

**CORRECTIVE ACTION MANAGEMENT UNIT  
(CAMU – PHASE II)  
CPE PIPE AS-BUILT as of 11/21/2009  
HENDERSON, NV**

Prepared for:



**ENTACT Environmental Services, LLC**  
699 South Friendswood Dr.  
Suite 101  
Friendswood, TX. 77546  
(281) 996-9892

Prepared by:



**Absolute Boundary & Control Solutions**  
6440 Sky Point Drive  
Suite 140 – PMB 321  
Las Vegas, NV 89131  
(702) 953-7452

January 21, 2010



01/21/2010

Attn: Erik Gehringer, Project Manager  
ENTACT Environmental Services, LLC  
699 South Friendswood Drive  
Friendswood, TX. 77546

Re: Corrective Action Management Unit (CAMU) – Phase II, CPE Pipe As-built as of 11/21/2009

Mr. Gehringer,

This report outlines the results of a Field Survey performed on the Corrective Action Management Unit (CAMU) project and was completed to depict the CPE Pipe elevations within Phase II. The intent of said report is to provide information such as but not limited to, Data, Calculations, Drawings, Tables, Charts, Electronic Files and other required media to satisfy the Submittal Requirements as outlined in Section 01050 of the Project Technical Specifications, Dated May, 2008.

Absolute Boundary & Control Solutions (ABCS) is pleased you have chosen us to complete these services, and assures you that every attempt has been made to prepare same in a fashion meeting or exceeding the Project Specifications. If however after your review you determine that revisions, clarifications or other modifications are needed, please do not hesitate to bring them to our attention.

In closing, thank you again for the opportunity to serve ENTACT. If you have any questions, comments or concerns, please do not hesitate to contact me.

Sincerely,

Craig A. Givant, PLS  
President

(702) 953-7452  
(702) 839-9750 fax

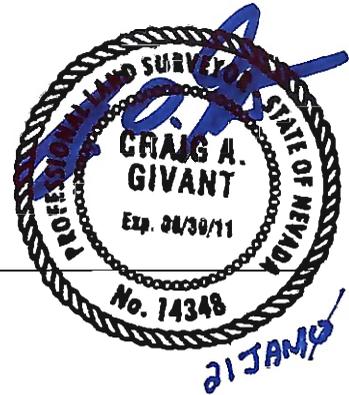
CERTIFICATION PAGE

CAMU – PHASE II  
CPE PIPE AS-BUILT as of 11/21/2009  
HENDERSON, NV

I, Craig A. Givant, a Professional Land Surveyor registered in the State of Nevada, certify (as defined by Nevada Revised Statutes 625.403) that:

1. This report and any Land Surveying Practices (N.R.S. 625.040) on which it is based were performed directly by me or under my responsible charge (N.R.S. 625.080) in accordance with the Standards and Practices Governing Land Surveyors in the State of Nevada as defined by any applicable sections of the Nevada Revised Statutes (N.R.S.) or the Nevada Administrative Code (N.A.C.).
2. By affixing my official seal and signature below I am confirming that I am a Registered Land Surveyor in the State of Nevada and thereby satisfy the requirements of Section 01050, Part 1.03, Subpart A or the Project Technical Specifications.

\_\_\_\_\_  
Craig A. Givant, PLS  
PLS 14348



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## **FIELD NOTES**

All Field Data pertaining to the determination and location of the As-Built information was collected electronically. Pertinent parameters required to be input into the software and which were obtained by means of human interaction, were verified as correct by performing field checks. These field checks and their resultant accuracies can be viewed within the Electronic Field Notes (Raw Data). The following Raw Data files were used while acquiring the As-Built information. These files have not been printed for inclusion in this report however a Portable Document File (PDF) of each raw data printout is included electronically on the attached Compact Disk (CD). It should be noted that the contents of these Raw Data files may not pertain solely to the report herein presented and may include additional data from other “tasks” performed on the same day.

1. 2009-11-21 (4-inch CPE As-Built)-MC

## **SURVEY DATA**

Field Survey Methods were employed that resulted in the following precisions:

Horizontal Coordinates:  $\pm 1.0'$  (One Foot)

Vertical Coordinates:  $\pm 0.10'$  (One Tenth of a Foot)

The Following documents are attached hereto:

1. Coordinate Printout of the reduced (measured) coordinates from the Field Collection Efforts.

**1. Coordinate Printout of the reduced (measured) coordinates from the Field Collection Efforts.**

<b>Pt. No.</b>	<b>Northing</b>	<b>Easting</b>	<b>Elevation</b>	<b>Description</b>
164	16758.562	13659.75	1820.511	4-INCH CPE-T.O.P.
165	16774.027	13664.544	1820.231	4-INCH CPE-T.O.P.
166	16813.544	13676.606	1819.163	4-INCH CPE-T.O.P.
167	16869.109	14027.493	1816.351	4-INCH CPE-T.O.P.
168	16826.644	14027.182	1817.511	4-INCH CPE-T.O.P.
169	16806.552	14024.611	1818.156	4-INCH CPE-T.O.P.

## **DRAWINGS**

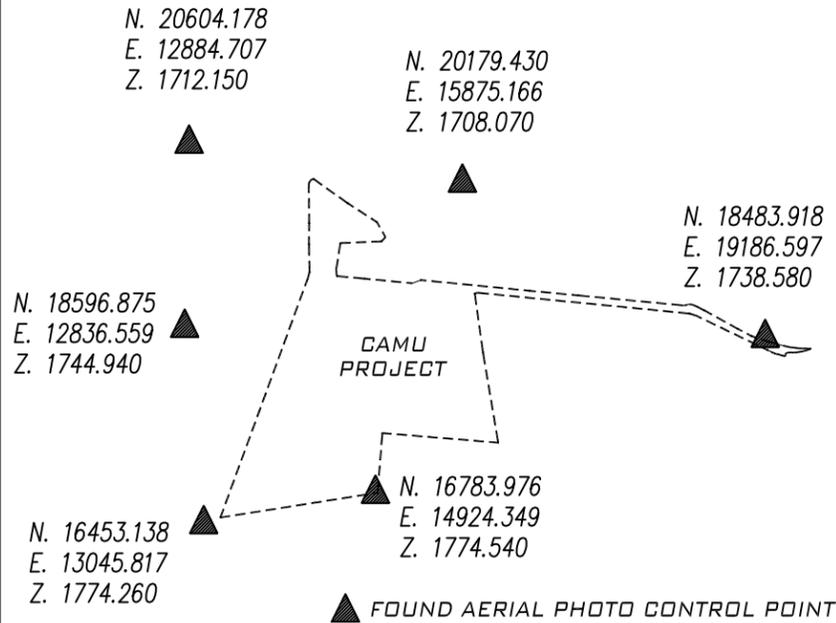
The following Measurement Drawings, Topographic Survey Drawings and/or Cross-Section Drawings are attached.

1. **As-Built - Phase II – CPE Pipe as of 11/21/2009, dated 01-21-2010.**

This drawing depicts the as-built elevations of the flow-line of the CPE pipe(s) within Phase II as of 11/21/2009. It also contains information regarding the control network utilized and other pertinent survey data. Due to the scale at which this drawing was prepared, the intended correlation representation may not be entirely clear. In ALL cases the Survey Data herein provided takes precedence over any graphical representation(s).

**PROJECT CONTROL**

1" = 2000'



**SURFACE NOTE**

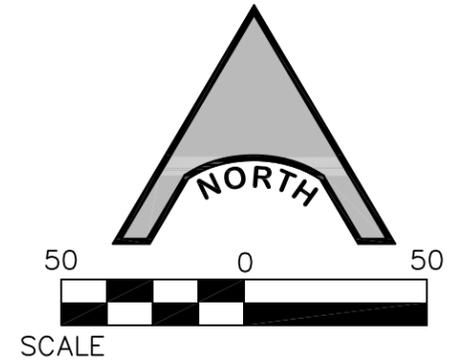
THE SURFACE DEPICTED HEREON REPRESENTS THE INTERIM COVER SOIL AS REPORTED IN THAT CERTAIN REPORT PREPARED BY ABSOLUTE BOUNDARY & CONTROL SOLUTIONS UNDER TASK NO: 2009.11.05.01-B

**SYMBOLS LEGEND**

• XX.X FLOWLINE GRADE 4" SLOTTED PIPE

**NOTES:**

1) ALL ELEVATIONS SHOWN ARE TO THE PIPE FLOW-LINE AND HAVE BEEN REDUCED BY 1800' FOR CLARITY. ADD (+1800.00) TO OBTAIN ACTUAL ELEVATIONS.



**BENCHMARK**

CLARK COUNTY BENCHMARK (6C22 2E4), BEING A RIVET AND SQUARE ALUMINUM PLATE IN A CONCRETE CENTERLINE ISLAND, 4' WEST OF THE NOSE IN THE MIDDLE OF SUNSET ROAD, WEST SIDE OF THE INTERSECTION OF BOULDER HIGHWAY AND SUNSET ROAD.

PUBLISHED ELEVATION - 505.816 METERS = 1659.50 FEET  
NAVD 1988 DATUM - PUBLISHED (2003)

**BASIS OF BEARINGS**

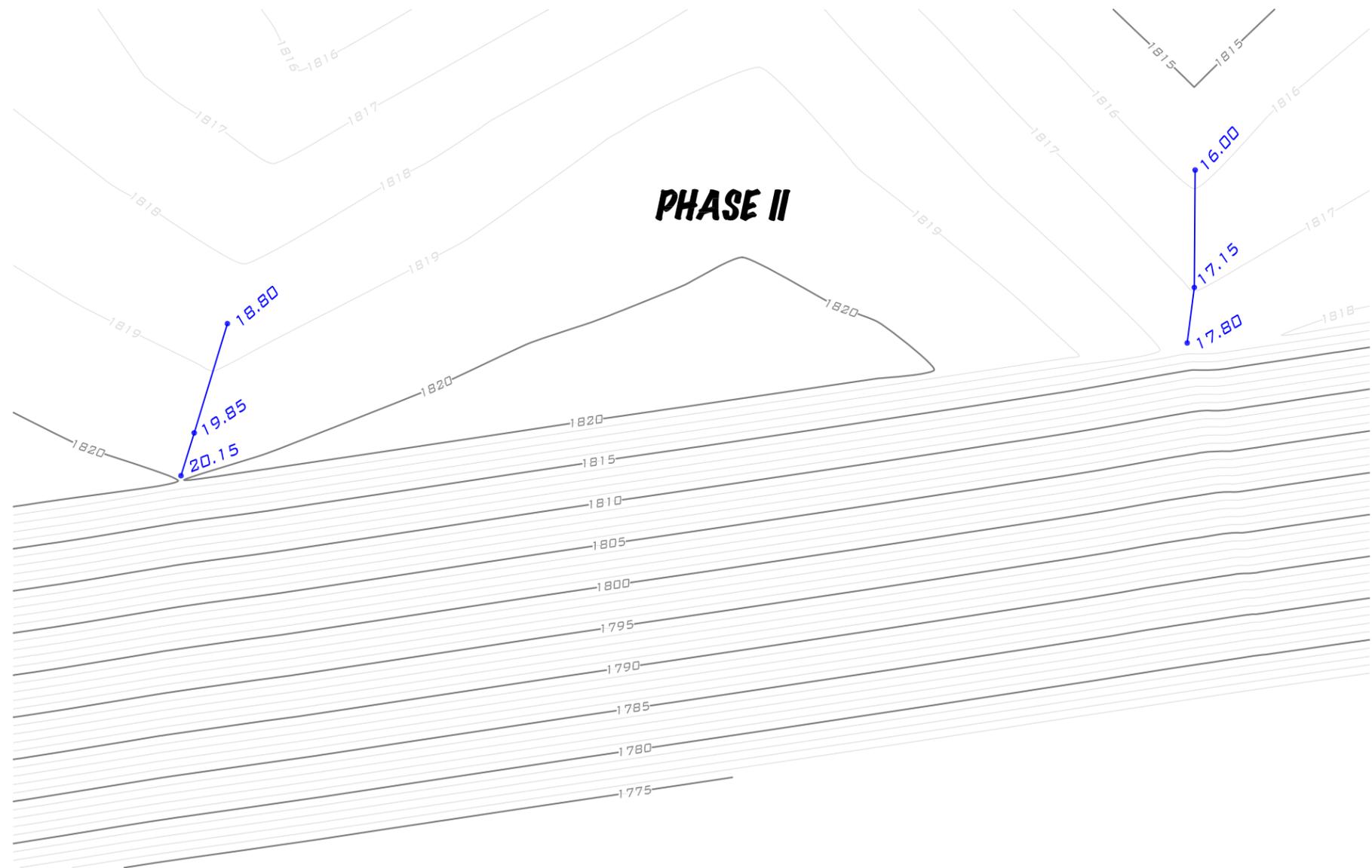
SOUTH 85°36'52" WEST, BEING THE BEARING BETWEEN CLARK COUNTY GIS CONTROL POINTS "CC-GIS 848" AND CC-GIS W51", AS SHOWN ON THE MAP IN FILE 88 OF SURVEYS, PAGE 53, OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

**COORDINATE SYSTEM**

THE COORDINATE SYSTEM AND ASSOCIATED BEARING ROTATION INFORMATION WAS ESTABLISHED AND PROVIDED BY PBS&J.

**LINE LEGEND**

- MAJOR (5') CONTOUR \_\_\_\_\_
- MINOR (1') CONTOUR \_\_\_\_\_
- 4" SLOTTED PIPE \_\_\_\_\_



NO.	REVISION	DATE
△		
△		
△		
△		

**CORRECTIVE ACTION MANAGEMENT UNIT - (CAMU)**

*AS-BUILT*

**PHASE II - CPE PIPE AS OF 11/21/2009**

FIELD SURVEY DATE: 11-21-2009  
FIELD CREW: C.G. / M.C.

JOB # 2008-06-23-01

**ABSOLUTE BOUNDARY & CONTROL SOLUTIONS**

6440 SKY POINT DRIVE  
SUITE 140 - PMB 321  
LAS VEGAS, NV. 89131  
(702) 953-7452  
(702) 987-5943 FAX  
WWW.AB-CS.COM

Date:	January 21, 2010
Drawn:	C. Givant
Checked:	C. Givant
Task:	2010.01.18.01-A
Sheet No.	1 of 1

## **ELECTRONIC FILES**

The Compact Disk (CD) included in the pocket at the end of this report contains the following Directories and Files:

### **PDF Files (.pdf)**

1. 2010-01-18.01-A (Phase II CPE Pipe ASB)
2. (Field Notes) - 2009-11-21 (4-inch CPE As-Built)

### **CAD Files (.dwg)**

1. 2010.01.21 (CPE ASB)
2. 2010.01.21 (CPE ASB) - 2007

### **Coordinate Files (.csv)**

The following files are Comma Separated Value Files in the following format:

Point Name,Northing,Easting,Elevation,Description

1. 4 Inch CPE ASB

### **Raw Data Files (.dc)**

The following files are Trimble Data Collector (.DC) files that contain the Raw Field Data.

1. 2009-11-21 (4-inch CPE As-Built)-MC