



Surveying And Mapping, Inc.  
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 sam@saminc.biz www.saminc.biz

## TEST HOLE SUMMARY REPORT

Project Name: SAWS Carrizo - NACO Pump Sta.

SAM - 31270-31

Prepared By: Alan Horton Client: Tetra Tech Date: 11/22/2011

TH #	Utility Location	Northing	Easting	Utility Owner	Ground Elevation	Top Of Utility El. TOU	TOU Depth	Utility Description
1	Inside NACO Pump Station, near O'Connor road	13755701.36	2164819.37	SAWS	816.86	814.9	2.0'	2" Poly
2	Inside NACO Pump Station, near O'Connor road	13755687.64	2164821.93	SAWS	816.20	812.9	3.3'	24" Concrete Coated Steel Pipe
3	Inside NACO Pump Station, near O'Connor road	13755781.90	2164806.47	SAWS	822.73	817.0	5.7'	48" Concrete Coated Steel Pipe
4	Inside NACO Pump Station, near O'Connor road	13755807.01	2164791.22	SAWS	824.75	818.3	6.5'	48" Concrete Coated Steel Pipe
5	Inside NACO Pump Station, near O'Connor road	13755810.87	2164791.72	SAWS	824.75	818.6	6.2'	Top of flange
6	Inside NACO Pump Station, near water tanks	13755812.96	2164791.44	SAWS	825.14	817.7	7.4'	36" TEE
7	Inside NACO Pump Station, near water tanks	13755900.26	2164081.94	SAWS	825.29	821.0	4.3'	1' x 0.5' Electric Concrete Duct
8	Inside NACO Pump Station, near water tanks	13755912.72	2164085.22	SAWS	823.93	814.2	9.7'	60" Concrete Coated Steel Pipe
8	Inside NACO Pump Station, near water tanks	13755912.72	2164085.22	SAWS	826.34	823.7	2.6'	16" Steel Pipe
8	Inside NACO Pump Station, near water tanks	13755880.03	2164048.49	SAWS	819.28	816.0	3.3'	1.5' x 1.5' Electric Concrete Duct

**SUBSURFACE UTILITY ENGINEERING**  
**QUALITY LEVEL – A: Test Hole Data Information**  
 SAM, Inc. Project Number: 31270-31

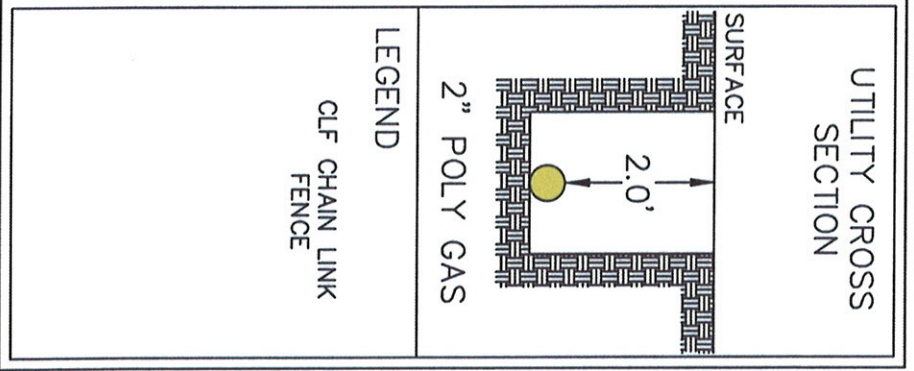
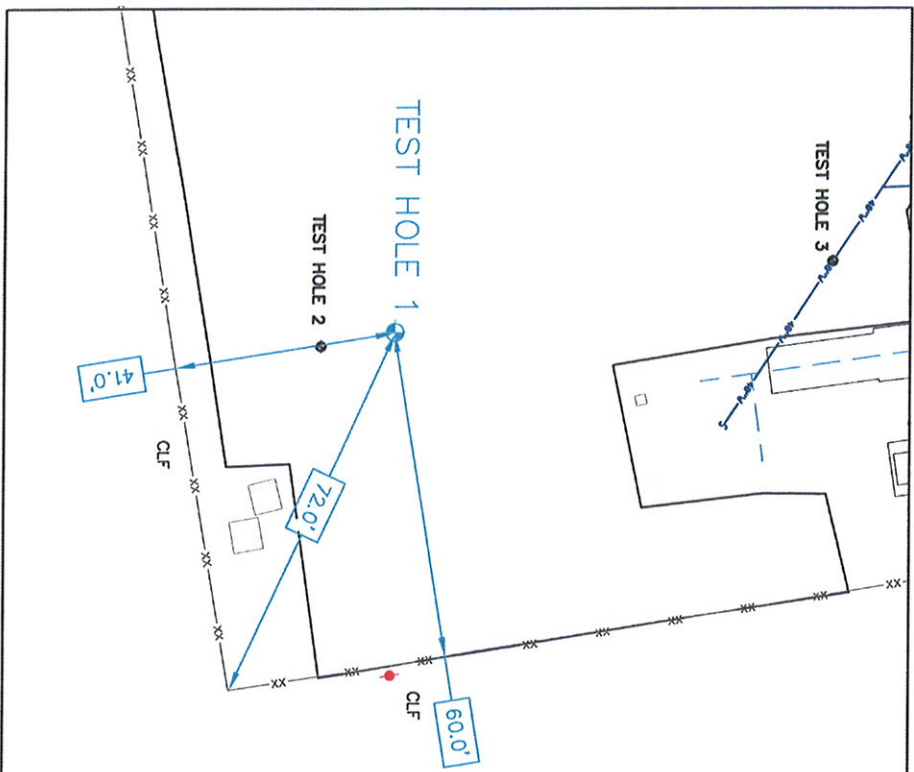
**TEST HOLE NUMBER: 1**  
 Date: November 7, 2011  
 Client: Tetra Tech  
 Project: SAWS NACO Pump Station QL-A



Project Location: **O'Connor Road, San Antonio**  
 Utility Location: **Inside NACO pump station**  
 Utility Sta./Offset: **N/A**  
 Record Utility: **2" Gas service**  
 Utility Owner: **SAWS**  
 Contact/Phone: **Alissa Lockett, P.E. 210-233-3401**  
 Address: **N/A**  
 Field Crew: **Gabriel Johnson and Miller Pipeline**  
 Field Conditions: **Off roadway**

Surface Material: **Asphalt**  
 Surface Elevation: **816.86**  
 Thickness & Condition: **Good**  
 Trench Material: **Sand**  
 Utility Bedding Material: **Sand**  
 Utility Found: **2" yellow poly pipe**  
 Utility Condition: **Good**  
 Utility Depth (Top): **2.0'**

- COMMENTS**
- SAM, Inc. located Test Hole # 1 by electronically designating the gas line prior to air/vacuum excavation of the utility. No additional utilities were found within Test Hole # 1 excavation.
  - All excavation was performed with air/vacuum excavation equipment.
  - The Test Hole was backfilled with excavated material and asphalt patch.
  - The picture depicts the existing gas line
  - Parking lot was resurfaced prior to surveying designated gas line.



**PROJECT CONTROL (Surface)**  
 Pt # 500  
 TPT - Mag nail  
 N = 13755809.38  
 E = 2164216.11  
 Elev = 828.51  
 Pt # 505  
 TPT - 3/4" iron rod  
 N = 13756091.03  
 E = 2163988.36  
 Elev = 826.69

**UTILITY COORDINATES**  
 N = 13755701.36  
 E = 2164819.37  
 Elev = 814.9



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**SUBSURFACE UTILITY ENGINEERING**

**QUALITY LEVEL – A: Test Hole Data Information**  
 SAM, Inc. Project Number: 31270-31

**TEST HOLE NUMBER: 2**

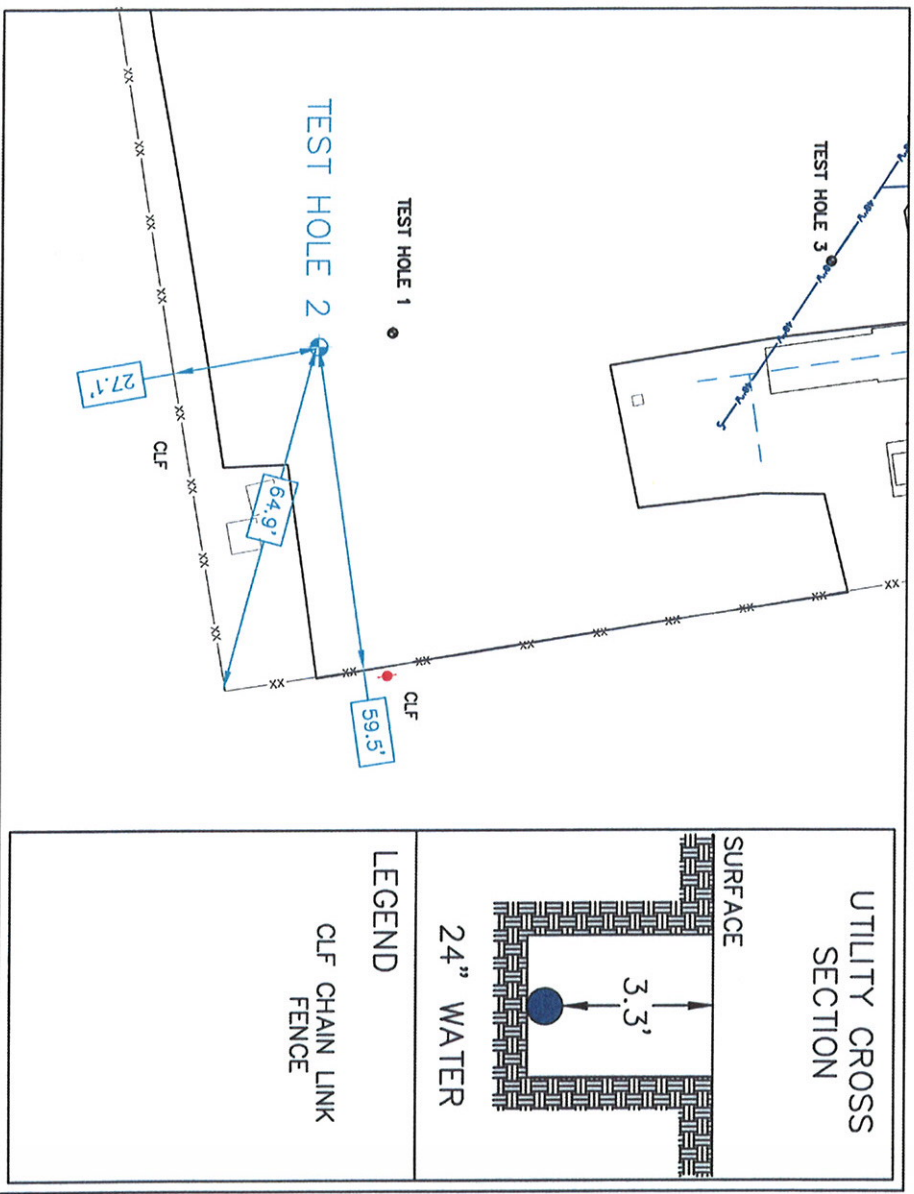
Date: November 7, 2011  
 Client: Tetra Tech  
 Project: SAWS NACO Pump Station QI-A



Project Location: **O'Connor Road, San Antonio**  
 Utility Location: **Inside NACO pump station**  
 Utility Sta./Offset: **N/A**  
 Record Utility: **16" CSC Water line**  
 Utility Owner: **SAWS**  
 Contact/Phone: **Alissa Lockett, P.E. 210-233-3401**  
 Address: **N/A**  
 Field Crew: **Gabriel Johnson and Miller Pipeline**  
 Field Conditions: **Off roadway**

Surface Material: **Asphalt**  
 Surface Elevation: **816.20**  
 Thickness & Condition: **Good**  
 Trench Material: **Black clay**  
 Utility Bedding Material: **Pea gravel**  
 Utility Found: **24" concrete coated steel pipe**  
 Utility Condition: **Good**  
 Utility Depth (Top): **3.3'**

- COMMENTS**
- SAM, Inc. located Test Hole # 2 by electronically designating the water line prior to air/vacuum excavation of the utility.
  - No additional utilities were found within Test Hole # 2 excavation.
  - All excavation was performed with air/vacuum excavation equipment.
  - The Test Hole was backfilled with excavated material and asphalt patch.
  - The picture depicts the existing water line.
  - Parking lot was resurfaced prior to surveying designated water line.



**PROJECT CONTROL (Surface)**  
 Pt # 500  
 TPT - Mag nail  
 N = 13755809.38  
 E = 2164216.11  
 Elev = 828.51  
 Pt # 505  
 TPT - 3/4" iron rod  
 N = 13756091.03  
 E = 2163988.36  
 Elev = 826.69

**UTILITY COORDINATES**  
 N = 13755687.64  
 E = 2164821.93  
 Elev = 812.9



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**SUBSURFACE UTILITY ENGINEERING**  
**QUALITY LEVEL - A: Test Hole Data Information**  
 SAM, Inc. Project Number: 31270-31

**TEST HOLE NUMBER: 3**

Date: November 7, 2011  
 Client: Tetra Tech  
 Project: SAWS NACO Pump Station QL-A

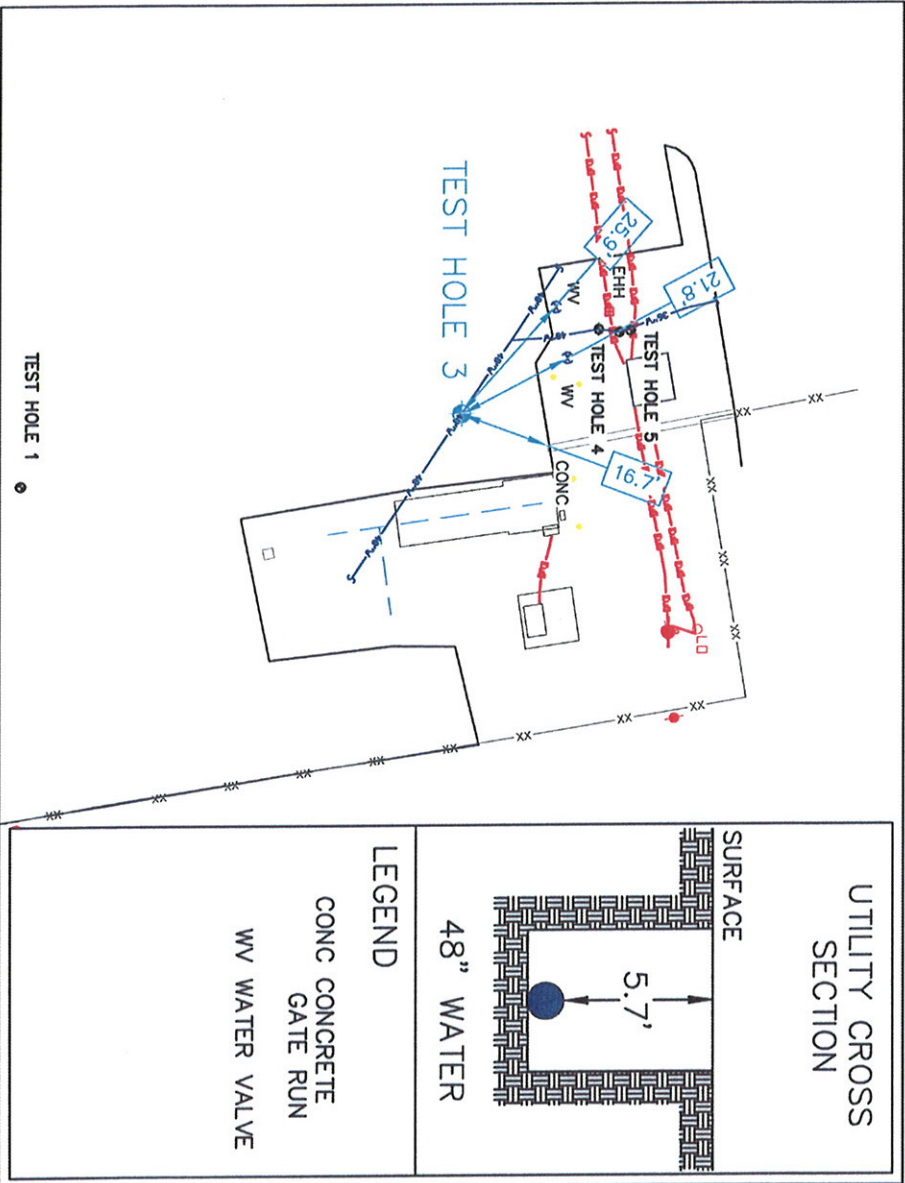


Project Location: **O'Connor Road, San Antonio**  
 Utility Location: **Inside NACO pump station**  
 Utility Sta./Offset: **N/A**  
 Record Utility: **48" Water line**  
 Utility Owner: **SAWS**  
 Contact/Phone: **Aissa Lockett, P.E. 210-233-3401**  
 Address: **N/A**  
 Field Crew: **Gabriel Johnson and Miller Pipeline**  
 Field Conditions: **Off roadway**

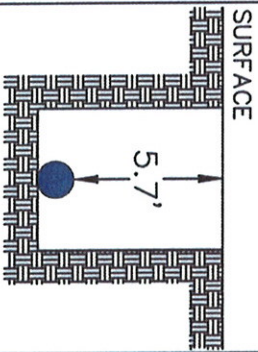
Surface Material: **Asphalt**  
 Surface Elevation: **822.73**  
 Thickness & Condition: **Good**  
 Trench Material: **Clay and aggregate**  
 Utility Bedding Material: **Clay and aggregate**  
 Utility Found: **48" concrete coated pipe**  
 Utility Condition: **Good**  
 Utility Depth (Top): **5.7'**

**COMMENTS**

1. SAM, Inc. located Test Hole # 3 by electronically designating the water line prior to air/vacuum excavation of the utility.
2. No additional utilities were found within Test Hole # 3 excavation.
3. All excavation was performed with air/vacuum excavation equipment.
4. The Test Hole was backfilled with excavated material and asphalt patch.
5. The picture depicts the existing water line.



**UTILITY CROSS SECTION**



**PROJECT CONTROL (Surface)**  
 Pt # 500  
 TPT - Mag nail  
 N = 13755809.38  
 E = 2164216.11  
 Elev = 828.51  
 Pt # 505  
 TPT - 3/4" iron rod  
 N = 13756091.03  
 E = 2163988.36  
 Elev = 826.69

**UTILITY COORDINATES**  
 N = 13755781.90  
 E = 2164806.47  
 Elev = 817.0

**TEST HOLE PICTURE**



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**SUBSURFACE UTILITY ENGINEERING**  
**QUALITY LEVEL - A: Test Hole Data Information**  
 SAM, Inc. Project Number: 31270-31

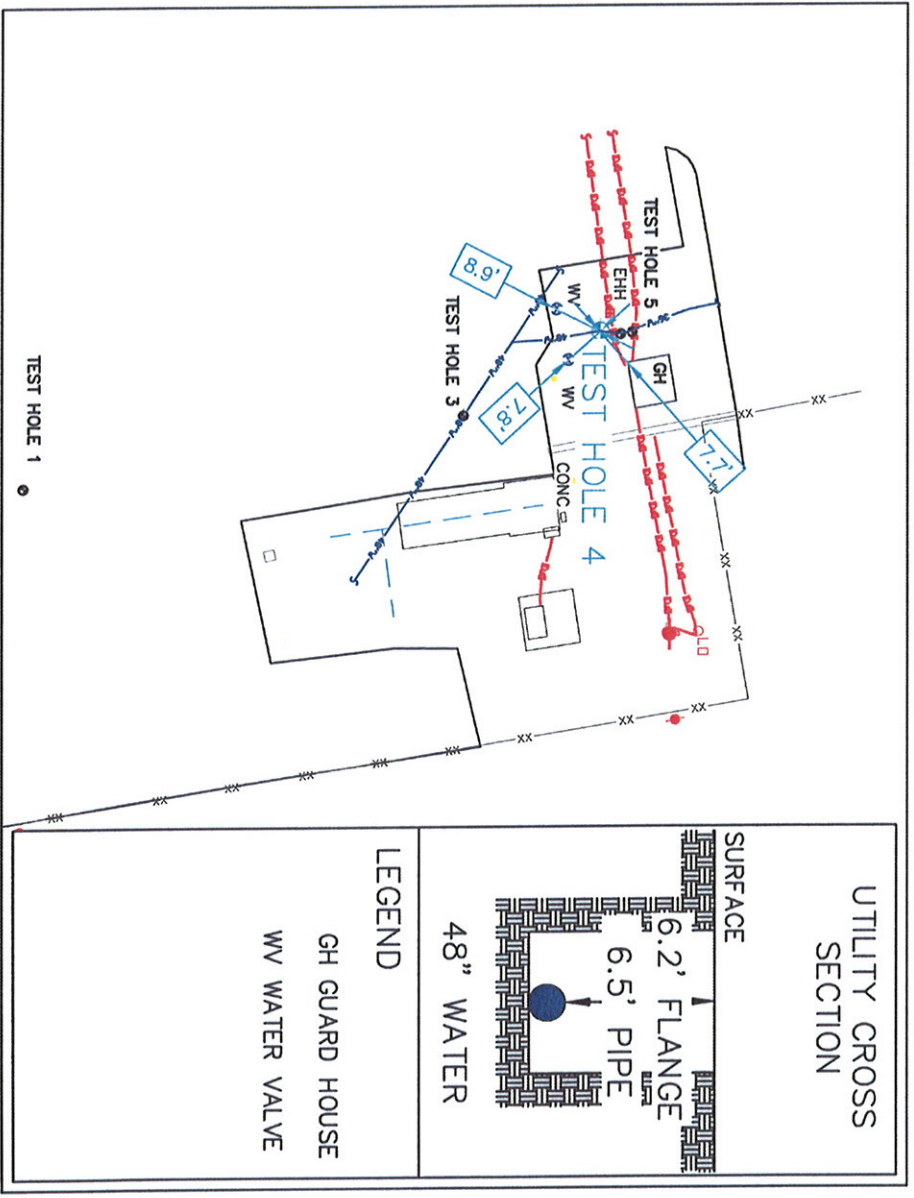
**TEST HOLE NUMBER: 4**  
 Date: November 7, 2011  
 Client: Tetra Tech  
 Project: SAWS NACO Pump Station QL-A



Project Location: **O'Connor Road, San Antonio**  
 Utility Location: **Inside NACO pump station**  
 Utility Sta./Offset: **N/A**  
 Record Utility: **48"x36" Tee Water line**  
 Utility Owner: **SAWS**  
 Contact/Phone: **Aiessa Lockett, P.E. 210-233-3401**  
 Address: **N/A**  
 Field Crew: **Gabriel Johnson and Miller Pipeline**  
 Field Conditions: **Off roadway**

Surface Material: **Natural ground**  
 Surface Elevation: **824.75**  
 Thickness & Condition: **Good**  
 Trench Material: **Clay and aggregate**  
 Utility Bedding Material: **Clay and aggregate**  
 Utility Found: **48" concrete coated pipe**  
 Utility Condition: **Good**  
 Utility Depth (Top): **6.2' to flange**  
 Utility Depth (Bottom): **6.5' to pipe N. of flange**

- COMMENTS**
- SAM, Inc. located Test Hole # 4 by electronically designating the water line prior to air/vacuum excavation of the utility.
  - No additional utilities were found within Test Hole # 4 excavation.
  - All excavation was performed with air/vacuum excavation equipment.
  - The Test Hole was backfilled with excavated material.
  - The picture depicts the existing water line.



**PROJECT CONTROL (Surface)**  
 Pt # 500  
 TPT - Mag nail  
 N = 13755809.38  
 E = 2164216.11  
 Elev = 828.51

Pt # 505  
 TPT-3/4" iron rod  
 N = 13756091.03  
 E = 2163988.36  
 Elev = 826.69



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**SUBSURFACE UTILITY ENGINEERING**  
**QUALITY LEVEL - A: Test Hole Data Information**  
 SAM, Inc. Project Number: 31270-31

**TEST HOLE NUMBER: 5**  
 Date: November 9, 2011  
 Client: Tetra Tech  
 Project: SAWS NACO Pump Station QL-A

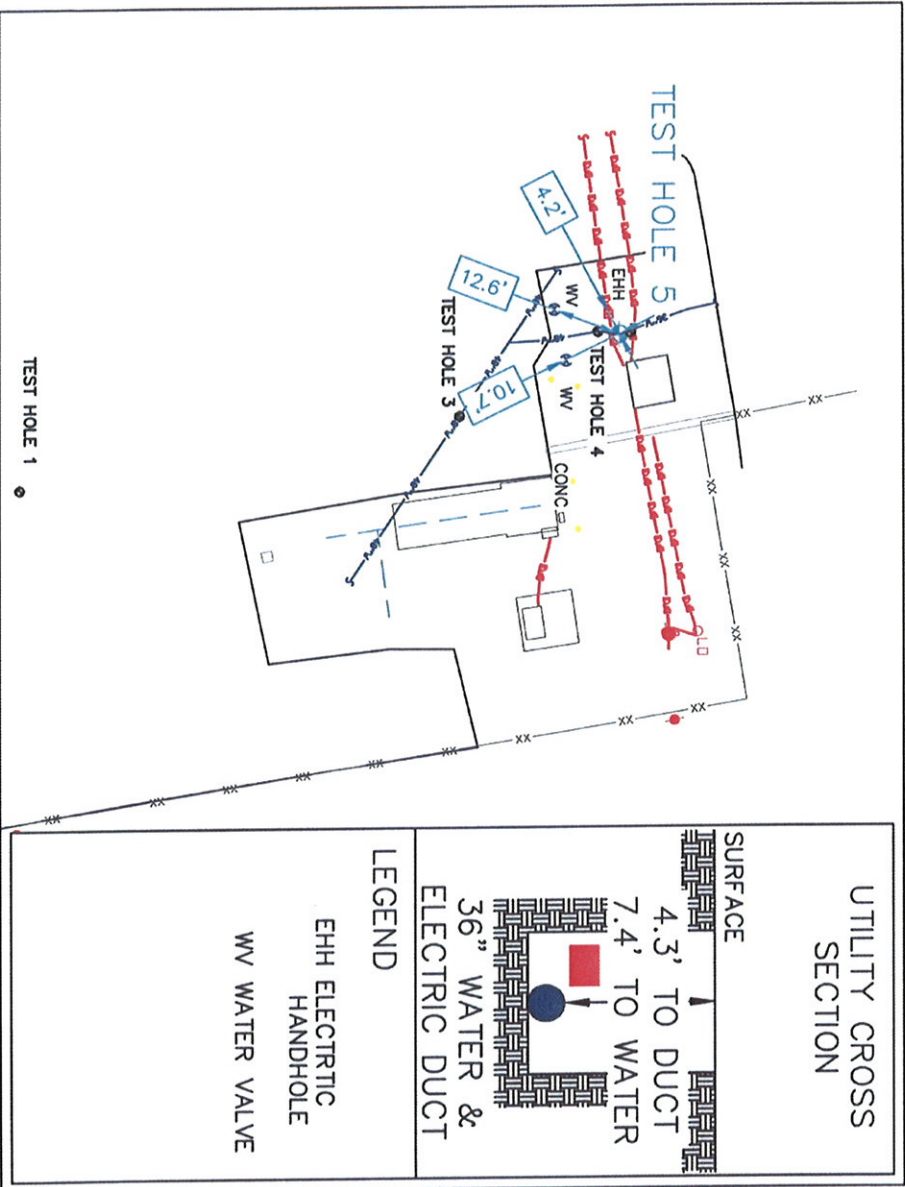


Project Location:	O'Connor Road, San Antonio	Surface Material:	Natural ground
Utility Location:	Inside NACO pump station	Surface Elevation:	825.14 (W), 825.29 (E-Duct)
Utility Sta./Offset:	N/A	Thickness & Condition:	Good
Record Utility:	48"x36" Tee Water line	Trench Material:	Clay and aggregate
Utility Owner:	SAWS	Utility Bedding Material:	Clay and aggregate
Contact/Phone:	Aiessa Lockett, P.E. 210-233-3401	Utility Found:	36" pipe and 1.0'x0.5' conc duct
Address:	N/A	Utility Condition:	Both good
Field Crew:	Gabriel Johnson and Miller Pipeline	Utility Depth (Top):	4.3 to Electric duct 7.4' top pipe
Field Conditions:	Off roadway		

**COMMENTS**

- SAM, Inc. located Test Hole # 5 by record information for the water line prior to air/vacuum excavation of the utility.
- A concrete electric duct 2' north of pipe was also found within Test Hole # 5 excavation.
- All excavation was performed with air/vacuum excavation equipment.
- The Test Hole was backfilled with excavated material.
- The picture depicts the existing water line.

**TEST HOLE PICTURE**



**PROJECT CONTROL**  
(Surface)

Pt # 500  
 TPT - Mag nail  
 N = 13755809.38  
 E = 2164216.11  
 Elev = 828.51

Pt # 505  
 TPT - 3/4" iron rod  
 N = 13756091.03  
 E = 2163988.36  
 Elev = 826.69

**UTILITY COORDINATES**

Water line  
 N = 13755810.87  
 E = 2164791.72  
 Elev = 817.7

Electric duct  
 N = 13755812.96  
 E = 2164791.44  
 Elev = 821.0



11-23-11

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**SUBSURFACE UTILITY ENGINEERING**  
**QUALITY LEVEL – A: Test Hole Data Information**  
 SAM, Inc. Project Number: 31270-31

**TEST HOLE NUMBER: 6**  
 Date: November 10, 2011  
 Client: Tetra Tech  
 Project: SAWS NACO Pump Station QL-A

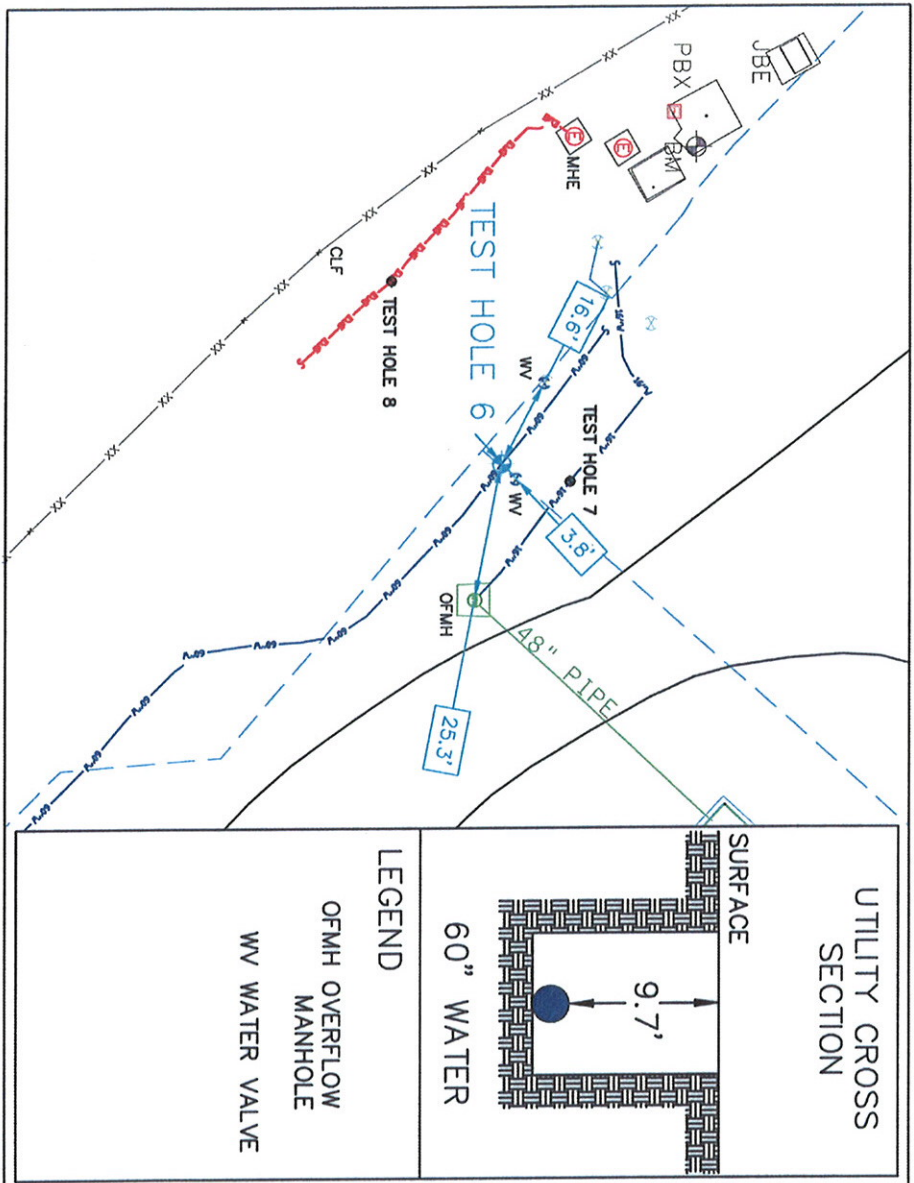


Project Location: **O'Connor Road, San Antonio**  
 Utility Location: **Inside NACO pump station**  
 Utility Sta./Offset: **N/A**  
 Record Utility: **72"x60"x48" Tee Water line**  
 Utility Owner: **SAWS**  
 Contact/Phone: **Alissa Lockett, P.E. 210-233-3401**  
 Address: **N/A**  
 Field Crew: **Gabriel Johnson and Miller Pipeline**  
 Field Conditions: **Off roadway**

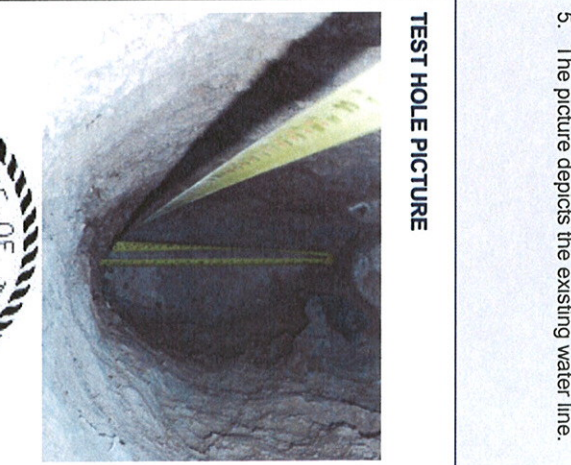
Surface Material: **Natural ground**  
 Surface Elevation: **823.93**  
 Thickness & Condition: **Good**  
 Trench Material: **Clay & aggregate w/rocks and conc**  
 Utility Bedding Material: **Clay and aggregate**  
 Utility Found: **60" CSC pipe**  
 Utility Condition: **Good**  
 Utility Depth (Top): **9.7'**

**COMMENTS**

1. SAM, Inc. located Test Hole # 6 by electronically designating the water line prior to air/vacuum excavation of the utility.
2. No additional utilities were found within Test Hole # 6 excavation.
3. All excavation was performed with air/vacuum excavation equipment.
4. The Test Hole was backfilled with excavated material.
5. The picture depicts the existing water line.



**PROJECT CONTROL (Surface)**  
 Pt # 500  
 TPT - Mag nail  
 N = 13755809.38  
 E = 2164216.11  
 Elev = 828.51  
 Pt # 505  
 TPT - 3/4" iron rod  
 N = 13756091.03  
 E = 2163988.36  
 Elev = 826.69



**TEST HOLE PICTURE**

**UTILITY COORDINATES**  
 N = 13755900.26  
 E = 2164081.94  
 Elev = 814.2

STATE OF TEXAS  
 LYNN D. LAMBDEN  
 LICENSED PROFESSIONAL ENGINEER  
 74139  
*Alissa Lockett*  
 11-23-11

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 REGISTRATION # F-1937

**SUBSURFACE UTILITY ENGINEERING**  
**QUALITY LEVEL – A: Test Hole Data Information**  
 SAM, Inc. Project Number: 31270-31

**TEST HOLE NUMBER: 7**

Date: November 10, 2011  
 Client: Tetra Tech  
 Project: SAWS NACO Pump Station QL-A

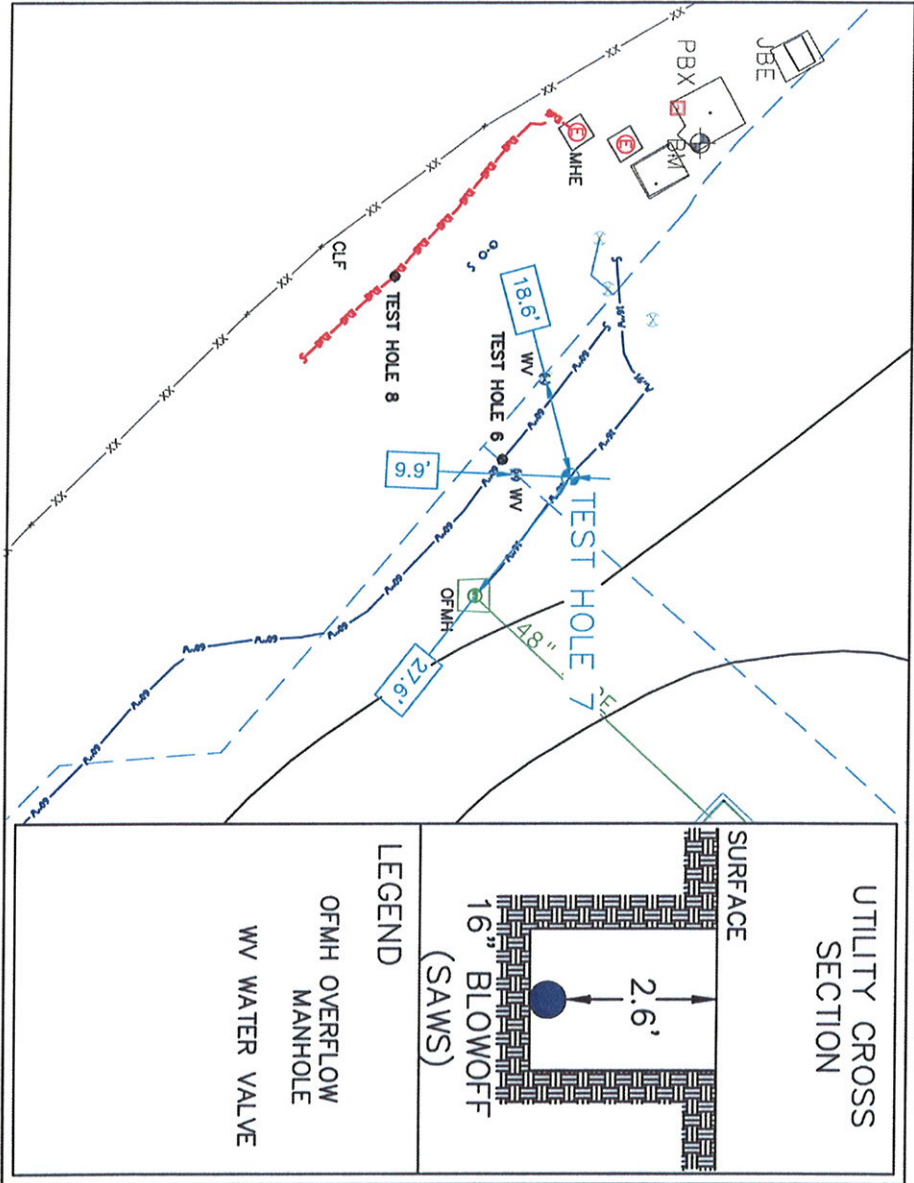


Project Location: **O'Connor Road, San Antonio**  
 Utility Location: **Inside NACO pump station**  
 Utility Sta./Offset: **N/A**  
 Record Utility: **16" Steel Blow off Water pipe**  
 Utility Owner: **SAWS**  
 Contact/Phone: **Alissa Lockett, P.E. 210-233-3401**  
 Address: **N/A**  
 Field Crew: **Gabriel Johnson and Miller Pipeline**  
 Field Conditions: **Off roadway**

Surface Material: **Natural ground**  
 Surface Elevation: **826.34**  
 Thickness & Condition: **Good**  
 Trench Material: **Clay and aggregate**  
 Utility Bedding Material: **Clay and aggregate**  
 Utility Found: **16" steel pipe**  
 Utility Condition: **Good**  
 Utility Depth (Top): **2.6'**

**COMMENTS**

- SAM, Inc. located Test Hole # 7 by electronically designating the water line prior to air/vacuum excavation of the utility. No additional utilities were found within Test Hole # 7 excavation.
- All excavation was performed with air/vacuum excavation equipment.
- The Test Hole was backfilled with excavated material.
- The picture depicts the existing water line.



**PROJECT CONTROL (Surface)**

Pt # 500  
 TPT - Mag nail  
 N = 13755809.38  
 E = 2164216.11  
 Elev = 828.51

Pt # 505  
 TPT - 3/4" iron rod  
 N = 13756091.03  
 E = 2163988.36  
 Elev = 826.69

**UTILITY COORDINATES**

N = 13755912.72  
 E = 2164085.22  
 Elev = 823.7

**TEST HOLE PICTURE**



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**SUBSURFACE UTILITY ENGINEERING**  
**QUALITY LEVEL - A: Test Hole Data Information**  
 SAM, Inc. Project Number: 31270-31

**TEST HOLE NUMBER: 8**

Date: November 10, 2011  
 Client: Tetra Tech  
 Project: SAWS NACO Pump Station QL-A

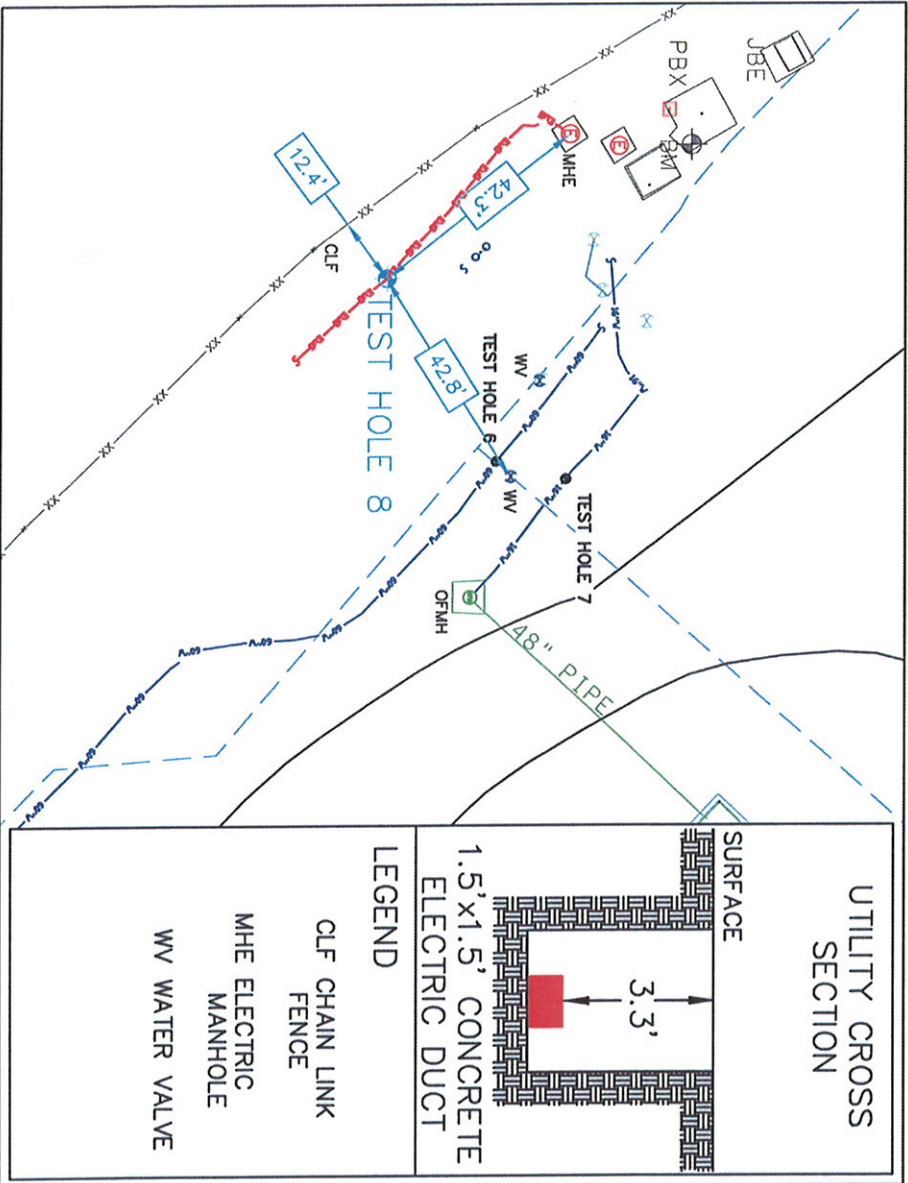


Project Location: **O'Connor Road, San Antonio**  
 Utility Location: **Inside NACO pump station**  
 Utility Sta./Offset: **N/A**  
 Record Utility: **Electric Duct**  
 Utility Owner: **SAWS**  
 Contact/Phone: **Alissa Lockett, P.E. 210-233-3401**  
 Address: **N/A**  
 Field Crew: **Gabriel Johnson and Miller Pipeline**  
 Field Conditions: **Off roadway**

Surface Material: **Natural ground**  
 Surface Elevation: **819.28**  
 Thickness & Condition: **Good**  
 Trench Material: **Rocky clay**  
 Utility Bedding Material: **Rocky clay**  
 Utility Found: **1.5'x1.5' concrete duct**  
 Utility Condition: **Good**  
 Utility Depth (Top): **3.3'**

**COMMENTS**

1. SAM, Inc. located Test Hole # 8 by electronically designating the electric line prior to air/vacuum excavation of the utility. No additional utilities were found within Test Hole # 8 excavation.
2. All excavation was performed with air/vacuum excavation equipment.
3. The Test Hole was backfilled with excavated material.
4. The picture depicts the existing duct.
5. The picture depicts the existing duct.



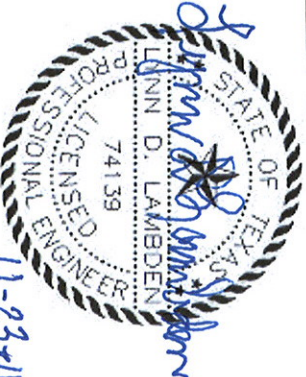
**PROJECT CONTROL**  
(Surface)

Pt # 500  
 TPT - Mag nail  
 N = 13755809.38  
 E = 2164216.11  
 Elev = 828.51

Pt # 505  
 TPT - 3/4" iron rod  
 N = 13756091.03  
 E = 2163988.36  
 Elev = 826.69

**UTILITY COORDINATES**  
 N = 13755880.03  
 E = 2164048.49  
 Elev = 816.0

**TEST HOLE PICTURE**



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