFO rate of $5.97/CY.
If you have any questions feel free to call me at 407-660-6423.
Thanks
Dean

From: Werner, Rob [mailto:RWerner@ardaman.com]
Sent: Thursday, January 11, 2007 7:07 AM
To: Coates, John
Cc: Fuleihan, N (Priority); Carter, Dean; Ralph Remmert
Subject: FW: Piney NGS-N Relief Ditch - Apparent Moretrench Fill Quantity Discrepancy

John,

As requested by the Department and CDM on December 1, 2006, and as reflected in the emails below, we have made efforts in cooperation with Ralph Remmert of JMB&R (retained by Moretrench) to seek clarification on the apparent discrepancy between the design gypsum fill quantity previously agreed upon by Ardaman/DEP/CDM/Moretrench for the substantially completed grading work for closure of the NGS-N Relief Ditch and the apparent "take-up" fill quantity reported by Moretrench/JBM&R based on calculations by Pickett using the as-built survey grades. In particular, Ardaman performed additional fill volume calculations and terrain model comparisons using: (i) final design grades reflected in the 9/28/05 drawings for the NGS-N Relief Ditch Closure; (ii) two subsequently issued design grade adjustments involving the ramp at the NE corner of the Relief Ditch and south slope of the Relief Ditch in the vicinity of the ramp between the OGS-S and NGS-S Compartments; (iii) the pre-construction March 2, 2005 Rooks aerial topographic survey; and (iv) the as-built grades provided on the January 23, 2006 Pickett "Quantity Survey" (Take-up) Drawings to check previously agreed upon fill quantities and to assist in identifying inconsistencies in the take-up survey calculations. Results of these calculations and comparisons were discussed with Mr. Remmert during a January 9, 2007 meeting at our office in Orlando. The findings and conclusions are presented in the following paragraphs.

The nature and magnitude of the apparent fill quantity discrepancy were discussed, along with a suggested plan to identify the source(s) of the disparity between the agreed upon design fill quantity and Pickett take-up survey fill quantity, in the 12/8/06 email below. In order to expedite resolution of the issue, Ardaman performed additional calculations and model comparisons, which led to the following conclusions:

1. Terrain model comparisons between the design grades and as-built grades within the Relief Ditch (excluding the ramp at the Northeast corner and discounting 450 CY placed to fatten the south slope at the OGS-S ramp per the design modification issued subsequent to the 9/28/05 drawings) indicate that the area was overbuilt by about 1,684 CY. In other words, 1,684 CY of the 48,059 CY total calculated by Pickett's in their 1/23/06 take-up quantity survey exists at grades above design grades.
2. The 1/23/06 Pickett quantity of 48,059 CY includes about 3,182 CY of fill (above the 3/2/05 Rooks topographic survey grades) in an area outside and west of the NGS-N Relief Ditch site that was previously accounted for in the agreed-upon design fill volume for the OGS Phase I Slope Closure work (or in subsequent fill volume adjustments associated with the Phase I slope closure work). [Although the extended boundary between the Phase I Slope and Relief Ditch closure work is consistent from the standpoint of Moretrench's progress reports to CDM (i.e., the subject parcel was not included in take-up quantity surveys for the Phase I slopes), it is not consistent with the agreed-upon boundaries used to define the design fill quantities for each phase (which were ultimately agreed upon by all parties)].
3. The 1/23/06 Pickett quantity survey calculation boundary at the northeast corner ramp area extends into the Phase II slope closure area. Hence, the approximately 2,115 CY fill volume associated with widening the NE ramp as indicated on Cross Section C, Dwg. No. C-3, Rev. 1 of the Phase II – NGS Slope Closure drawings dated 12/22/05 is included in the agreed-upon design fill volume for the Phase II slopes. [The point made above regarding the consistency in boundaries used by Pickett for progress reporting also applies for the Relief Ditch / Phase II slope quantity.]

Considering these findings, the adjusted take-up fill quantity applicable for comparison to the NGS-N Relief Ditch design fill quantity is 41,528 CY (i.e., 48,059 – 1,684 – 3,182 – 2115 + 450). Because this adjusted take-up quantity still significantly exceeded the expected volume of 31,450 CY which is the sum of the previously agreed upon design quantity of 28,100 CY plus subsequently agreed upon additional fill quantities associated with design revisions issued subsequent to 9/28/05 (i.e., 450 CY for the south slope fattening at the OGS / NGS ramp and 2,900 CY for excess fill placed on the NE ramp area per Change Order No. SP644-013), additional model comparisons and calculation checks were undertaken to identify the source of the remaining discrepancy. Firstly, results of these comparisons indicated no substantial inconsistencies in the adjusted take-up volume of 41,528 CY calculated as described above. Hence, calculations used to arrive at the previously agreed upon design fill quantity of 28,100 CY, which was nearly identical to the computed design fill volume of 27,756 CY reported by Moretrench, were revisited. Based on this review, it was discovered that both Ardaman and Moretrench had underestimated the original design fill quantity, particularly within the area of the NE ramp. Results of volume calculations made using a more accurate digital terrain model for the final design grades (performed as a check on the previously reported design fill volumes that were computed primarily using the average end area method) indicate a design fill volume of 37,860 CY relative to the 3/2/05 Rooks aerial topographic survey. (Note that Ardaman had previously used the terrain model method to calculate quantities for all other phases of construction, but had resorted to the simpler end area method in estimating volumes for the complex geometry of the Relief Ditch in the interest of time; Because of the complex geometry, the end area method was not as accurate as had been assumed.)

In conclusion, the apparent discrepancy between the 1/23/06 take-up quantity of 48,059 reported by Pickett and the previously agreed upon design fill quantity of 31,450 (28,100 CY plus previously executed change order adjustments totaling 3,350 CY) can be attributed to a combination of incorrect take-up survey boundary definitions by Moretrench (5,297 CY), some slight overbuild above design grades by Moretrench (1,684), and inaccuracy in the originally reported design fill quantity by Ardaman (9,760 CY). In order to reconcile the issue, we recommend that the previously agreed upon design fill quantity (based on the 9/28/05 drawings) be increased by 9,760 CY from 28,100 CY to 37,860 CY.

Rob Werner

From: Werner, Rob
Sent: Thursday, January 04, 2007 2:30 PM
To: 'Ralph Remmert'
Subject: RE: Piney NGS-N Relief Ditch - Apparent Moretrench Fill Quantity Discrepancy

Ralph,

I briefly reviewed that attached letter. Am I correct to conclude that Site Tech performed a duplicate calculation to the take-up quantity calculation previously performed by Pickett? If so, I guess we can rule out that Pickett's model/mathematics for the input data analyzed is in error. However, that comparison would not have addressed potential discrepancies resulting from use of the 3/2/05 topographic data to represent "existing" conditions relative to the NGS-N Relief Ditch closure whereas elevations within portions of the model boundary would have been altered in conjunction with the NGS-S Reservoir construction that preceded the Relief Ditch work. Ditto on the potential contribution of the westward extension of the NGS-N Relief Ditch calculation boundary into the area of the Phase I Slope Closure project.

Prior to meeting, I'd like to carry out the calculation described below, i.e., Pickett take-up data versus the design grades. Hopefully this can be done by early next week. Monday may be too early. If it's OK with you, Tuesday is good for me. You can choose anytime that fits your schedule.

Rob

From: Ralph Remmert [mailto:rremmert@tampabay.rr.com]
Sent: Thursday, January 04, 2007 1:23 PM
To: Werner, Rob
Subject: RE: Piney NGS-N Relief Ditch - Apparent Moretrench Fill Quantity Discrepancy

Rob,

Moretrench had Site Tech check Pickett's numbers (see attached letter) and came up with the same quantities.

Maybe early next week, we can sit down and go over each area to try and figure out why the difference. I can come over to Orlando Monday, Tuesday, or Wed morning for your convenience.

Thanks,

Ralph

From: Werner, Rob [mailto:RWerner@ardaman.com]
Sent: Friday, December 08, 2006 3:39 PM
To: rremmert@tampabay.rr.com
Cc: Coates, John; CarterDE@cdm.com; Fuleihan, N (Priority)
Subject: Piney NGS-N Relief Ditch - Apparent Moretrench Fill Quantity Discrepancy

Ralph,

As requested by the Department and CDM, and as since discussed with you, I have reviewed project documentation, design information and survey results related to the apparent discrepancy between the neat design gypsum fill quantity (and associated adjustments incorporated in Change Order SP-644-013) and the quantity reported by Pickett on their Drawing No. LD-3234 (i.e., computed volume between their 1/23/06 take-up survey grades and 3/2/05 Rooks aerial topographic survey grades) for the NGS-N Relief Ditch area.

The gypsum fill quantity for the NGS-N Relief Ditch based on the 9-28-05 (latest revision) Drawings is indicated as 28,100 cy in contract Attachment C, Item C2d. In addition, a total of 3,350 cy of additional gypsum fill for fattening of the south slope at the ramp near the northeast corner of the OGS-N compartment and NE corner of the NGS-N compartment are included in C/O No. 13 to account for gypsum fill placed per approved grading plans issued subsequent to 9-28-05. Hence, the total neat gypsum fill quantity for the NGS-N Relief Ditch is 31,450. (I've attached some background correspondences, including Moretrench's fill quantity estimate of 27,756 cy based on the 9-28-05 Drawings.) In contrast, results of Pickett's calculations indicate a total fill volume of 48,059 cy based on their 1/23/06 take-up survey, i.e., about 16,600 cy more than expected. Considering that results of as-built surveys for the relief ditch gypsum grading and liner subgrade preparation generally indicated compliance with specified grading tolerances (i.e., grade acceptances were issued as recorded in the minutes of the 12/8/05, 12/16/05, 12/22/05 and 1/5/06 construction meetings), it is perplexing that Pickett's 1/23/06 take-up survey calculations indicate a fill volume that is so much greater than the design volumes previously computed by Ardaman and Moretrench.

Review of Pickett's Drawing No. LD-3234 indicates a few inconsistencies, namely: (i) Pickett's boundary within which the take-up volumes were calculated extends further west (i.e., into the Phase I - OGS Slope Closure area) than the Relief Ditch boundaries used by Ardaman and Moretrench; and (ii) Pickett's computed fill volume for the NGS-N Relief Ditch, including the area along the north dike of the NGS0S Reservoir, is referenced to existing grades based on the March 2, 2005 Rooks topographic map such that gypsum fill placed circa March 2, 2005 for construction of the NGS-S Reservoir dike may have been inadvertently included in their Relief Ditch take-up volume estimate. The extent to which these inconsistencies contribute to the fill volume discrepancy is not certain. I suggest that Pickett revisit their take-up survey calculations in light of the noted inconsistencies. If a substantial discrepancy remains, I suggest that a model calculation be performed to compute the theoretical fill volume between the 1/23/06 take-up survey grades and the 9-28-05 design grades. For this calculation, the expected result would be a fill quantity of about 3,350 cy, i.e., the agreed-upon volume of additional gypsum associated with the two subsequence grade adjustments noted above. If a larger volume is computed, then Pickett can sub-divide the area into smaller parcels to identify specific areas contributing to the apparent discrepancy.

Rob Werner

2301 Maitland Center Parkway, Suite 300
Maitland, Florida 32751
tel: 407 660-2552
fax: 407 875-1161

January 15, 2007

VIA ELECTRONIC MAIL
ORIGINAL VIA FEDERAL EXPRESS

Mr. John Coates
Contract Manager
Florida Department of Environmental Protection
Bureau of Mine Reclamation
2051 East Dirac Drive
Tallahassee, FL 32310

Re: Liner Work Associated with Temporary Piezometer Installation
FDEP Contract Number SP644

Dear John:

CDM Constructors Inc. hereby submits the following change order amount to the contract associated with the liner work performed to allow the installation of a temporary piezometer in the OGS-S lined ditch. Comanco removed standing water in the area, cut open the existing liner and installed a liner patch after Ardaman completed the temporary piezometer installation and removal. The total amount of the proposed change order is an increase of $1,783.50 to the contract amount.

The attached spreadsheet itemizes the cost of the work associated with this proposed change.

Please advise if this change is acceptable to the Department. If you have any questions, please contact me at (407) 660-6423.

Sincerely,
CDM Constructors Inc.

Dean Carter
Sr. Project Manager

Enclosure

cc: Mr. Phil Coram (via electronic mail w/ enclosure)
Richard Slovarp
Steve Solters
Carrie Coffman

CDM

Attachment A

Comanco Environmental
Liner Work Associated with Temp Piezometer Installation in OGS-S Ditch

(10/3/06)

Labor	Hours	Rate per hour($)	Total($)
Foreman	4.0	$40.00	$160.00
Tech	8.0	$32.00	$256.00
Equipment	Hours	Rate per hour($)	Total($)
Generator	4.0	$20.00	$80.00
Elect Pump	4.0	$20.00	$80.00
Pickup Truck	4.0	$15.00	$60.00
		DAILY TOTAL	$636.00

(10/4/06)

Labor	Hours	Rate per hour($)	Total($)
Foreman	5.0	$40.00	$200.00
Tech	14.0	$32.00	$448.00
Equipment	Hours	Rate per hour($)	Total($)
Generator	7.0	$20.00	$140.00
Elect Pump	5.0	$20.00	$100.00
Extrusion Gun	2.0	$40.00	$80.00
		DAILY TOTAL	$968.00
		TOTAL	$1,604.00

Piney Point Project # 44810

OGS-S Ditch Temp PZ Installation Liner Work
1/12/07

Description of Work	Subcontracts	CDM Labor	CDM Materials	CDM Equip	Total Amount
Comanco Environmental (See A)	$1,604.00				
CDM Labor and Supervision (See Below)		$0.00			
CDM Materials					
CDM Equipment					
Mark up 9% subcontracts	$144.36				
Mark up 10% Equipment				$0.00	
Mark up 12% Direct Labor & Mat'l		$0.00	$0.00		
Subtotals	$1,748.36	$0.00	$0.00	$0.00	**$1,748.36**
Insurance 1%					**$17.48**
State of Florida Transaction Fee 1%					**$17.66**
Total Amount PCO-C-0208					***$1,783.50***

CDM Site Labor	FBC	HRS	Total-FBC
		0.00	$0.00
		0.00	**$0.00**