



State of Louisiana

JOHN BEL EDWARDS
GOVERNOR

MEMORANDUM

September 9, 2016

To: Reneé McKee, Project Support

Through: Garvin Pittman, Project Manager *AB*

Through: John Troutman, Regional Operations Manager *JT*

Through: Peter Hopkins, P.E., Engineer Supervisor *PH*

From: Luke Prendergast, P.E., Construction Manager *LP*

**Subject: Bayou Bonfouca Marsh Creation Project (PO-104)
Purchase Order # 2000198127
Change Order #1**

Enclosed for processing is Change Order #1 to amend the contract for the above referenced project. See enclosure for a detailed description of the change order. This change order will increase the contract price from \$16,842,116.85 to \$16,864,616.85. This increase of \$22,500 would allow for the addition of bid item #12, Instrumented Settlement Plates (3 quantity) and a reduction of bid item #6, Settlement Plates (3 quantity). The change order will not change the contract time. The change order is recommended by the Project Engineer and Construction Manager and has been signed by the contractor, Weeks Marine.

Please apply to:

Fund Center: 109F00000	CPRA Capital Outlay Federal
Fund: C57155000A	CWPPRA
WBS: C.170104.5	Bayou Bonfouca Marsh Creation – Construction Phase
Grant: C109020152.11	Bayou Bonfouca MC
G/L Acct: 5710602	Capital Projects – Construction

If you have any questions regarding this information, please contact Luke Prendergast at 504-280-1005.

Cc: Shannon Haynes
Contract File

CHANGE ORDER NO. 1

OWNER: Coastal Protection and Restoration Authority (CPRA)
CONTRACTOR Weeks Marine, Inc. (WMI)
PROJECT: Bayou Bonfouca Marsh Creation Project (PO-104)
PURCHASE ORDER NO: 2000198127

The following changes are hereby made to the Contract Documents:

- Increase in Contract Price due to the addition of Bid Item No. 12, "Instrumented Settlement Plates." Three (3) Instrumented Settlement Plates will be installed in Marsh Creation Area 2 at a cost of \$30,000.00.
- Reduction in Contract Price for Bid Item 6, "Settlement Plates" from \$20,000.00 to \$12,500.00 due to a corresponding decrease of three (3) Settlement Plates in Marsh Creation Area 2.

Description:

The Contractor (WMI) will provide all necessary materials, equipment, and labor to fabricate and install three (3) instrumented settlement plates in accordance with the attached plans and specifications. WMI will provide on-site transportation for all CPRA and consultant personnel ancillary to the installation and monitoring of the instrumented settlement plates during construction of the PO-104 project.


Attachments (list documents supporting change):

- Summary of Change Order No. 1
- Revised Plan Sheets 12A & 15
- Technical Specification TS-251 INSTRUMENTED SETTLEMENT PLATES

Change in Contract Price		Change in Contract Time	
Original Contract Price	\$16,842,116.85	Original Contract Time (calendar days)	363
Net Increase (Decrease) from previous Change Orders	\$0.00	Net Increase (Decrease) from previous Change Orders (days)	0
Contract Price prior to this Change Order	\$16,842,116.85	Contract Time prior to this Change Order (calendar days)	363
Net Increase (Decrease) of this Change Order	\$22,500.00	Net Increase (Decrease) of this Change Order (days)	0
Contract Price with this Change Order	\$16,864,616.85	Contract Time with this Change Order (calendar days)	363

This change order does not release the Contractor from any of his contract obligations.

RECOMMENDED:

By: 
 Engineer, CPRA

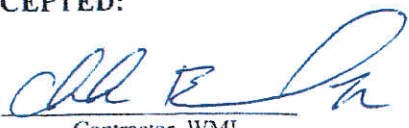
Date: 9/9/2016

RECOMMENDED:

By: 
 Construction Manager, CPRA

Date: 9/9/2016

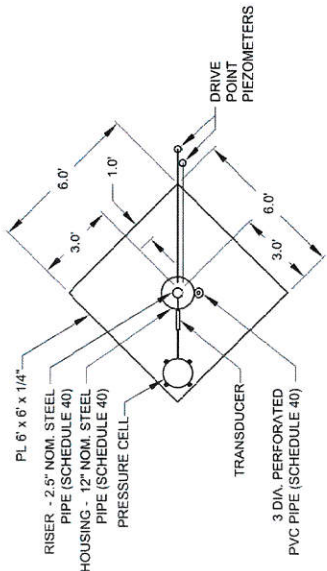
ACCEPTED:

By: 
 Contractor, WMI

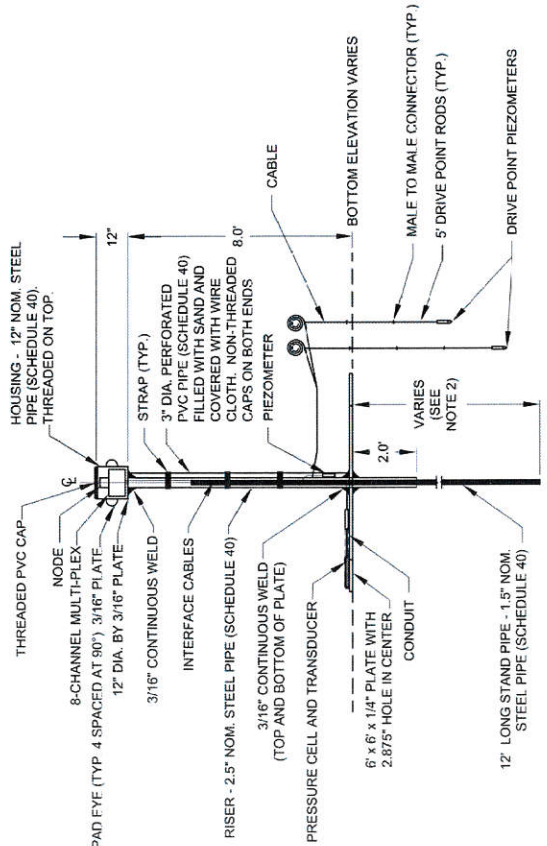
Date: 9-9-16

SUMMARY OF CHANGE ORDER NO. 1

ITEM NO.	DESCRIPTION	UNIT	ORIGINAL QUANTITY	ADJUSTED QUANTITY	UNIT PRICE	INCREASE AMOUNT	DECREASE AMOUNT
12	Instrumented Settlement Plates	EACH	0	3	\$ 10,000.00	\$ 30,000.00	
6	Settlement Plates	EACH	8	5	\$ 2,500.00		\$ 7,500.00
Total Increase Amount						\$ 30,000.00	
Total Decrease Amount						\$ - 7,500.00	
Net Increase of this Change Order						\$ 22,500.00	



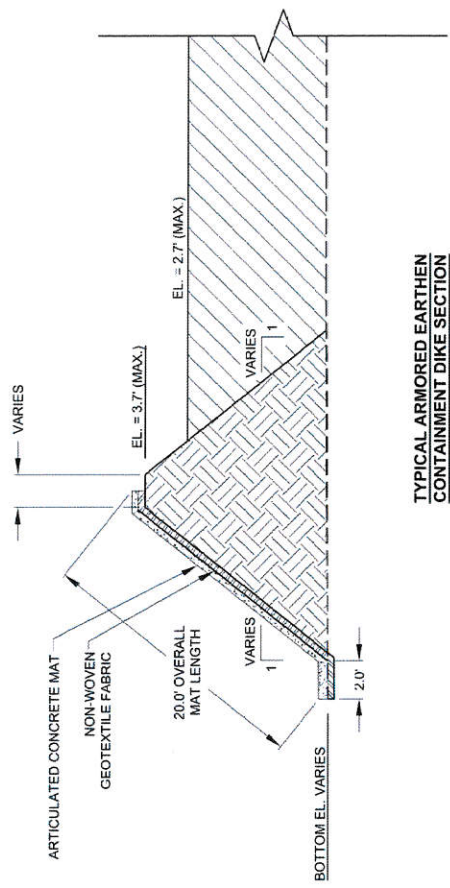
PLAN VIEW



PROFILE VIEW

INSTRUMENTED SETTLEMENT PLATE
NOT TO SCALE

- NOTES:**
- CONTRACTOR SHALL FABRICATE SETTLEMENT PLATES AND PROCURE INSTRUMENTATION. CPRA TO INSTALL INSTRUMENTATION ONTO SETTLEMENT PLATES IN THE FIELD WITH ASSISTANCE FROM CONTRACTOR.
 - CONTRACTOR TO DRIVE STAND PIPE BELOW GRADE TO THE DEPTH DETERMINED BY THE ENGINEER IN THE FIELD.



TYPICAL ARMORED EARTHEN CONTAINMENT DIKE SECTION
NOT TO SCALE

- NOTES:**
- ARTICULATED CONCRETE MATS SHALL BE INSTALLED AFTER THE CONSTRUCTION OF THE EARTHEN CONTAINMENT DIKE.
 - ARTICULATED CONCRETE MATS SHALL HAVE OPEN CELL ELEMENTS.

LEGEND

[Hatched Pattern]	EARTHEN CONTAINMENT DIKE
[Diagonal Lines]	MARSH CREATION FILL
[Cross-hatched]	NON-WOVEN GEOTEXTILE FABRIC
[Stippled]	ARTICULATED CONCRETE MAT
[Dashed]	EXISTING GROUND

NO	DATE	DESCRIPTION	BY
1	07-06-2016	ADDED SHEET TO PLANS	KG
2	08-23-2016	REMOVED ALL 2.0" NOM. PIPES AND ADDED 1.5" NOM. PIPE THROUGH CENTER OF PVC	SF

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: SHANE FAUST DESIGNED BY: GREG MATISON, E.I.

BAYOU BONFOUCA
MARSH CREATION PROJECT

STATE PROJECT NUMBER: P0-104
FEDERAL PROJECT NUMBER: P0-104

APPROVED BY: SHANNON HAYNES, P.E.

DATE: JULY 2016
SHEET EA OF 40



SETTLEMENT PLATE COORDINATES		
	NORTHING	EASTING
SP1	637,151.15	3,747,075.15
SP2	636,126.67	3,746,282.41
SP3	636,282.82	3,748,347.47
SP4	643,297.71	3,748,872.48
SP5	642,455.82	3,748,021.31

INSTRUMENTED COORDINATES		
	NORTHING	EASTING
ISP1	638,497.32	3,746,333.59
ISP2	636,220.32	3,747,584.10
ISP3	641,670.57	3,749,205.55

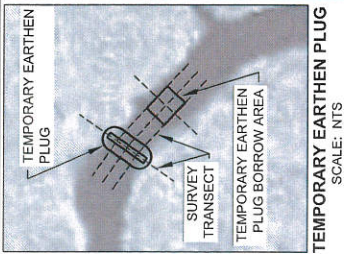
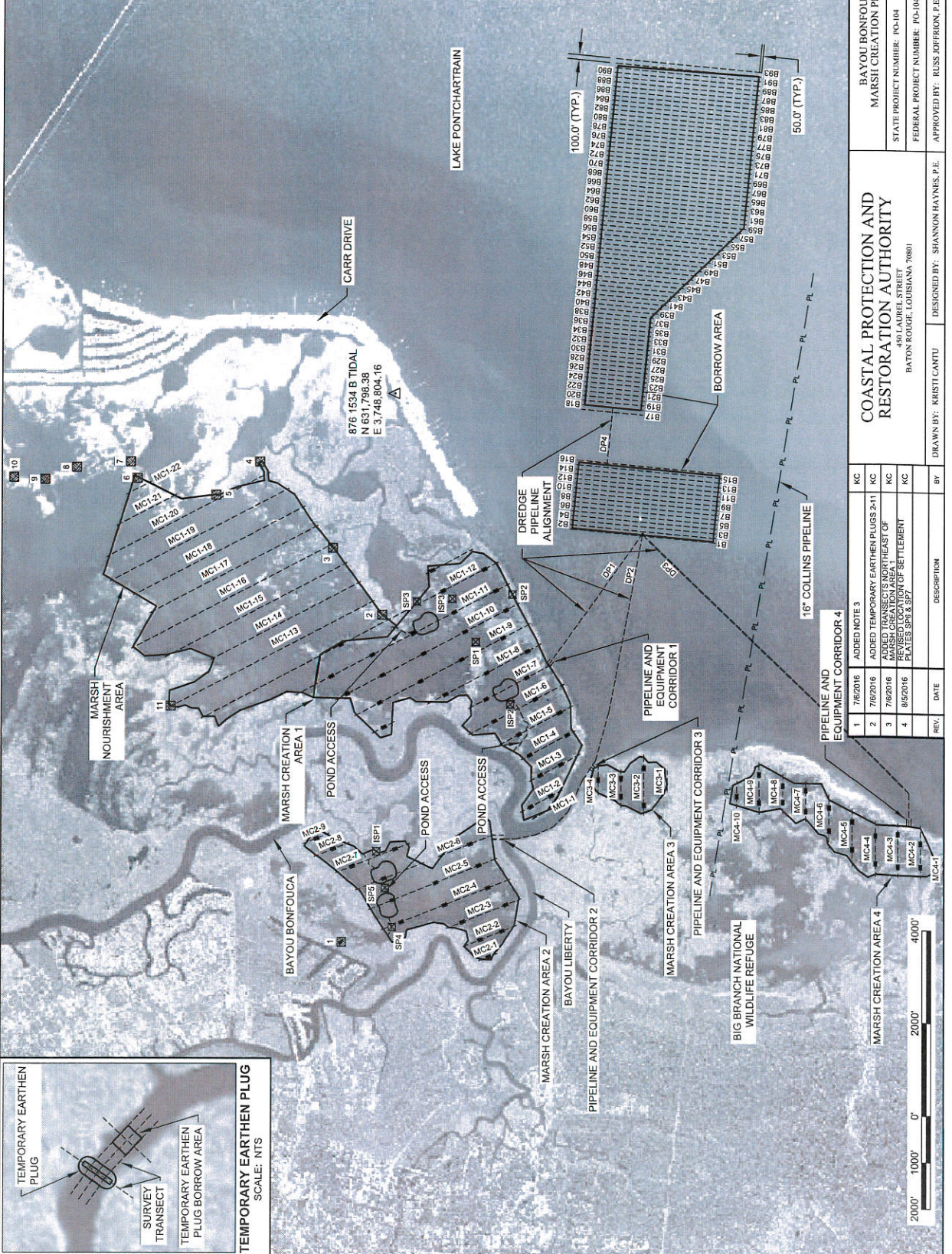
GRADE STAKES	
MARSH CREATION AREA	QUANTITY
1	34
2	17
3	5
4	17
TOTAL	73

NOTES:

- ALL INFRASTRUCTURE SHALL BE SURVEYED AND MARKED ACCORDING TO THE SPECIFICATIONS.
- PIPELINE AND EQUIPMENT CORRIDORS SHALL HAVE THREE TRANSECTS SPACED EVENLY ACROSS THE WIDTH OF THE CORRIDORS AND EXTEND FROM THE SHORELINE TO THE OUTSIDE TOE OF THE EARTHEN CONTAINMENT DIKES.
- SETTLEMENT PLATES SP6, SP7, AND SP8 SHALL BE INSTRUMENTED.

LEGEND	
---	SURVEY TRANSECT
— PL —	PIPELINE
⊠	SETTLEMENT PLATES
△	SURVEY MONUMENT
■	GRADE STAKE
■	TEMPORARY EARTHEN PLUG

BAYOU BONFOUCA MARSH CREATION PROJECT	CONSTRUCTION SURVEY LAYOUT
STATE PROJECT NUMBER: PO-104	DATE: FEBRUARY 2016
FEDERAL PROJECT NUMBER: PO-104	SHEET 15 OF 40



COASTAL PROTECTION AND RESTORATION AUTHORITY
 BATON ROUGE, LOUISIANA 70801
 DESIGNED BY: SHANNON HAYNES, P.E.
 DRAWN BY: KRISTI GANTU

REV.	DATE	DESCRIPTION	BY
1	7/6/2016	ADDED NOTE 3	KC
2	7/6/2016	ADDED TEMPORARY EARTHEN PLUGS 2+11	KC
3	7/6/2016	ADDED TRANSECTS NORTHEAST OF MARSH CREATION AREA 1	KC
4	8/5/2016	ADDED ALIGNMENT OF SETTLEMENT PLATES SP6 & SP7	KC



TS-251 INSTRUMENTED SETTLEMENT PLATES

- 251.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to construct, install, survey and maintain three (3) instrumented settlement plates in accordance with the Plans and these Specifications.
- 251.2 Materials: The base plate for each settlement plate shall be fabricated with a six (6) foot by six (6) foot by one-fourth (1/4) inch thick steel plate. A two and seven-eighths (2-7/8) inch diameter hole shall be drilled or cut through the center of the base plate for installation of the riser pipe. The heads of four (4) one-eighth (1/8) inch diameter by one (1) inch long stainless steel bolts shall be tack-welded onto the top of the base plate for installation of the pressure cell as shown on the Plans.

The riser pipe for each settlement plate shall be two and one-half (2.5) inch nominal diameter Schedule 40 steel pipe that is ten (10.0) feet long. The riser shall be inserted two (2) feet through the hole in the center of the base plate and welded using a 3/16" continuous fillet.

The housing for the multiplexer/node on each settlement plate shall be fabricated from a twelve (12) inch long section of twelve (12) inch diameter Schedule 40 steel pipe. The top of the housing shall be fitted with a non-threaded PVC cap. The bottom of the housing shall be fabricated from twelve (12) inch diameter by three-sixteenths (3/16) inch thick steel plate. A one and one-half (1.5) inch diameter hole shall be drilled four (4) inches from the center of the housing plate for installation of the instrumentation cables. The bottom of the housing plate shall be welded to the top of the riser pipe and housing pipe using a three-sixteenths (3/16) inch continuous fillet.

A three (3) inch diameter perforated PVC Schedule 40 pipe that is eight (8.0) feet long shall be fastened to the riser pipe using plastic wire straps. PVC threaded caps and fittings shall be attached to either end of the pipe. Twenty (20) Mesh T-304 sixteen-thousandths (0.016) inch stainless steel wire cloth shall be wrapped around the outside of the pipe and fastened with plastic wire straps. The pipe shall be filled with sand having a gradation equal to 100% retained by the No. 18 sieve (1 mm).

The Engineer shall be allowed to inspect the instrumented settlement plates and verify that the instrumentation can be properly installed a minimum of one (1) month prior to installation.

- 251.3 Zinc Coating: A zinc coating shall be applied in a manner and thickness quality conforming to ASTM A 123. In any case where the zinc coating becomes damaged, the damaged area shall be re-galvanized with a suitable low-melting zinc base alloy as recommended by the American Hot-Dip Galvanizers Association. One coat of a vinyl wash primer followed by a red top coat shall be applied over the zinc coat. All painting shall conform to the latest edition of the LA DOTD Standard Specification Section 811 and 1008, or approved equivalent.
- 251.4 Instrumentation: The instrumentation shall be delivered to the Engineer a minimum of one (1) month prior to installation of the instrumented settlement plates and shall become the property of the Owner upon delivery. The Engineer shall install the instrumentation concurrent with the installation of the settlement plates in the field by the Contractor. The instrumentation shall include the following:
- 251.4.1 Three (3) vibrating wire earth pressure cells/transducers with fourteen (14) foot cables (Geokon Model 4810-170KPA, or approved equal);
 - 251.4.2 Three (3) vibrating wire piezometers with eleven (11) foot cables (Geokon Model 4500AL-70KPA, or approved equal);
 - 251.4.3 Three (3) vibrating wire drive point piezometers with twenty-five (25) foot long cables (Geokon Model 4500DP-1-170KPA, or approved equal);

- 251.4.4 Three (3) vibrating wire drive point piezometers with twenty-nine (29) foot cables (Geokon Model 4500DP-1-170KPA, or approved equal);
 - 251.4.5 Fifteen (15), five (5) foot long drive point rods with nine (9) male-to-male connectors (Geokon Model 4500DP-2, or approved equal);
 - 251.4.6 One (1) wireless data acquisition network supervisor with antenna extender (Geokon Model 8800-2-2A, or approved equal);
 - 251.4.7 Three (3) wireless data acquisition sensor nodes with antenna extenders (Geokon Model 8800-1-2A, or approved equal);
 - 251.4.8 Three (3) eight (8) channel multiplexers (Geokon Model 8800-8-1, or approved equal);
 - 251.4.9 Three (3) two (2) foot multiplexer cables (Geokon Model 8032-5v & 05-37512-E, or approved equal);
 - 251.4.10 Fourteen (14) D-size 3.6 volt, 17Ah lithium batteries;
- 251.5 Installation: The instrumented settlement plates shall be installed at locations approved by the CPRA Engineer a minimum of two (2) weeks prior to fill placement in order for the CPRA Engineer to install the instrumentation. Leveling of the base plate shall be accomplished by removing the minimum amount of earth necessary to produce a level foundation. Leveling of the base plate by the addition of any material will not be permitted.
- 251.6 Monitoring: The Engineer shall be responsible for programming the data logger to obtain measurements from the pressure cell throughout placement of fill until one (1) month after fill placement is complete. The Contractor shall provide boat transportation to the Engineer in order to access the data logger at any time during this monitoring period.
- 251.7 Maintenance: The Contractor shall maintain all settlement plates until Acceptance of the marsh creation areas. Damages to settlement plates and associated instrumentation shall be immediately repaired or replaced and resurveyed by the Contractor at no expense to the Owner.
- 251.8 Ratio of Effort: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after installation of the instrumented settlement plates. The remaining ten (10) percent will be paid to the Contractor upon Acceptance of the marsh creation areas.

251.9 Measurement of Payment: Payment shall be made for the Contract lump sum price for "Instrumented Settlement Plates". Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work. No payment shall be made for instrumented settlement plates that are rejected or damaged due to fault or negligence by the Contractor.