ORIGINAL

0000077013

North Mohave Valley Co

PRESIDENT • FRANK L. LANDON, P.E.

P.O. BOX 22495
BULLHEAD CITY, ARIZONA 86439-2495 • (928) 763-5655

28DR

Arizona Corporation Commission
DOCKETED
SEP 19 2007
DOCKETED BY ne

RECEIVED
2007 SEP 19 P 4: 44
AZ CORP COMMISSION
DOCKET CONTROL

September 11, 2007

Docket Control
Attn: Alexander Igwe
Arizona Corporation Commission
1200 W. Washington St.
Phoenix, AZ 85007

RE: Docket #W-02259A-07-0434
Response to Insufficiency Letter dated August 22, 2007
CC&N Extension request for Sections 16 and 28, Township 21 N and Range 21 W

Since our original submission, we have been informed that Section 33, Township 21 N, Range 21W is included in our existing CC&N. Our future responses and documentation will only be in reference to Sections 16 and 28.

The following is in response to the insufficiency letter dated August 22, 2007. The deficiency numbers cited will correspond to those in the deficiency letter.

Deficiency # 1 – We have included the pumping data on our latest Well (#10). We anticipate approximately 500 GPM in additional pumping capacity. As we continue to grow, additional tanks and wells will be added through the line extension process.

Deficiency # 2 – Arsenic levels on all active wells are provided. Wells 3, 4 and 5 are now on standby and will only be used in case of an emergency. The arsenic level on our latest Well # 10 is also provided.

Deficiency # 3 – Included in our submittal is the approval letter from ADEQ re our blending plan. Under separate cover for Dorothy Hains is the plan itself.

Deficiency # 4 – The City of Bullhead City has approved 208 sewer service plans available on their web site. www.bullheadcity.com. Click on Government documents, click on the 208 plan for your review.

Deficiency # 5 – We have included plans that show the existing service lines that will be used to serve both sections 16 and 28. Both sections have sufficient line capacity to their boundaries to meet future demand.

Deficiency # 6 – The lines to serve these sections are already in place, as evidenced by the submitted plans. I have also included as-built plans concerning the proposed CC&N sections.

Deficiency # 7 – I have submitted the decision and order from the Department of Water Resources evidencing Bullhead City as being deemed adequate. This gives the City the ability to issue Water Adequacy statements for future developments.

Please call with any questions.

NORTH MOHAVE VALLEY CORP.

John McCormick
Secretary-Treasurer/Manager

Enclosure: Original + 13 Copies

DOCKET # W-02259A-07-0434

Christensen Company

Date: 3-2-07 Page 5

Customer: N. MOJAVE WATER WELL # 10 Job No. 27- 50-0461

28501336

Meter ___ X ___ Static level 357.2' Feet Airline depth 570.0' Feet

Hours/Page ___ Total hours ___ G.P.D. ___

Operator: ___

Time	P.P.M.	G.P.M.	Pumping Level	Draw-down	Engine R.P.M.	Specific Capacity	Comments	AIR. PRESS. FAU	TSS
		STEP DOWN TEST CONTINUED							
11:15	INCREASED FLO TO 500								
11:26	.06 1.06	500	67.0 415.2'	58.0'	1850	8.7	28407790 CLEAR	50	
11:30	.06 1.06	506	62.9 415.4'	58.2'	1850	8.6	28480	50	
11:45	.12 1.41	506	66.6 416.1'	58.9'	1850	8.5	28420400	50	
12:00	.15	506	66.3 416.8'	59.6'			28427800 497.5	49.9	56
12:15	.16	505	66.2 417.0'	59.8'		8.4	28485200	49	
12:30	.17	505	66.2 417.0'	59.8'		8.4	28492700		
12:45	.18	505	66.2 417.0'	59.8'		8.4	28499700 + 0000 28450250	49	
		INCREASE Q 1990 RPM VALVE FULLY OPEN CLEAR							
12:45					1990				
12:50	.19	595	61.0				28455	47.5	
1:00	.20	590	61.8				28465	47	
1:15	.21	585	61.2 428.6	71.4'	1990	8.19	28476	46.5	
1:30	.21	580	61.0 429.0	71.8	1990	8.07	28492 605	46.5	
1:45	.21	575	60.9 429.3	72.1	1990	7.97	28484	46.5	
2:00	.21	572	60.8 429.5	72.3	1990	7.91	28492	46.5	
2:15	.22	572	60.8 429.5	72.3	1990	7.91	28500700	46.5	
		RECOVERY AFTER SHUT DOWN							
			2:16 86	371.3'					
			2:17 88.05	362.9'					
			2:18 88.4	356.7'			ORIGINAL STATIC 6PM 92.1'		
			2:19 88.8	362.2'					
			2:20 89.1	364.1'			357.2'		
			2:25 90.0	362.1'					
			2:25 90.2	361.6'					
			2:30 91.7	358.1'					
			2:35 92.1	357.2'					

FN:ARSENIC **NORTH MOHAVE VALLEY CORP.** 05/05/05

DOCKET # W-02259A-07-0434

WELL #1 - ARSENIC

SAMPLE DATE	RESULT	
07/17/84	< 0.01	mg/L
09/15/87	< 0.01	mg/L
04/04/88	< 0.01	mg/L
11/15/90	0.008	mg/L
09/21/95	0.0061	mg/L
10/25/00	0.0092	mg/L
02/12/01	0.0054	mg/L
04/21/05	0.0050	mg/L

WELL #1 - FLUORIDE

SAMPLE DATE	RESULT	
05/26/70	0.61	mg/L
07/17/84	0.6	mg/L
09/15/87	0.6	mg/L
04/04/88	0.6	mg/L
11/15/90	0.8	mg/L
09/21/95	0.82	mg/L
04/21/05	0.56	mg/L

WELL #2 - ARSENIC

SAMPLE DATE	RESULT	
03/14/84	< 0.01	mg/L
11/15/90	<0.005	mg/L
08/08/95	0.0057	mg/L
10/25/00	0.0184	mg/L
02/12/01	0.0081	mg/L
04/21/05	0.0056	mg/L

WELL #2 - FLUORIDE

SAMPLE DATE	RESULT	
03/14/84	0.3	mg/L
11/15/90	0.7	mg/L
08/08/95	0.41	mg/L
04/23/03	0.45	mg/L
04/21/05	0.59	mg/L

WELL #3 - ARSENIC

SAMPLE DATE	RESULT	
04/13/75	<0.01	mg/L
11/07/83	<0.01	mg/L
03/02/84	<0.01	mg/L
08/08/95	<.0030	mg/L
02/12/01	<0.0025	mg/L
04/21/05	<0.003	mg/L

WELL #3 - FLUORIDE

SAMPLE DATE	RESULT	
12/12/74	0.5	mg/L
11/07/83	0.5	mg/L
03/02/84	0.6	mg/L
08/08/95	1.08	mg/L
04/21/05	1.3	mg/L

WELL #4 - ARSENIC

SAMPLE DATE	RESULT	
01/28/85	0.033	mg/L
07/09/86	0.051	mg/L
08/25/86	0.044	mg/L
11/15/90	0.037	mg/L
10/06/92	0.032	mg/L
06/14/94	0.115	mg/L
08/08/95	0.0864	mg/L
03/29/96	0.059	mg/L
10/25/00	0.0630	mg/L
02/12/01	0.0776	mg/L
04/21/05	0.089	mg/L

WELL #4 - FLUORIDE

SAMPLE DATE	RESULT	
01/28/85	4.8	mg/L
07/09/86	4.4	mg/L
08/25/86	4.4	mg/L
11/15/90	3.9	mg/L
10/16/92	3.7	mg/L
08/08/95	5.07	mg/L
04/21/05	5.5	mg/L

WELL #5 - ARSENIC

SAMPLE DATE	RESULT	
04/16/85	0.029	mg/L
03/30/87	0.018	mg/L
11/15/90	0.040	mg/L
08/08/95	0.0334	mg/L
10/25/00	0.0175	mg/L
02/12/01	0.0252	mg/L
04/21/05	0.022	mg/L

WELL #5 - FLUORIDE

SAMPLE DATE	RESULT	
04/16/85	4.0	mg/L
03/30/87	1.6	mg/L
11/15/90	3.4	mg/L
08/08/95	3.41	mg/L
04/21/05	3.9	mg/L

WELL #7 - ARSENIC

SAMPLE DATE	RESULT	
10/25/00	0.0155	mg/L
02/12/01	0.0182	mg/L
04/23/03	0.025	mg/L
04/21/05	0.020	mg/L

WELL #7 - FLUORIDE

SAMPLE DATE	RESULT	
04/23/03	3.5	mg/L
04/21/05	4.3	mg/L

4 for 1

WELL #8 - ARSENIC

SAMPLE DATE	RESULT	
09/03/87	0.014	mg/L
10/25/00	0.0078	mg/L
04/21/05	0.006	mg/L

WELL #8 - FLUORIDE

SAMPLE DATE	RESULT	
09/03/87	0.4	mg/L
04/21/05	0.61	mg/L

WELL #9 - ARSENIC

SAMPLE DATE	RESULT	
01/09/03	<0.005	mg/L
04/21/05	<0.003	mg/L

WELL #9 - FLUORIDE

SAMPLE DATE	RESULT	
01/09/03	1.5	mg/L
08/09/04	1.2	mg/L
04/21/05	1.5	mg/L

0.010 mg

~~Well #10~~ Arsenic

INORGANIC CHEMICAL ANALYSIS

Analysis Method	MCL Value	Reporting Limit	Contaminant Name	Cont. Code	Test Start Date/Time	Analysis Run Date/Time	Result	Exceeds MCL	Exceeds R.L.
200.9	0.01	0.003	Arsenic	1005		03/20/07	<0.0030	—	—
SM3111D	2	2	Barium	1010		03/13/07	<0.20	—	—
200.9	0.005	0.005	Cadmium	1015		03/27/07	<0.0001	—	—
200.9	0.1	0.1	Chromium	1020		03/07/07	<0.0010	—	—
SM3111B	1.3*	0.05	Copper	1022		03/14/07	<0.020	—	—
SM4500F-C	4.0	2.0	Fluoride	1025		03/12/07	1.5	—	—
200.9	0.015*	0.0025	Lead	1030		03/29/07	0.0027	—	X
245.1	0.002	0.002	Mercury	1035		03/20/07	<0.0005	—	—
300.0	10	5	Nitrate (as N)	1040	03/05/07	03/05/07	<0.10	—	—
300.0	1	0.5	Nitrite (as N)	1041	03/05/07	03/05/07	<0.10	—	—
200.9	0.05	0.05	Selenium	1045		03/19/07	<0.0020	—	—
200.9	0.006	0.006	Antimony	1074		03/20/07	<0.0030	—	—
200.9	0.004	0.004	Beryllium	1075		03/26/07	<0.0001	—	—
4500CN I	0.2	0.2	Cyanide (as free cyanide)	1024			**	—	—
SM3111B	0.1	0.1	Nickel	1036		03/23/07	<0.010	—	—
200.9	0.002	0.002	Thallium	1085		03/30/07	<0.0010	—	—

* Action Level

>>>LABORATORY INFORMATION<<<

16271-01 — SPECIMEN NUMBER

03/05/07 — Sample date

09:30 (24 hr clock) — Sample time

Lab ID Number: AZ 0037

Name: Mohave Environmental Laboratory 1050 Hwy. 95 Bullhead City, AZ 86429

Comments:

Authorized Signature: Sheila Pell

PHYSICAL ANALYSIS

Analysis Method	Contaminant Name	Cont. Code	Analysis Run Date	Result
300.0	Sulfate	1055	03/16/07	130
SM3111B	Sodium	1052	03/22/07	140
SM4500-H-B	pH	1925	03/05/07	7.5
SM2320B	Alkalinity	1927	03/09/07	110
Calc	Hardness/Calcium	1918	03/19/07	160
Calc	Langelier Index	1997	03/26/07	-0.01
FIELD	Temperature (oC)	1996	03/05/07	30
SM2540-C	Total Dissolved Solids-TDS	1930	03/06/07	630

>>>LABORATORY INFORMATION<<<

16271-01 — SPECIMEN NUMBER

03/05/07 — Sample date

09:30 (24 hr clock) — Sample time

Lab ID Number: AZ 0037

Name: Mohave Environmental Laboratory 1050 Hwy. 95 Bullhead City, AZ 86429

Comments:

Authorized Signature: Sheila Pell

MOHAVE ENVIRONMENTAL LABORATORY

1050 Highway 95 • Bullhead City, AZ 86429

License No. AZ0037

Phone: (928) 754-8101 • Toll Free: 888-777-4635 • Fax: (928) 754-8103

Customer Name: N. Mohave Valley Water
Lab ID: 11508
Sample Type: Drinking Water
Sampled By: D. Wall

Date Received: 04/21/05 13:20
Date Reported: 04/28/05

Analytical Results

Parameter	Method	Result	Units	Detect Limit	Date	Analyst
11508-01						
Sample Date: 04/21/05 11:12						
Well #1						
Fluoride	SM4500-F-C	0.56	mg/L	0.2	4/28/2005	CM
METALS, TOTAL						
Arsenic, Total	EPA 200.9	0.0050	mg/L	0.003	4/25/2005	LH
Turbidity	SM2130	<1.0	NTU's	1	4/25/2005	CM
11508-02						
Sample Date: 04/21/05 11:13						
Well #2						
Fluoride	SM4500-F-C	0.59	mg/L	0.2	4/28/2005	CM
METALS, TOTAL						
Arsenic, Total	EPA 200.9	0.0056	mg/L	0.003	4/25/2005	LH
Turbidity	SM2130	<1.0	NTU's	1	4/25/2005	CM
11508-03						
Sample Date: 04/21/05 11:03						
Well #3						
Fluoride	SM4500-F-C	1.3	mg/L	0.2	4/28/2005	CM
METALS, TOTAL						
Arsenic, Total	EPA 200.9	<0.003	mg/L	0.003	4/25/2005	LH
Turbidity	SM2130	<1.0	NTU's	1	4/25/2005	CM

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Customer Name: N. Mohave Valley Water
Lab ID: 11508
Sample Type: Drinking Water
Sampled By: D. Wall

Date Received: 04/21/05 13:20
Date Reported: 04/28/05

Analytical Results

Parameter	Method	Result	Units	Detect Limit	Date	Analyst
11508-04						
Sample Date: 04/21/05 12:00						
Well #4						
Fluoride	SM4500-F-C	5.5	mg/L	0.2	4/28/2005	CM
METALS, TOTAL						
Arsenic, Total	EPA 200.9	0.089	mg/L	0.003	4/25/2005	LH
Turbidity	SM2130	<1.0	NTU's	1	4/25/2005	CM
11508-05						
Sample Date: 04/21/05 11:54						
Well #5						
Fluoride	SM4500-F-C	3.9	mg/L	0.2	4/28/2005	CM
METALS, TOTAL						
Arsenic, Total	EPA 200.9	0.022	mg/L	0.003	4/25/2005	LH
Turbidity	SM2130	<1.0	NTU's	1	4/25/2005	CM
11508-06						
Sample Date: 04/21/05 11:43						
Well #7						
Fluoride	SM4500-F-C	4.3	mg/L	0.2	4/28/2005	CM
METALS, TOTAL						
Arsenic, Total	EPA 200.9	0.020	mg/L	0.003	4/25/2005	LH
Turbidity	SM2130	<1.0	NTU's	1	4/25/2005	CM

MOHAVE ENVIRONMENTAL LABORATORY

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License No. AZ0037

Phone: (928) 754-8101 • Toll Free: 888-777-4635 • Fax: (928) 754-8103

Customer Name: N. Mohave Valley Water
Lab ID: 11508
Sample Type: Drinking Water
Sampled By: D. Wall

Date Received: 04/21/05 13:20
Date Reported: 04/28/05

Analytical Results

Parameter	Method	Result	Units	Detect Limit	Date	Analyst
11508-07						
Sample Date: 04/21/05 11:27						
Well #8						
Fluoride	SM4500-F-C	0.61	mg/L	0.2	4/28/2005	CM
METALS, TOTAL						
Arsenic, Total	EPA 200.9	0.006	mg/L	0.003	4/26/2005	LH
Turbidity	SM2130	1.2	NTU's	1	4/25/2005	CM
11508-08						
Sample Date: 04/21/05 12:23						
Well #9						
Fluoride	SM4500-F-C	1.5	mg/L	0.2	4/28/2005	CM
METALS, TOTAL						
Arsenic, Total	EPA 200.9	<0.003	mg/L	0.003	4/25/2005	LH
Turbidity	SM2130	<1.0	NTU's	1	4/25/2005	CM

Sheila Poff
Authorized Signature

Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • azdeq.gov

Stephen A. Owens
Director

DOCKET # W-02259A-07-0434

July 27, 2005

Frank Landon, P.E.
Frank L. Landon & Associates
1822 Camino Ave.
Santa Ana, CA 92705

Re: North Mohave Valley Corporation
Blending Plan for Arsenic and Fluoride
System ID# 08-068
ADEQ File No. 20050577
LTF #37002

Dear Mr. Landon,

A review has been conducted of the above referenced blending plan for Arsenic and Fluoride submitted to ADEQ. The blending plan is approved subject to the following conditions:

1). During the first month of operation bi-weekly monitoring for arsenic/fluoride, shall be conducted from the treated water directly out of tanks at site A1, A3 and at POE if other than the tank sites and all the sources contributing to the blend.

2). After a minimum of 2 bi-weekly arsenic/fluoride samples have been collected and analyzed, monthly monitoring shall be conducted for at least 5 months from treated water directly out of tanks at site A1, A3 and POE if other than the tank sites and all the sources contributing to the blend.

3). If after the first (6) months of operation, analytical results from blending indicates that the arsenic/fluoride levels are consistent with levels indicated in the submitted blending plan and analytical results from sites A1, A3 and at POE if other than tank sites are below maximum contaminant levels, the department may reduce the monitoring frequency to quarterly.

4). All required arsenic/fluoride analyses from POE is designated as "routine monitoring" shall be submitted as compliance samples on analytical form suitable for entry into the ADEQ Drinking Water database.

5). Whenever source are added to or removed from service or the relative flow rates from blended sources are changed in such a way that changes the blend, an amended blending plan shall be submitted to the Department to confirm that the new blend also meets the arsenic/fluoride MCL's.

6). The public water system after 1 year of operation may make a written request for reduced monitoring from quarterly to annually and shall provide documentation of analytical results that support the request for reduced monitoring.

7). Devices shall be incorporated to ensure that the blend remains in the desired range or shuts off the offending source or triggers an alarm when the blend falls out of the desired range.

8). If the fluoride level exceeds 2.0 mg/L at any time during the monitoring, the water system shall issue a public notice.

9). The water system shall operated with arsenic level below new MCL (0.01 mg/L)

10). This Approval is based on that all the piping shown on the drawing are existing and no new piping was constructed for the new blending plan.

11). This approval may be rescinded or amended by the department if any of the above conditions are not met, or if the department determines that the conditions of this approval or the blending plan controls are not sufficient to insure compliance with the new arsenic MCL or fluoride MCL.

If you have any questions, please call me (602) 771-4650.

Sincerely,

Raffi Karamian

Raffi Karamian
Technical Engineering Unit
Water Quality Division

RK:kg

cc: North Mohave Water Valley Corporation
P.O. Box 22495
Bullhead City, AZ 86439

DOCKET # W-02259A-07-0434

DEPARTMENT OF WATER RESOURCES

BEFORE THE DIRECTOR

IN THE MATTER OF THE APPLICATION OF THE CITY OF BULLHEAD CITY DESIGNATION AS HAVING AN ADEQUATE WATER SUPPLY, No. 21-400649	)	AWS No. 2002-004 DECISION AND ORDER

On December 3, 2001, the Department of Water Resources (Department) received an application from the City of Bullhead City (Bullhead City) requesting that the Department issue a designation of adequate water supply pursuant to A.R.S. § 45-108 and A.A.C. R12-15-715 *et seq.* The application was determined to be complete on June 28, 2002.

After receiving Bullhead City's request for designation of adequate water supply, and after reviewing relevant information regarding the designation request, including a review of Colorado River allocation contracts, and information provided by the Arizona Department of Environmental Quality (ADEQ) regarding the quality of the proposed source of water, the Department finds the following:

1. Bullhead City has entered into Contract No. 2-07-30-W0273 with the United States Secretary of the Interior for 15,210 acre feet per annum of permanent supplies of Colorado River water for municipal and industrial use ("Contract").
2. Bullhead City has entered into contracts with three private water companies, North Mohave Valley Corporation, Arizona-American Water Company (formerly Citizens Utilities Company), and Bermuda Water Company, Inc. (collectively "Water Companies"). The Water Companies provide water service within the area ("Contract Area") within which Colorado River water may be used under the Contract. The agreements between Bullhead City and each of the Water Companies authorize the

Water Companies to provide Colorado River water available to Bullhead City under the Contract to customers within Bullhead City's Contract Area.

3. New subdivisions within Bullhead City will be served primarily with Colorado River water by one of the Water Companies.

4. Bullhead City's current and committed demand for the calendar year 2000 was 10,800 acre-feet.

5. Bullhead City's projected demand for the calendar year 2009 is 15,056 acre-feet.

6. Bullhead City's water supply satisfies all existing local, state and federal water quality standards.

Having reviewed the Findings of Fact, the Department makes the following conclusions of law based on information which was provided to the Department or obtained independently by the Department prior to the issuance of this Decision and Order:

1. Bullhead City has sufficient water supplies which are physically, continuously and legally available to satisfy its current, committed and projected 2009 demands for one-hundred years following the signing of this Order.

2. Bullhead City's proposed water supplies are of adequate quality.

Having reviewed the Conclusions of Law, the Department hereby issues this Decision and Order designating the City of Bullhead City as having an adequate water supply, subject to the following conditions:

1. Beginning March 31, 2001, and on March 31 of each calendar year thereafter, Bullhead City shall submit to the Department the following information for the preceding calendar year.

a. The total quantity of water from any source, withdrawn, diverted, or received by the Water Companies for their customers' use during the previous calendar year.

b. The estimated future demand of platted, undeveloped lots which are located in Bullhead City's Contract Area.

c. The projected volume of water demand at build-out of customers with which any of the Water Companies have entered into a notice of intent to serve agreement in the calendar year.

d. A report regarding the Water Companies' compliance with water quality requirements.

2. This designation of adequacy applies only to subdivisions to be served by the Water Companies.

3. Bullhead City shall notify the Department in writing if a court or Special Master makes a rule or ruling, issues a report, or enters an order, regardless of its finality, which affects either Bullhead City's or the Water Companies' right to withdraw water from the Colorado River or the volume of water Bullhead City or the Water Companies may withdraw.

4. The Director may revoke the designation if the quantity, quality, or legal availability of water resources to Bullhead City is no longer sufficient to provide an adequate water supply for Bullhead City's current, committed and two years of projected demand, as

evaluated under the Department's current rule or rules established in the future.

5. Any request for review of this Decision and Order shall be filed with the Docket Supervisor no later than thirty (30) days from receipt of this Decision and Order.

IT IS HEREBY ORDERED THAT THE CITY OF BULLHEAD CITY IS DESIGNATED AS HAVING AN ADEQUATE WATER SUPPLY.

DATED this 1ST day of August, 2002

JOSEPH C. SMITH
Director

Bullhead City Adequate Designation (21-400649)
Current and Committed Demand 2000 = 10,800 af/yr

year	population	residential demand	non residental	Sub Total	L&U	Total Demand
2001	34,614	9,355	841	10,196	1,019	11,215
2002	35,912	9,705	874	10,579	1,057	11,636
2003	37,259	10,070	906	10,976	1,097	12,073
2004	38,656	10,447	940	11,387	1,138	12,525
2005	40,105	10,839	957	11,814	1,181	12,995
2006	41,609	11,245	1,012	12,257	1,225	13,482
2007	43,170	11,667	1,050	12,717	1,271	13,988
2008	44,789	12,105	1,089	13,194	1,319	14,513
2009	**46,468**	**12,558**	**1,130**	**13,688**	**1,368**	**15,056**
2010	48,211	13,030	1,172	14,202	1,420	15,622
2011	50,019	13,518	1,222	14,803	1,480	16,283
2012	51,895	14,025	1,262	15,287	1,528	16,815
2013	53,841	14,551	1,309	15,860	1,586	17,446
2014	55,860	15,097	1,358	16,455	1,645	18,100
2015	57,955	15,663	1,409	17,072	1,707	18,779
2016	60,128	16,250	1,462	17,712	1,771	19,483
2017	62,383	16,860	1,517	18,377	1,837	20,214
2018	***64,722***	***17,492***	***1,574***	***19,066***	***1,906***	***20,972***
2019	67,149	18,148	1,633	19,781	1,978	21,759
2020	69,667	18,828	1,694	20,522	2,052	22,574
2021	72,280	19,535	1,758	21,293	2,129	23,422

8/8/07 Doug Durham
ADWR 417-2400
ext. 7311

Notes: All demands in acre feet per year
Population growth + 3.75% per year
Resedential demand 3.7 acre feet per person per year
Non-residential 9% of resedential
Lost and Unaccounted for at 10%
Bold - current contracts for 15,210 af/yr allow designation through 2009
Italics - addition of Kingman contract (6,000 af/yr) allows designation through 2018

Could not remember exactly where the figure came from. We use 229 gallons per day/person = .26 acre feet annually.

Can submit to modify designation.

State water decision to cut red tape for developers

By COLBY UNDERWOOD
The Daily News

BULLHEAD CITY — Local housing developers have one less hurdle to clear thanks to a recent decision by the Arizona Department of Water Resources.

The department declared that the city has an adequate water supply, eliminating what at least one local official believes is a cumbersome process.

"When you did a new subdivision, you (developers) had to do a report for the (state)," said Janice Paul, city planning official, "and confirm that there is an assured water supply for 100 years."

Due to the recent state declaration, developers will deal more with the city than the state on assuring an adequate water supply.

"This just cuts out a lot of paperwork and a cumbersome process," said Tom Griffin, city water board member. "I know it will save weeks (for the developers.)"

The city's water supply approval from the state took a lot of work, according to Griffin.

"Janice has been working on trying to get that for years," he said. "Finally we got that put on and we got it passed. It's something most big cities have."

9/1/07
Mv Daily News

DOCKET #W-02259A-07-0434

NORTH MOHAVE VALLEY CORPORATION

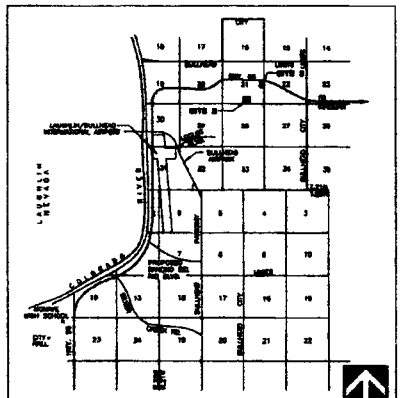
RESERVOIR SITE No. 2 & 3

IMPROVEMENTS

BULLHEAD CITY
MOHAVE COUNTY, ARIZONA

WATER NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT M. A. G. SPECIFICATIONS AND M. A. G. STANDARD DETAILS, AS AMENDED BY THE CITY OF BULLHEAD CITY.
2. THE CONTRACTOR WILL UNCOVER ALL EXISTING LINES BEING TIED INTO TO VERIFY THEIR LOCATION. THE CONTRACTOR WILL LOCATE OR HAVE LOCATED ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINE, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
3. LOCATION OF ALL VALVES MUST BE REFERENCED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL KEEP SUITABLE EQUIPMENT ON HAND AT THE JOB SITE FOR MAINTAINING DUST CONTROL, AND SHALL CONTROL DUST AS DIRECTED BY THE CITY ENGINEER.
5. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, ALLAY DUST, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT THE ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
6. ALL VALVES AND FITTINGS MUST CONFORM TO A.W.W.A. OR A.S.T.M. STANDARDS.
7. ALL WATER TANKS MUST BE TESTED AND DISINFECTED PER A.D.H.S. ENGINEERING BULLETIN NO. 8 OR A.W.W.A. C651-86. STEEL STRUCTURE MUST BE IN ACCORDANCE WITH A.W.W.A. D100.
8. PRESSURE TESTING OF WATER LINES TO CONFORM WITH A.W.W.A. C600 OR M.A.G. STD. SPECIFICATION 610-14.
9. CONTRACTOR PERFORMING EXCAVATION OPERATIONS IS RESPONSIBLE FOR LOCATION AND PROTECTION OF ALL UNDERGROUND UTILITIES.
10. THE CONTRACTOR IS TO CONTACT THE ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT OR DISCREPANCY IF FOUND IN THESE PLANS.
11. CONSTRUCT THRUST BLOCKS ON ALL VERTICAL AND HORIZONTAL PIPE BENDS PER M.A.G. STD. DET. 380.
12. BEFORE INSTALLATION OF RESERVOIR TANK A SOIL FOUNDATION STUDY SHALL BE DONE BY A SOIL TESTING LABORATORY AND CONSTRUCTION SHALL BE AS RECOMMENDED.
13. ALL ABOVE GROUND PIPE AND VERTICAL RISERS SHALL BE STEEL AND MEET A.S.T.M. SPEC. A53, SCH. 40.
14. ALL SURFACES (STEEL PIPE) THAT WILL BE IN CONTACT WITH SOIL, CONCRETE OR MASONRY SHALL BE PROVIDED WITH A PROTECTION COATING IN ACCORDANCE WITH A.W.W.A. C203.
15. CONSTRUCTION OF RESERVOIR TANK SHALL CONFORM TO ADHS ENGINEERING BULLETIN NO. 10, CHAPTER 3 AND 8.
16. ALL EXPOSED PIPING SHALL BE PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF ENAMEL, COLOR TO BE PICKED BY OWNER.
17. ALL P.V.C. PIPE USED FOR POTABLE WATER PURPOSES SHALL HAVE THE N.S.F. SEAL.
18. ALL MATERIALS, INCLUDING PAINTS AND PRIMERS, THAT COME INTO CONTACT WITH POTABLE WATER WILL BE NSF-61 APPROVED AS REQUIRED BY R18-4-119.



VICINITY MAP

ENGINEERS NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE DRAWINGS, ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE DRAWINGS, AND WE ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OF THEIR DEPICTED LOCATION ON THESE DRAWINGS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN, AND ALL OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE DRAWINGS BY VERIFICATION OF THEIR LOCATION IN THE FIELD PRIOR TO THE INSTIGATION OF THE ACTUAL PORTION OF THEIR WORK ATTRIBUTED TO THEIR LOCATION. THE QUANTITIES SHOWN ON THESE PLANS ARE FOR INFORMATION PURPOSES ONLY, AND ARE NOT TO BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.

SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, OR NEAR THE CONSTRUCTION SITE.

300,000 GALLON RESERVOIR SPECIFICATIONS

A. RESERVOIR CONSTRUCTION PER A.W.W.A. D100-84
   1. 46 FOOT DIAMETER
   2. 24 FOOT SHELL HEIGHT

B. FOUNDATION
   1. 3/8 INCH BY 12 INCH BY 48 FOOT DIAMETER STEEL RETAINING REINFORCEMENT
   2. A.W.W.A. D100-84 SEC. 12.6, TYPE 5 FOUNDATION

C. ACCESSORIES
   1. 2 - 30" STEEL MANHOLES
   2. 1 - 24" SCREENED VENT
   3. 1 - 30" SQUARE ROOF HINGED WATERTIGHT MANHOLE W/ LOCK HASP
   4. 1 - LIQUID LEVEL INDICATOR
   5. 1 - OUTSIDE LADDER WITH SAFETY CAGE AND WING RAILS
   6. 1 - INSIDE LADDER WITH CAGE CLIMB
   7. 1 - RATCHET DEVICE FOR SAFETY CLIMB WITH SAFETY BELT
   8. INLETS AND OUTLETS AS SHOWN ON TANK PLAN

D. PAINTING PER NSF STANDARD 61
   1. INTERNAL: SYSTEM 1 TWO COMPONENT CATALYZED EPOXY, 8 - 12 MIL DRY FILM THICK
   2. EXTERNAL: SYSTEM 1 ALKYD ENAMEL, 8 - 12 MIL DRY FILM THICK
      COLOR BY OWNER, IF NOT DELIVERED BY MANUFACTURER ALREADY PAINTED

CALL THIS NUMBER TWO DAYS BEFORE YOU DIG
1-800-STAKE-IT
1-800-782-5348
OUTSIDE MARICOPA COUNTY

NORTH MOHAVE VALLEY CORPORATION

Anderson - Nelson, Inc.
Engineering · Surveying · Site Grading Plans · Subdivision Development · Hydrology
Construction Management · Computer Services

4143 N. 12th St., Suite 200
Phoenix, Arizona 85014
(602) 273-1850
Bullhead City, AZ 86323 704-4977

REVISIONS	DATE	BY

DESIGNED WFD
DRAWN DMA
APPROVED
DATE 07-06-03

RESERVOIR SITE No. 2 & 3
IMPROVEMENTS

1 OF 3

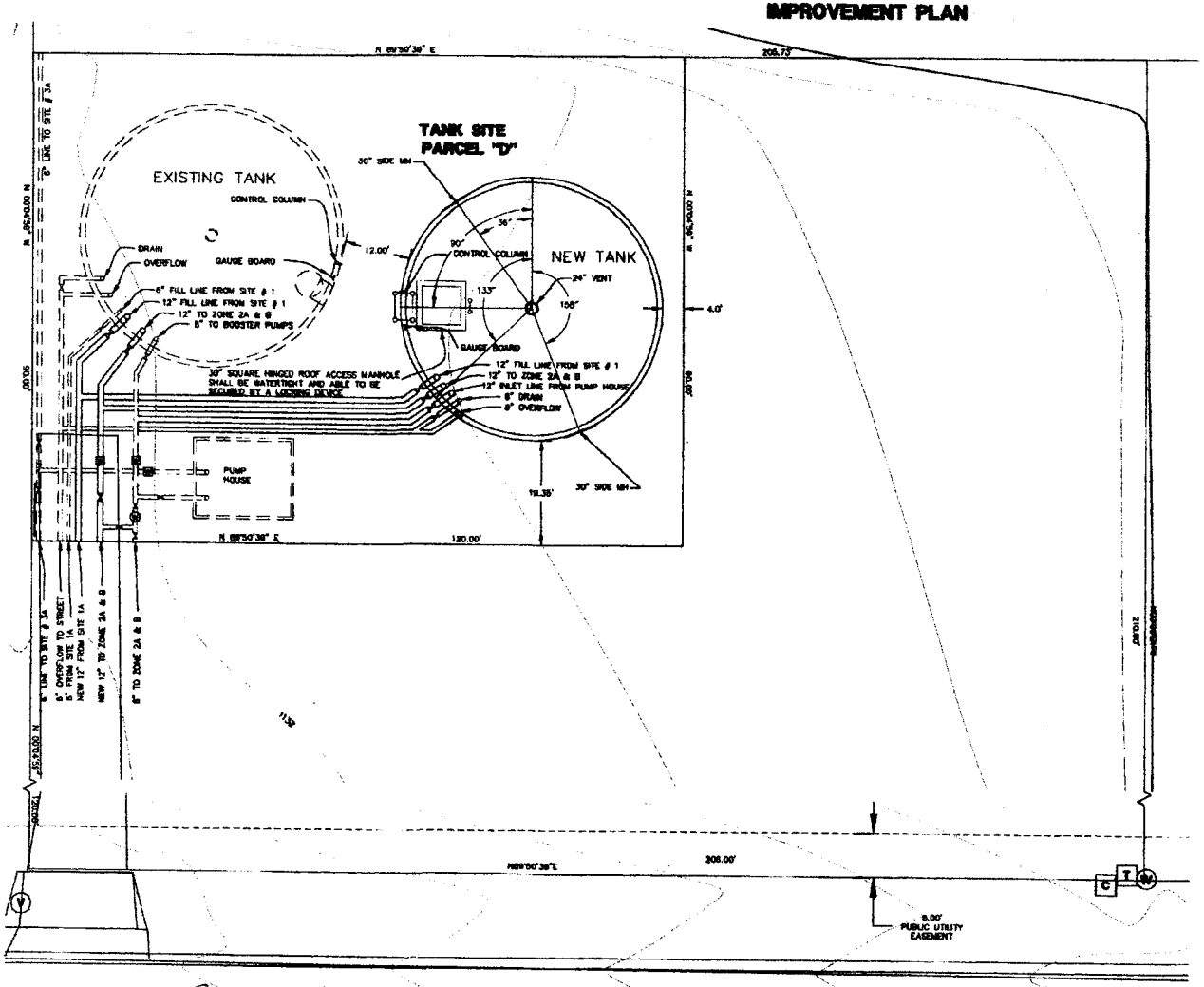
CALL THIS NUMBER TWO DAYS BEFORE YOU DIG
1 800 STAKE-IT
1 800 782-5348
OUTSIDE MARICOPA COUNTY

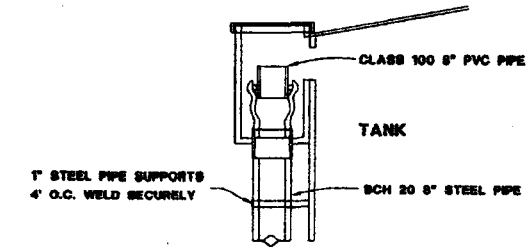
FILE 7016
DATE TIME

NORTH MOHAVE VALLEY CORPORATION

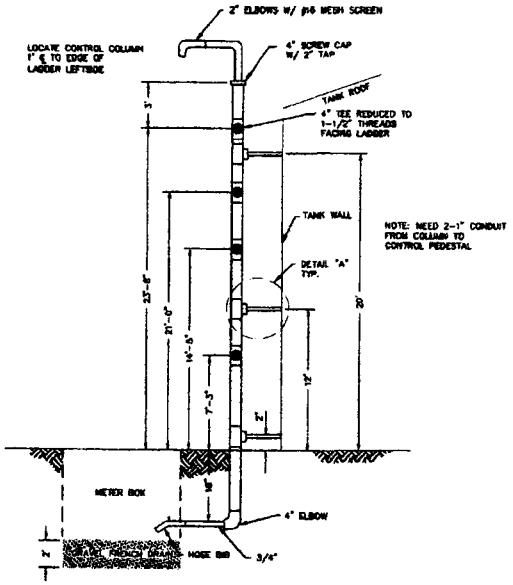
RESERVOIR SITE No. 2

IMPROVEMENT PLAN

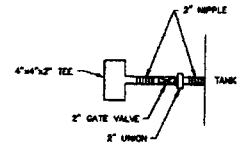




WIER BOX OVERFLOW OUTSIDE
(OPTIONAL LOCATION INSIDE)
N. T. S.



CONTROL COLUMN
N. T. S.



DETAIL "A"
N. T. S.

LEGEND

- CABLE TV BOX
- TELEPHONE RISER
- WATER VAULT
- WATER BOX
- WATER VALVE
- SEWER MANHOLE
- EXISTING PIPE
- NEW PIPE

SCALE: 1" = 10'

NORTH MOHAVE VALLEY CORPORATION

Anderson – Nelson, Inc.
Engineering · Surveying · Site Grading Plans · Subdivision Development · Hydrology
Construction Management · Computer Services

4143 N. 12th St., Suite 200
Phoenix, Arizona 85014
(602) 273-1850
Bullhead City, AZ (928) 704-0077

DATE	BY

RESERVOIR SITE No. 2
IMPROVEMENT PLAN

DESIGNED
DRAWN
APPROVED
DATE 12/1/94

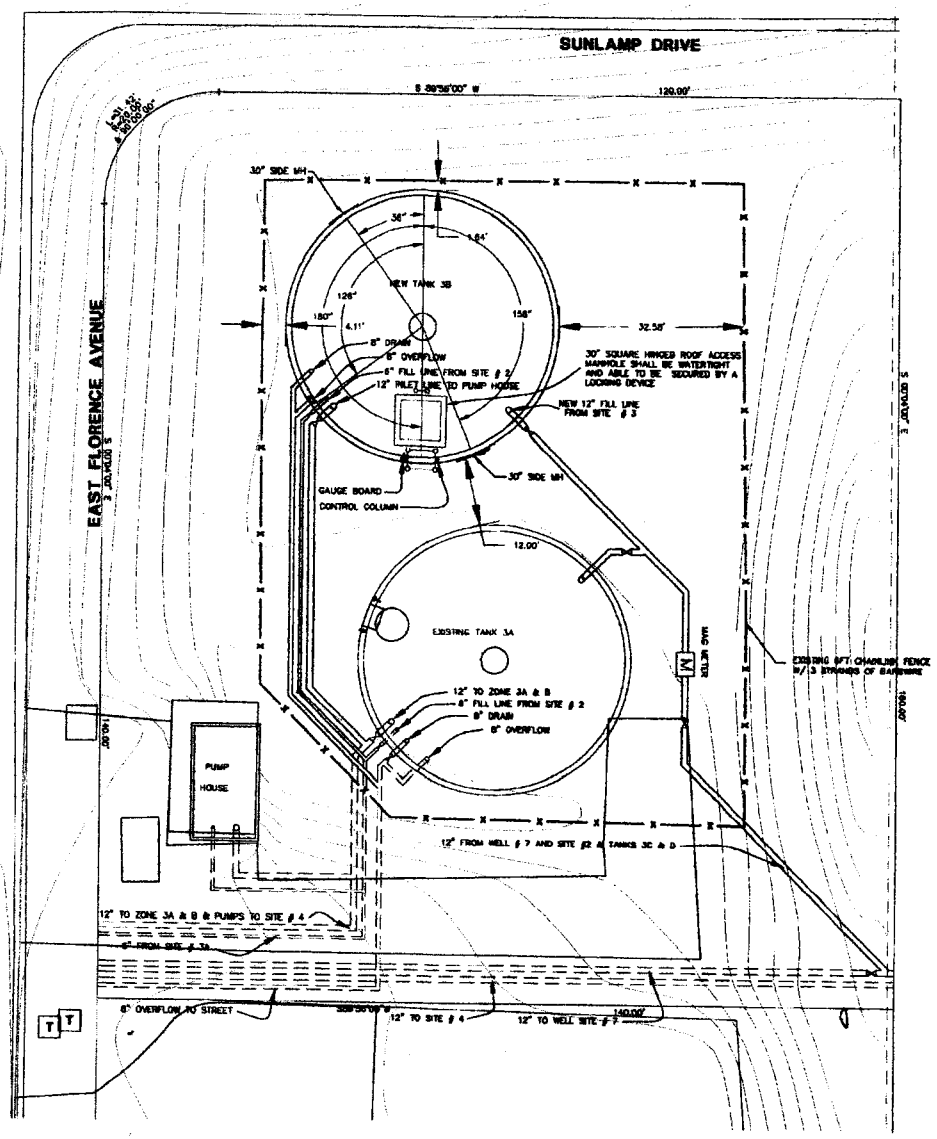
1 800 STAKE-IT
1 800 782-5348

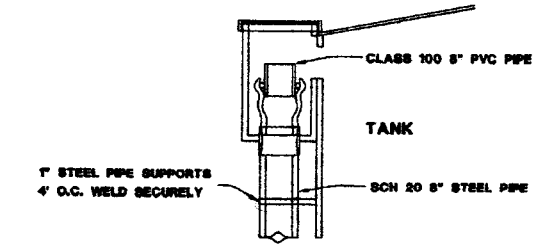
SHEET 2 OF 3

PAGE 7012
BOOK 7088

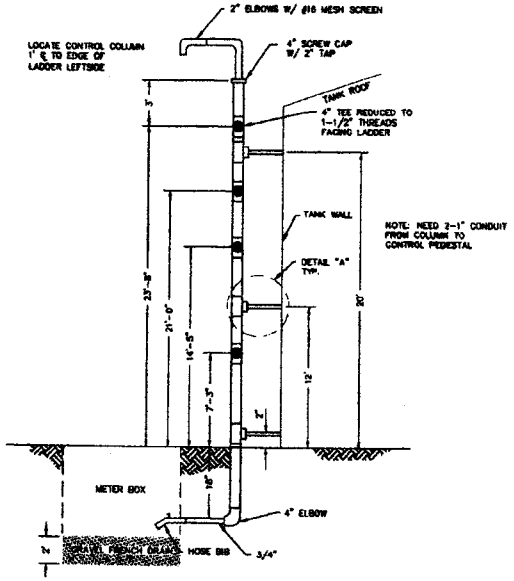
NORTH MOHAVE VALLEY WATER CO.

RESERVOIR SITE No. 3
IMPROVEMENT PLAN

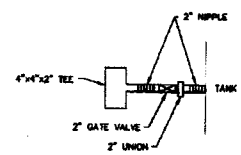




WIER BOX OVERFLOW OUTSIDE
(OPTIONAL LOCATION INSIDE)
N. T. S.



CONTROL COLUMN
N. T. S.



DETAIL "A"
N. T. S.

SCALE: 1" = 20'

LEGEND

- CABLE TV BOX
- TELEPHONE RISER
- WATER VAULT
- WATER BOX
- WATER VALVE
- SEWER MANHOLE
- EXISTING PIPE
- NEW PIPE

NORTH MOHAVE VALLEY WATER CO.

Anderson - Nelson, Inc.
Engineering - Surveying - Site Grading Plans - Subdivision Development - Hydrology
Construction Management - Computer Services

4143 N. 12th St., Suite 200
Phoenix, Arizona 85014
(602) 273-1850
Bullhead City, AZ (928) 704-4677

RESERVOIR SITE No. 3
IMPROVEMENT PLAN

DESIGNED SBD
DRAWN DNA
APPROVED
DATE 12/21/04

1 800 STAKE-IT
1 800 782-5348

SHEET 3 OF 3

FILE 7016
BOX TUBE

PUNTO DE VISTA
WATERLINE IMPROVEMENTS

DOCKET # W-02259A-07-0434

GENERAL NOTES

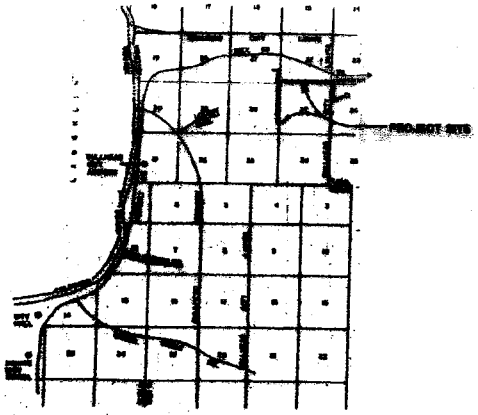
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT UNIFORM ENGINEERING SPECIFICATIONS AND DETAILS PUBLISHED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS AND THE OREGON BUILDING CODE AS ADOPTED BY THE CITY OF BULLHEAD CITY.
2. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEERING DEPARTMENT AT LEAST 48 HOURS IN ADVANCE OF ANY CONSTRUCTION.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS FOR TRAFFIC CONTROL AND BARRICADING AS PER THE CITY OF BULLHEAD CITY TRAFFIC BARRICADE MANUAL.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO COMMENCING EXCAVATION.
6. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION AND DIRT MOVING PERMIT FROM THE CITY OF BULLHEAD CITY AND COMPLY WITH ALL REQUIREMENTS THEREIN.
7. AT ALL LOCATIONS WHERE EXISTING WATER FACILITIES ARE TO BE LOCATED AND/OR CONNECTED TO, THE CONTRACTOR SHALL ACCURATELY LOCATE BOTH HORIZONTALLY AND VERTICALLY THE EXISTING FACILITIES FOR AS-BUILT PURPOSES.

ENGINEER'S NOTICE TO CONTRACTOR

THE LOCATIONS AND LOCATIONS OF ANY UNDERGROUND UTILITY FOUND ON PREVIOUSLY KNOWN OF THESE EXCAVATIONS, ARE CONTAINED IN A REVIEW OF THE AVAILABLE RECORDS. TO THE BEST OF ANY KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE UTILITIES ARE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY LOCATE ALL UTILITIES PRIOR TO ANY EXCAVATION. IT IS ESTIMATED TO THAT THE PRESENCE OF ALL UTILITIES MAY BE NOT ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR THE ACCURATE LOCATION OF THE FIELD PRIOR TO THE COMMENCEMENT OF THE ACTUAL EXCAVATION. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION, THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION DURING ETC. AND ARE NOT TO BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.

SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND EXCLUSIVELY RESPONSIBLE FOR THE SAFETY OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY THAT MAY BE AFFECTED BY THE CONSTRUCTION. THE CONTRACTOR'S RESPONSIBILITY SHALL EXTEND TO ALL PERSONS AND PROPERTY ADJACENT TO THE JOB SITE. THE CONTRACTOR'S RESPONSIBILITY IS NOT LIMITED TO THE PERSONS AND PROPERTY OF THE CONTRACTOR'S EMPLOYEES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADVISE THE ENGINEER OF ANY REVIEW OF THE PLANS AND SPECIFICATIONS DOES NOT INDICATE VERIFICATION, IN, OR OF THE SAFETY OF THE CONSTRUCTION.



VICINITY MAP

NOT TO SCALE

NOTE

THE CONTRACTOR CERTIFIES THAT HE HAS CONTACTED ALL APPROPRIATE UTILITY COMPANIES TO DETERMINE THE LOCATION OF ALL UTILITIES. THE CONTRACTOR IS ALSO RESPONSIBLE FOR PROTECTING ALL UTILITIES DURING CONSTRUCTION.

BENCHMARK

U.S. DEPARTMENT OF INTERIOR BRASS CAP IN CONCRETE "GEOLOGICAL SURVEY 1 1 1 1 1" APPROXIMATELY 300' FROM THE INTERSECTION OF SOUTH 4TH STREET AND SOUTH LAKE AVENUE.

UTILITIES

MOHAVE MOHAVE VALLEY WATER CORP.	(602) 763-[illegible]
BULLHEAD SANITARY DISTRICT	(602) 758-[illegible]
MOHAVE ELECTRIC COOPERATIVE	(602) 763-4115
SOUTHWEST GAS COMPANY	(602) 754-2364
CENTURYLINK UTILITIES COMPANY	(602) 763-0422
DENNISON CABLE SERVICES	(602) 758-4044

APPROVED

DIRECTOR OF COMMUNITY DEVELOPMENT — DATE

CERTIFICATION

I HEREBY CERTIFY THAT THE "AS-BUILT" INFORMATION SHOWN HEREON WAS OBTAINED UPON A FIELD INSPECTION AND TO CONFORM AND COMPLIES TO THE TRUE AS IN EXCEPTION AND DETAIL.

REGISTERED PROFESSIONAL ENGINEER — DATE

NOTES NOTES

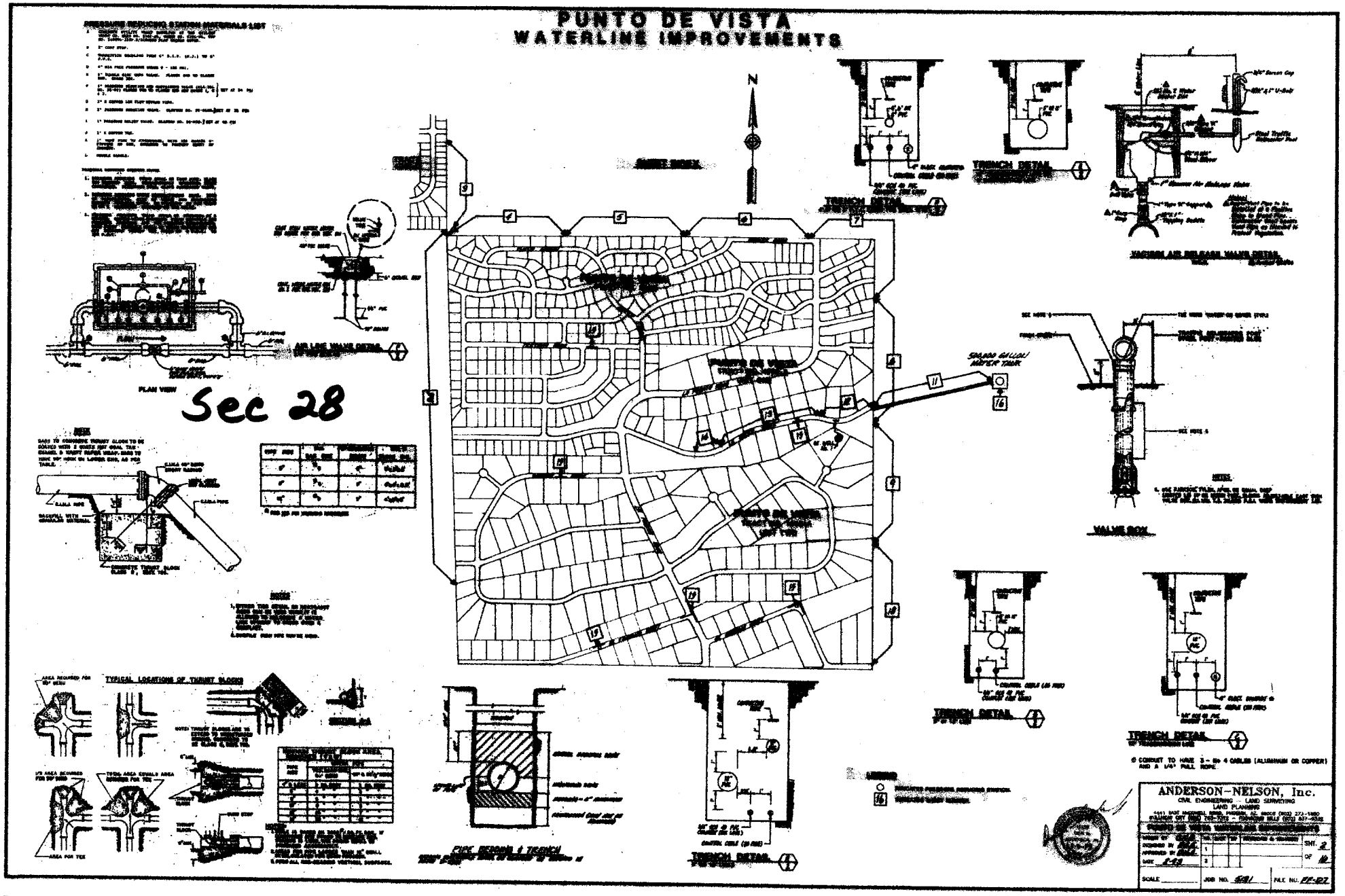
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT M.A.G. SPECIFICATIONS AND M.A.G. STANDARD DETAILS, AS AMENDED BY THE CITY OF BULLHEAD CITY.
2. THE CONTRACTOR WILL UNCOVER ALL EXISTING LINES BEING TIED INTO TO VERIFY WATER LOCATION. THE CONTRACTOR WILL LOCATE OR HAVE LOCATED ALL EXISTING UNDERGROUND UTILITIES (GAS/GAS, TELEPHONE, FIBER-OPTIC, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
3. LOCATION OF ALL VALVES MUST BE REFERENCED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL KEEP SUITABLE EQUIPMENT ON HAND AT THE JOBSITE FOR EMERGENCIES WATER REPAIRS, AND SHALL CONTACT WITH AS DIRECTED BY THE CITY ENGINEER.
5. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING DIRTS AND/OR OTHER DEBRIS/DIRT OF ANY KIND TO ENTERING PUBLIC STREETS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, PLAZA EAST, AND THE PROPERTY DAMAGED AND ENGINEER TO INSURE THAT THE MEANS ARE ADEQUATE. THE CONTRACTOR IS A CLEAN, SAFE AND SAFE TRAFFIC CONDITION AT ALL TIMES.
6. WHEN WATER PIPE AND SEWER PIPE ARE LAID PARALLEL TO EACH OTHER, THE HORIZONTAL DISTANCE BETWEEN THE WATER PIPE AND SEWER PIPE SHALL NOT BE LESS THAN SIX FEET. SUCH LINE SHALL BE LAID IN A SEPARATE TRENCH OR ON THE BACK IN SEPARATE TRENCH WITH SEPARATED FILL.
7. ALL VALVES AND FITTINGS MUST CONFORM TO A.W.W.A. OR A.S.T.M. STANDARDS.
8. PVC PIPE USED FOR POTABLE USE MUST BE NSF APPROVED (NSF-PW SEAL.)
9. AIR AND VACUUM RELIEF VALVES ARE REQUIRED AT WATER STORAGE SIGN POINTS.
10. MINIMUM DEPTH OF COVER OVER WATER LINE IS FOUR FEET.
11. PRESSURE RELIEF VALVES ARE REQUIRED IF PRESSURE EXCEEDS 100 PSI.
12. ALL WATER LINES MUST BE DISINFECTED PER BULLETIN 8 OR A.W.W.A. C651-86.
13. PRESSURE TESTING OF WATER LINES TO CONFORM WITH A.W.W.A. C600 OR M.A.G. STD. SPECIFICATION 610-14.
14. WATER/SEWER SEPARATION MUST CONFORM TO R18-9-B11 (LATEST REVISION.)
15. CONTRACTOR PERFORMING EXCAVATION OPERATIONS IS RESPONSIBLE FOR LOCATION AND PROTECTION OF ANY UNDERGROUND UTILITIES.
16. THE CONTRACTOR IS TO CONTACT THE ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT OR DISCREPANCY IS FOUND IN THESE PLANS.
17. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN A PERMIT R18-18 FOR ANY NEW WATER LINE THAT WILL AFFECT EXISTING SERVICES PROVIDED TO WARRANT THAT IS THE DETAILS OF THE CITY OF BULLHEAD CITY INSPECTOR.
18. WATER LINES, VALVES, FIRE HYDRANTS & WATER SERVICES ARE ESTIMATED ALONG THE ENTIRE CONTRACTOR.
19. ALL 8" WATER LINES, FITTINGS, ETC. SHALL BE CLASS 200.
20. CONTRACTOR SHALL TRENCH DOWN TO 10 FEET DEPTH TO ELIMINATE ROCK POINTS ALONG WATER LINE.
21. THE CONTRACTOR SHALL NOTIFY THE COMMUNITY DEVELOPMENT DEPARTMENT, PUBLIC WORKS INSPECTOR DIVISION AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY CONSTRUCTION OR INSPECTION.
22. CONSTRUCTION STAKING IS REQUIRED AND SHALL BE PROVIDED BY THE OWNER.
23. AS-BUILT DRAWINGS WILL BE SUBMITTED TO CITY UPON SATISFACTORY COMPLETION OF IMPROVEMENTS AS WELL AS TO THE WATER COMPANY.
24. EXTENSIVE CURB IN EXISTING ROADWAY SHALL BE REMOVED AND REPLACED AND PAVEMENT REPLACED PER M.A.G. STD. DET. 200 "B" TOP WITH ASPHALTIC PAVEMENT SECTION REPLACED IN "LIKE KIND" WITH A MINIMUM OF 2" A.C. OVER 6" A.B.C.
25. THE CONTRACTOR SHALL ADJUST ALL VALVES, MANHOLES, CLEAN-OUTS, ETC., BOTH NEW AND OLD TO FINISH PAVEMENT GRADE PER STANDARD DETAILS.
26. BACK-FILL AND COMPACTION WITHIN CITY OF BULLHEAD CITY RIGHTS-OF-WAY SHALL BE IN ACCORDANCE WITH LATEST MOHAVE COUNTY SPECIAL PROVISIONS FOR INSTALLATION OF UNDERGROUND UTILITIES. MECHANICAL COMPACTION ONLY IN MAXIMUM CONSTRUCTED 2½-INCH (2½) LIFTS WILL BE ACCEPTED.
27. CONTRACTOR SHALL COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AND BARRICADING AS PER THE CITY OF BULLHEAD CITY 'TRAFFIC BARRICADE MANUAL' (METCD).
28. THE CONTRACTOR SHALL INSTALL A TEMPORARY PLUG OR VALVE ON A SECTION OF NEW LINE AND IS REQUIRED TO TEST LINES BEFORE CONNECTING TO EXISTING WATER SYSTEM WHERE THERE IS NO VALVE ON THE END OF THE EXISTING LINE.
29. THE CONTRACTOR SHALL INSTALL A TEMPORARY PLUG OR VALVE ON A SECTION OF NEW LINE AND IS REQUIRED TO TEST LINES BEFORE CONNECTING TO EXISTING WATER SYSTEM WHERE THERE IS NO VALVE ON THE END OF THE EXISTING LINE.
30. CONTRACTOR IS ADVISED THAT AN EXCAVATION AND DIRT MOVING PERMIT IS REQUIRED BY THE CITY OF BULLHEAD CITY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THAT PERMIT AND COMPLY WITH THE REQUIREMENTS.

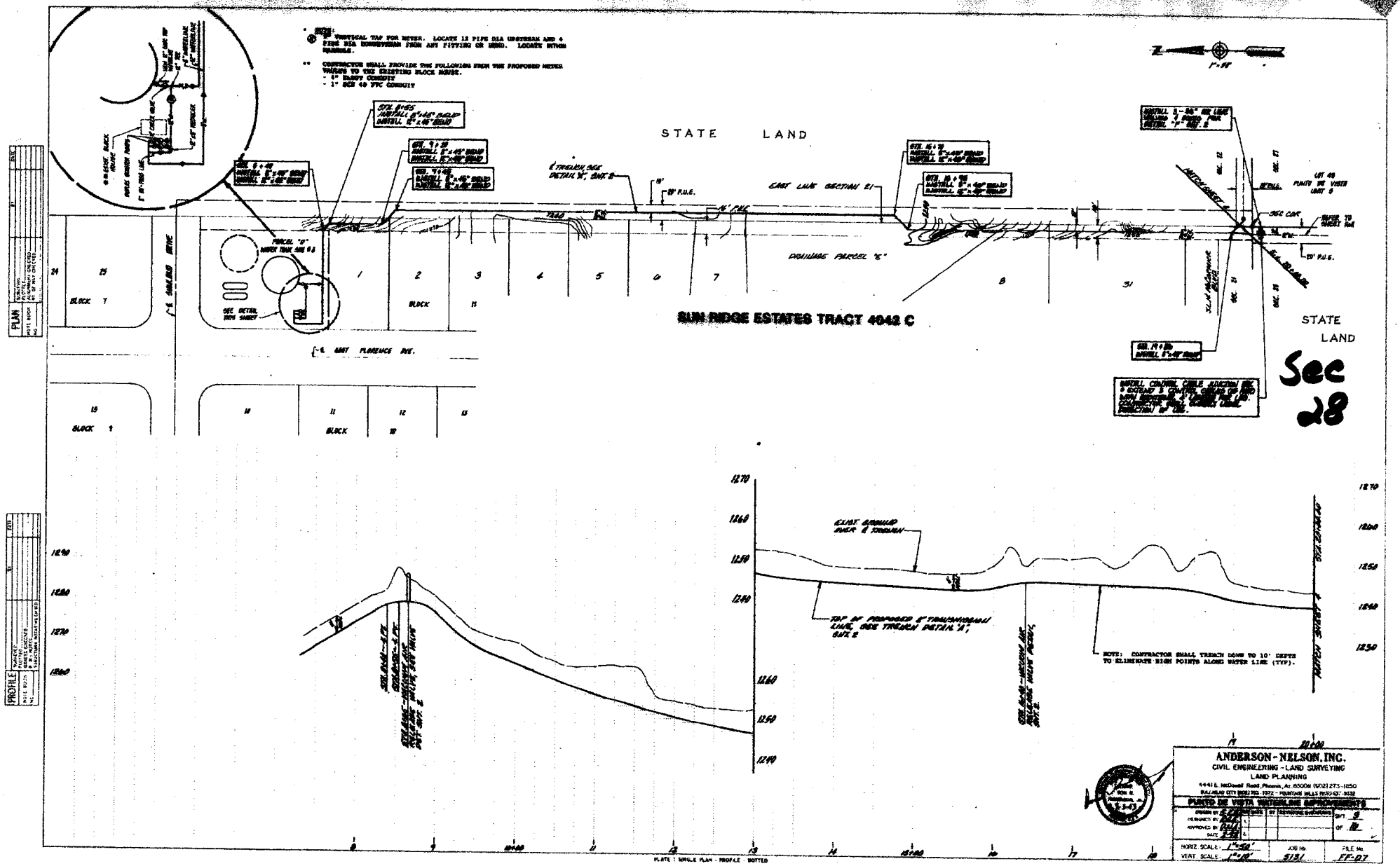
ANDERSON-NELSON, Inc.
CIVIL ENGINEERS AND SURVEYORS
LAND PLANNERS

DRAWN BY				SHT. 1
DESIGNED BY	1			OF 16
APPROVED BY				
DATE	2			

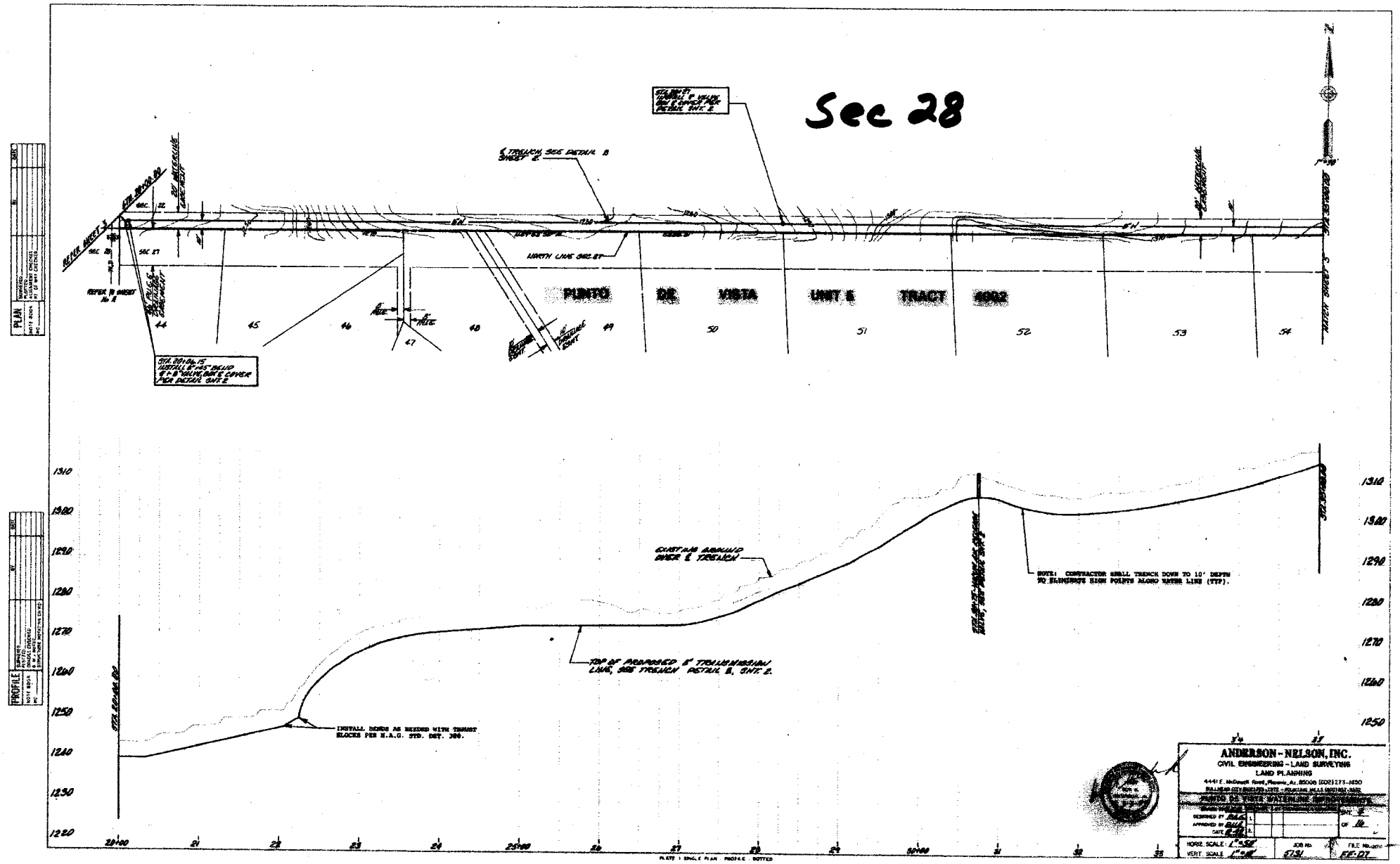
SCALE — JOB NO. — FILE NO.

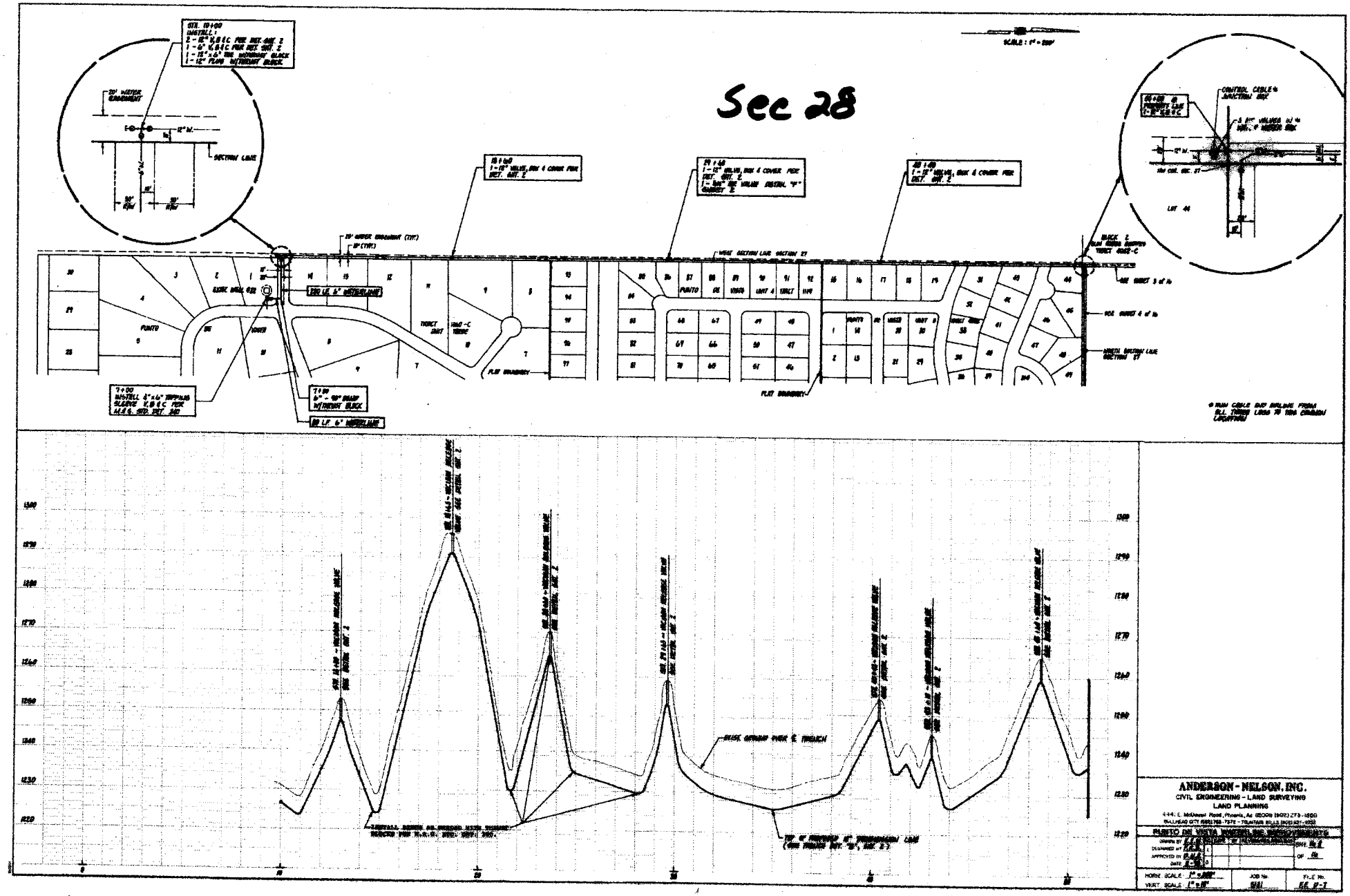
PUNTO DE VISTA
WATERLINE IMPROVEMENTS





STATE LAND
SUN RIDGE ESTATES TRACT 4042 C
STATE LAND
Sec 28
EAST LINE SECTION 21
DRAINAGE PARCEL "E"
EAST FLORENCE AVE.
BLOCK 7
BLOCK 9
BLOCK 10
EXIST. GROUND OVER ℄ TRENCH
TOP OF PROPOSED 8" TRANSMISSION LINE, SEE TRENCH DETAIL "A", SHT. 2
NOTE: CONTRACTOR SHALL TRENCH DOWN TO 10' DEPTH TO ELIMINATE HIGH POINTS ALONG WATER LINE (TYP).
MATCH SHEET 4
PLATE 1 SINGLE PLAN - PROFILE - DOTTED
ANDERSON - NELSON, INC.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING
PUNTO DE VISTA WATERLINE IMPROVEMENTS
HORIZ. SCALE: 1"=50'
VERT. SCALE: 1"=10'
JOB No. 5131
FILE No. FF-07


Sec 28
PUNTO DE VISTA UNIT 6 TRACT 4002
NORTH LINE SEC. 27
EXISTING GROUND OVER ℄ TRENCH
TOP OF PROPOSED 8" TRANSMISSION LINE, SEE TRENCH DETAIL B, SHT. 2.
INSTALL BENDS AS NEEDED WITH THRUST BLOCKS PER M.A.G. STD. DET. 380.
NOTE: CONTRACTOR SHALL TRENCH DOWN TO 10' DEPTH TO ELIMINATE HIGH POINTS ALONG WATER LINE (TYP).
ANDERSON-NELSON, INC.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING
PLAN
PROFILE

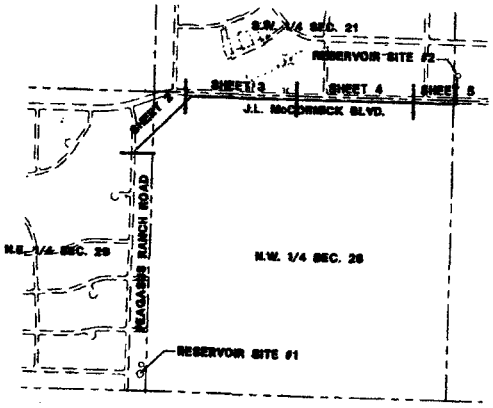

Sec 28
SCALE : 1" = 200'
STA. 10+00
INSTALL:
2 - 12" X.B.C. FOR DIST. UNIT 2
1 - 6" X.B.C. FOR DIST. UNIT 2
1 - 12" x 6" TEE WITHRAW BLOCK
1 - 12" PLUG WITHRAW BLOCK
20' WATER EASEMENT
12" M.
SECTION LINE
18+60
1 - 12" VALVE, BOX & COVER FOR DIST. UNIT 2
29+60
1 - 12" VALVE, BOX & COVER FOR DIST. UNIT 2
1 - 8" TEE VALVE BETWEEN "Y" GUARDS 2
38+40
1 - 12" VALVE, BOX & COVER FOR DIST. UNIT 2
20' WATER EASEMENT (TYP.)
10' (TYP.)
WEST SECTION LINE SECTION 27
100 LF 6" WATERLINE
PUNTO
VIVAS
UNIT 4
TRACT 1047
TRACT 1048-C
FLAT DRAINAGE
7+00
INSTALL 6" x 6" TRIPPING SLEEVE X.B.C. FOR M.A.G. STD. DET. 340
7+00
6" - 90° BEND WITHRAW BLOCK
80 LF 6" WATERLINE
BLOCK 2
PLAN DIRECTOR SUBDIVISION TRACT 4062-C
AVE. TRACT 3 of 4
VOL. TRACT 4 of 4
WEST SECTION LINE SECTION 27
CONTROL CABLE & JUNCTION BOX
38+60 @ PROPERTY LINE
1 - 2" X.B.C.
6 - 8" VALVES W/ 4" WATER BOX
12" M.
4" CONC. BOX. 27
LOT 44
* TRIM CABLE DOWN BELOW FROM ALL THREE LINES TO THE CHANGE LOCATIONS
1540
1530
1520
1510
1500
1490
1480
1470
1460
1450
1440
1430
1420
0
10
20
30
40
50
ANDERSON - NELSON, INC.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING
4-44 E. McDowell Road, Phoenix, Az 85008 (602) 273-1800
PUEBLO DEL VISTA INDUSTRIAL IMPROVEMENTS
DRAWN BY
DESIGNED BY
APPROVED BY
DATE
SHT. 2 OF 10
HORIZ. SCALE: 1" = 100'
VERT. SCALE: 1" = 10'
JOB No.
FILE No.

N.M.V.C. RESERVOIR SITE #1 TO RESERVOIR SITE #2

EMERGENCY TRANSMISSION LINE REPLACEMENT

WATER NOTES:

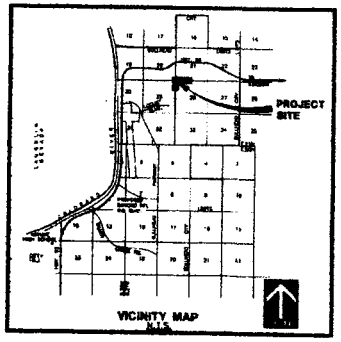
1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE CORRECT PERMITS FROM THE RESPONSIBLE GOVERNMENT AGENCY. ALL ONSITE CONSTRUCTION WILL BE INSPECTED BY THE PUBLIC WORKS DEPARTMENT. JURISDICTION FOR ALL OFFSITE CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY IS INSPECTED BY THE BULLHEAD CITY PUBLIC WORKS DEPARTMENT.
2. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS FOR TRAFFIC CONTROL AND BARRICADING AS PER THE CITY OF BULLHEAD CITY TRAFFIC BARRICADE MANUAL.
3. BACK-FILL AND COMPACTION WITHIN CITY OF BULLHEAD CITY RIGHTS-OF-WAY SHALL BE IN ACCORDANCE WITH CITY OF BULLHEAD CITY STANDARDS.
4. THE CONTRACTOR WILL UNCOVER ALL EXISTING LINES BEING TIED INTO TO VERIFY THEIR LOCATION. THE CONTRACTOR WILL LOCATE OR HAVE LOCATED ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINE, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
5. THE CONTRACTOR PERFORMING EXCAVATIONS IS RESPONSIBLE FOR LOCATING AND PROTECTION OF ALL UNDERGROUND UTILITIES.
6. LOCATION OF ALL VALVES MUST BE REFERENCED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL KEEP SUITABLE EQUIPMENT ON HAND AT THE JOB SITE FOR MINIMIZING DUST CONTROL AND SHALL CONTROL DUST AS DIRECTED BY THE ENGINEER.
8. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, ALLAY DUST, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT THE ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
9. WATER/SEWER SEPARATION MUST CONFORM TO ARIZONA ADMINISTRATIVE CODE (AAC) R18-9-811 (LATEST REVISION).
10. THE CONTRACTOR IS TO CONTACT THE ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT OR DISCREPANCY IS FOUND IN THESE PLANS
11. THE CONTRACTOR IS TO INSTALL A TEMPORARY PLUG OR VALVE ON A SECTION OF NEW LINE AND IS REQUIRED TO TEST LINES BEFORE CONNECTING TO EXISTING WATER SYSTEM WHERE THERE IS NO VALVE ON THE END OF EXISTING LINE.
12. ALL WATER LINES TO BE P.V.C. C-900 CLASS 200. WHERE DUCTILE IRON PIPE IS USED, ALL PIPE FITTINGS SHALL BE ENCASED IN A POLYETHYLENE TUBE AND INSTALLED IN ACCORDANCE WITH A.W.W.A. C105 AND C600 UNLESS DIRECTED OTHERWISE BY THE CITY OF BULLHEAD.
13. ALL WORK SHALL BE IN ACCORDANCE WITH MARICOPA ASSOCIATION OF GOVERNMENTS STANDARD SPECIFICATIONS AND DETAILS UNLESS OTHERWISE STATED ON PLANS.
14. IN ACCORDANCE WITH ARIZONA ADMINISTRATIVE CODE (AAC) R18-4-119, ALL MATERIALS ADDED AFTER JANUARY 1, 1988 WHICH COMES INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO ANSI/NSF STANDARDS 60 AND 61.
15. ALL WATER LINES SHALL HAVE A MINIMUM OF 3 FEET OF COVER OVER THE TOP OF PIPE.
16. ALL WATER LINES SHALL BE SEPARATED FROM SEWER LINES PER R-18-5-11 (SEWER RULES) AND R-18-4-302.C (DRINKING WATER RULES).
17. ALL WATER LINES SHALL BE DISINFECTED ACCORDING TO ADEQ BULLETIN No. 8 OR AWWA C-651-92.
18. ALL WATER LINES SHALL BE LEAKAGE TESTED ACCORDING TO ADEQ BULLETIN No. 10, PART 7.L.2 AND AWWA C-600-93 FOR DIP OR C605-94 FOR PVC.
19. INSTALL VACUUM AIR RELEASE AT ALL HIGH POINTS IN THE DISTRIBUTION SYSTEM PER ADEQ ENGINEERING BULLETIN No. 10, PART 7.D.3.
20. WHEN A SEWER PIPE CROSSES A WATER PIPE WHERE THE SEWER PIPE IS LESS THAN 2 FEET BELOW THE WATER PIPE AND IN ALL INSTANCES WHERE THE SEWER PIPE CROSSES ABOVE THE WATER PIPE, THE SEWER PIPE SHALL BE CONSTRUCTED OF CAST IRON OR D.I.P. WITH SLIP OR MECHANICAL JOINTS FOR A DISTANCE OF AT LEAST 10 FEET IN EACH DIRECTION OF THE CROSSING, OR AS AN ALTERNATIVE, THE SEWER LINE CAN BE ENCASED IN CONCRETE A MINIMUM OF SIX INCHES THICK FROM THE OUTSIDE OF THE PIPE FOR THE SAME DISTANCE.
21. ALL FIRE HYDRANTS TO HAVE CONCRETE COLLAR PER CITY OF BULLHEAD CITY FIRE DEPT. STD. FOR FIRE HYDRANT INSTALLATION.
22. ALL VALVES AND FITTINGS SHALL CONFORM TO A.W.W.A. STANDARDS.
23. ALL WATER SERVICES TO BE INSTALLED AS PER SECTION 631, OF THE MAG STANDARDS.
24. PUBLIC WORKS AND N.M.V.W. CORP. SHALL BE NOTIFIED 24 HOURS PRIOR TO CONST. FOR SCHEDULING INSPECTIONS.



SHEET INDEX MAP
SCALE: 1" = 300'

SHEET INDEX

1	COVER SHEET
2-5	PLAN & PROFILE OF LAWSON DRIVE



SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.

ENGINEER'S NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE DRAWINGS, ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE DRAWINGS, AND WE ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OF THEIR DEPICTED LOCATION ON THESE DRAWINGS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN, AND ALL OTHER LINES (NOT OF RECORD) OR NOT SHOWN ON THESE DRAWINGS BY VERIFICATION OF THEIR LOCATION IN THE FIELD PRIOR TO THE INITIATION OF THE ACTUAL PORTION OF THEIR WORK ATTRIBUTED TO THEIR LOCATION. THE QUANTITIES SHOWN ON THESE PLANS ARE FOR INFORMATION PURPOSES ONLY, AND ARE NOT TO BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.

WATER QUANTITIES

12" PVC WATER LINE	3,230 L.F.
12" VALVE, BOX & COVER	3 EA.
6" X 6" TAPPING SLEEVE & VALVE, BOX & COVER	1 EA.

PROJECT ENGINEER

DON N. ANDERSON
P.E. NO. 11299
R.L.S. NO. 16089

ANDERSON-NELSON, INC.
4143 N. 12TH STREET, SUITE 200
PHOENIX, AZ 85014
PHONE: (602) 273-1860

OWNER

NORTH MOHAVE VALLEY CORPORATION
JOHN McCORMICK
1879 HIGHWAY 95
BULLHEAD CITY, AZ 86442
PHONE: (928) 763-1047

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "AS-BUILT" INFORMATION SHOWN HEREON WAS MADE UNDER MY DIRECT SUPERVISION AND IS CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DON N. ANDERSON, JR., P.E. No. 11299 _____ DATE

APPROVALS

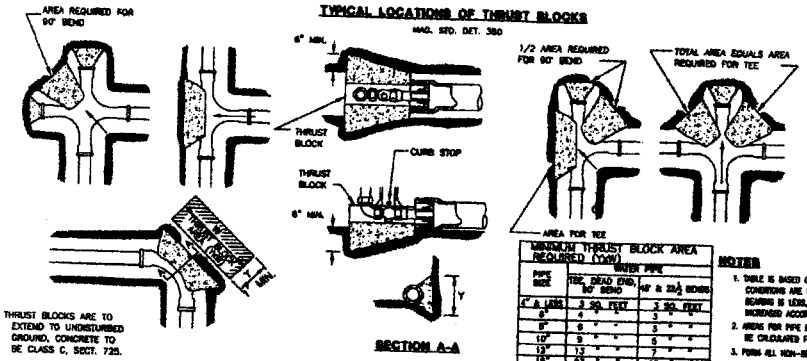
THIS PLAN WAS APPROVED BY THE CITY ENGINEER AND N.M.V.C.

BY: _____ DATE _____
CITY ENGINEER

BY: _____ DATE _____
NORTH MOHAVE VALLEY CORPORATION

TYPICAL LOCATIONS OF THRUST BLOCKS

MAG. STD. DET. 380

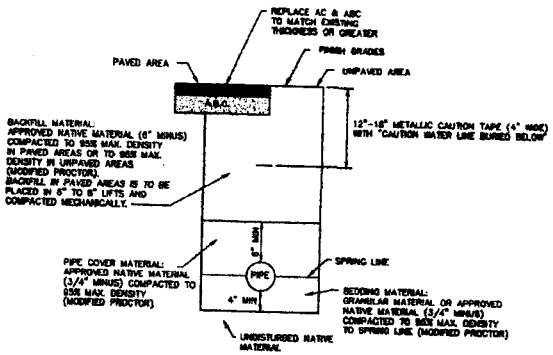


NOTE: THRUST BLOCKS ARE TO EXTEND TO UNDISTURBED GROUND, CONCRETE TO BE CLASS C, SECT. 725.

MINIMUM THRUST BLOCK AREA REQUIRED (SQ.FT.)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° & 22½° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 " "	3 " "
8"	6 " "	3 " "
10"	9 " "	5 " "
12"	13 " "	7 " "
16"	23 " "	12 " "

NOTES

1. TABLE IS BASED ON 3000#/SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO MORE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPE LARGER THAN 16" SHALL BE CALCULATED FOR EACH PROJECT.
3. FORMS ALL NON-BEARING VERTICAL SURFACES.



TYPICAL TRENCH & BACKFILL DETAIL
N.T.S.

N.M.V.C. RESERVOIR SITE #1 TO RESERVOIR SITE #2

Anderson - Nelson, Inc.
Engineering - Surveying - Site Grading Plans - Subdivision Development - Hydrology
Construction Management - Computer Services
4143 N. 12th St., Suite 200
Phoenix, Arizona 85014
(602) 273-1860
Bullhead City, AZ (928) 704-4977

REVISIONS	DATE	BY

DESIGN: MAC
DRAWN: MAC
APPROVED: DMA
DATE: 11-26-01

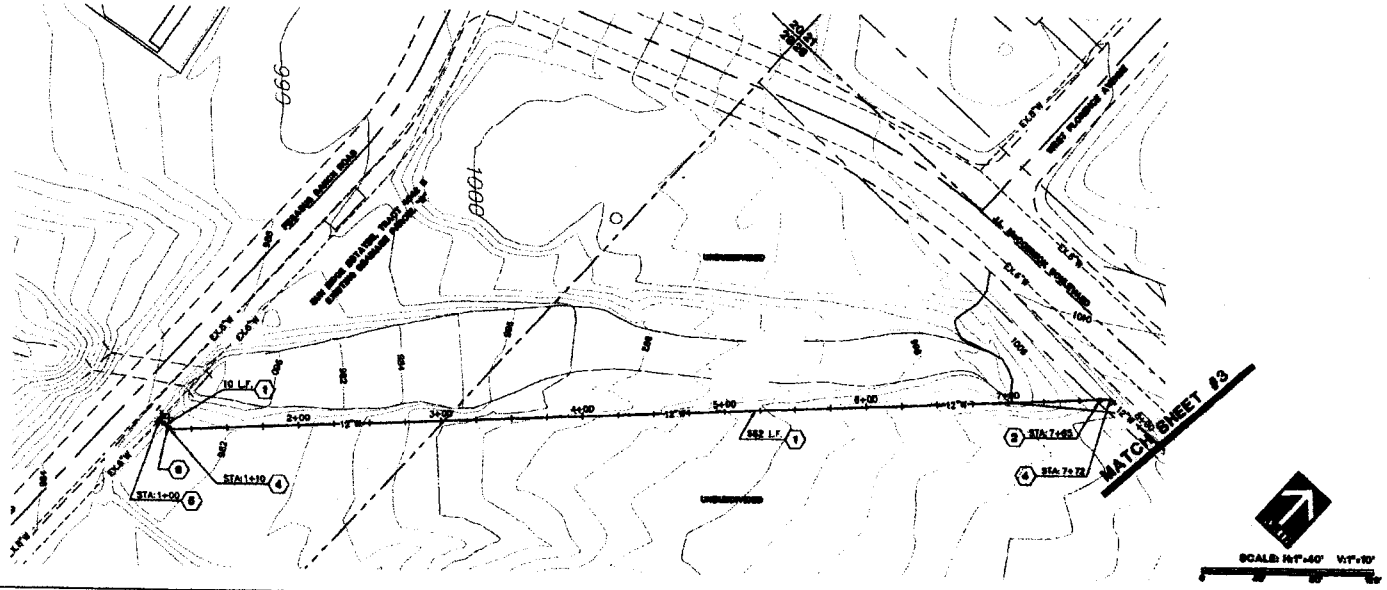
EMERGENCY TRANSMISSION LINE REPLACEMENT

1 800 STAKE-IT
1 800 782-5348

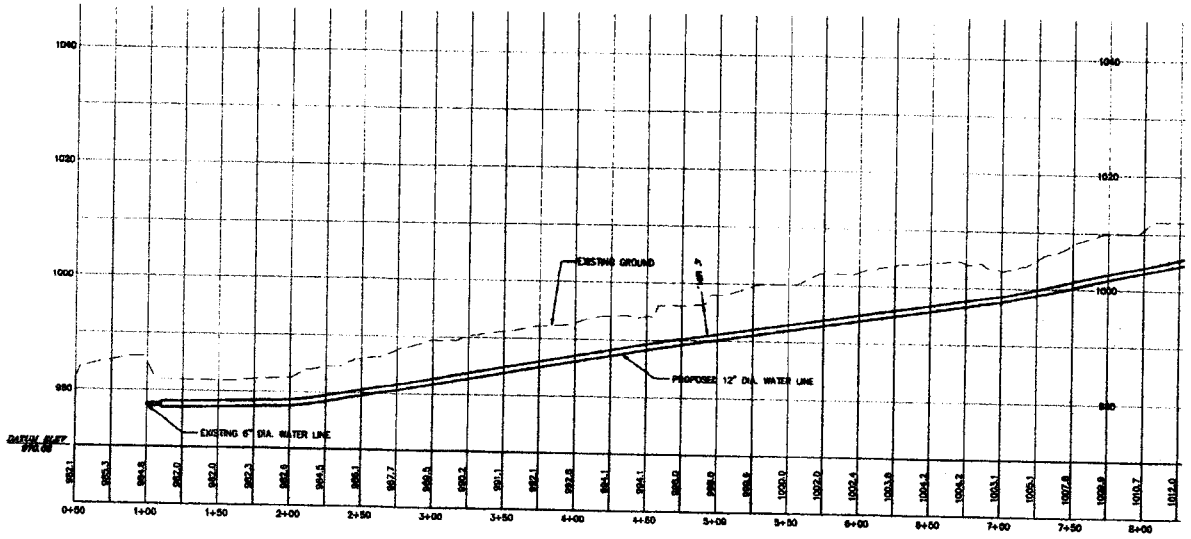
1 of 5

FILE: 7217
JOB: 7188

DOCKET # W-02259A-07-0434



DRAINAGE PARCEL



WATER CONSTRUCTION NOTES

1. INSTALL 12" DIA. PVC TRANSMISSION WATER LINE
2. INSTALL 12" VALVE, BOX & COVER PER M.A.G. STD. DET. 391-1 TYPE "C".
3. INSTALL 90° BEND
4. INSTALL 45° BEND
5. INSTALL 6" X 6" TAPPING SLEEVE AND VALVE, BOX & COVER PER M.A.G. STD. DET. 340
6. INSTALL 12" X 6" REDUCER
7. INSTALL VERTICAL BENDS PER M.A.G. STD. DET. 381

LEGEND

⊗	WATER VALVE
C	END CAP
12"W	PROPOSED WATER LINE
EX. 8"W	EXISTING WATER LINE
8"S	PROPOSED SEWER LINE
EX. 12"SS	EXISTING SEWER LINE
P.U.E.	PUBLIC UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

N.M.V.C. RESERVOIR SITE #1 TO RESERVOIR SITE #2

Anderson-Nelson, Inc.
CIVIL ENGINEERING - LAND SURVEYING
CONSULTANTS
4143 North 12th Street, Suite 200, Phoenix, AZ. 85014 (602) 273-1800
Bullhead City, AZ (520) 704-4677

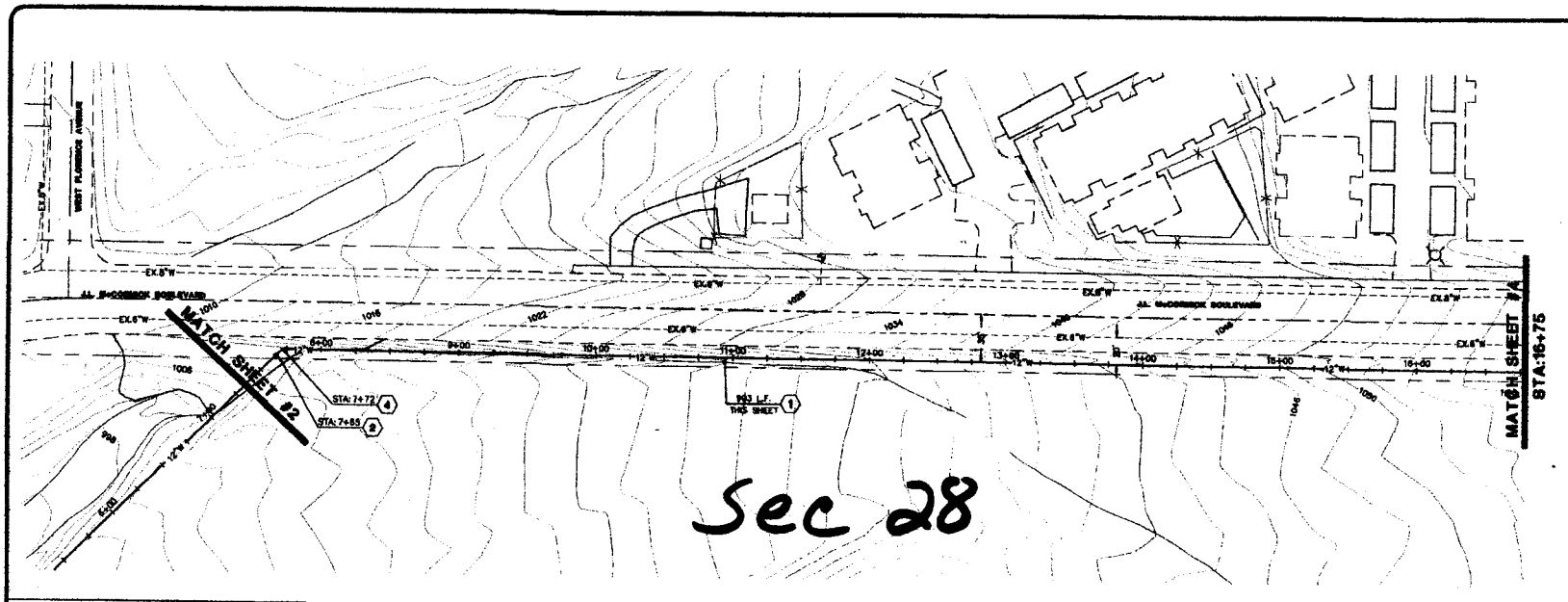
WATER PLAN

NO.	DATE	BY	REVISIONS & REMARKS	NO.	DATE	BY	REVISIONS & REMARKS
				2			

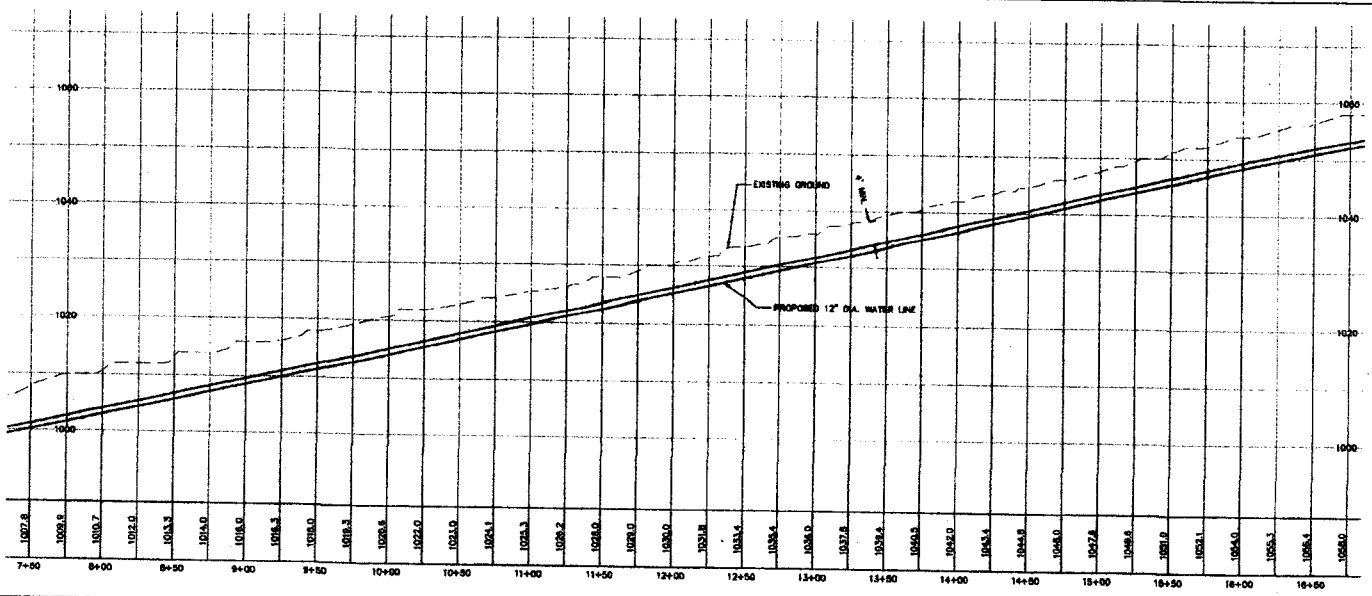
DRAWN BY	DESIGNED BY	APPROVED BY	DATE	SHT.
MAC	DHA	DHA	12-20-04	2 OF 5

HORIZ. SCALE 1" = 40' VERT. SCALE 1" = 10'

JOB NO. 7217 FILE NO.



J.L. McCORMICK BOULEVARD



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—12"W—	PROPOSED WATER LINE
-EX.6"W-	EXISTING WATER LINE
—8"S—	PROPOSED SEWER LINE
— EX. 12"SS —	EXISTING SEWER LINE
P.U.E.	PUBLIC UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

N.M.V.C. RESERVOIR SITE #1 TO RESERVOIR SITE #2

Anderson-Nelson, Inc.
CIVIL ENGINEERING - LAND SURVEYING
CONSULTANTS
4143 North 12th Street, Suite 203, Phoenix, AZ. 85014 (602) 273-1200
Safford City, AZ. (928) 704-1077

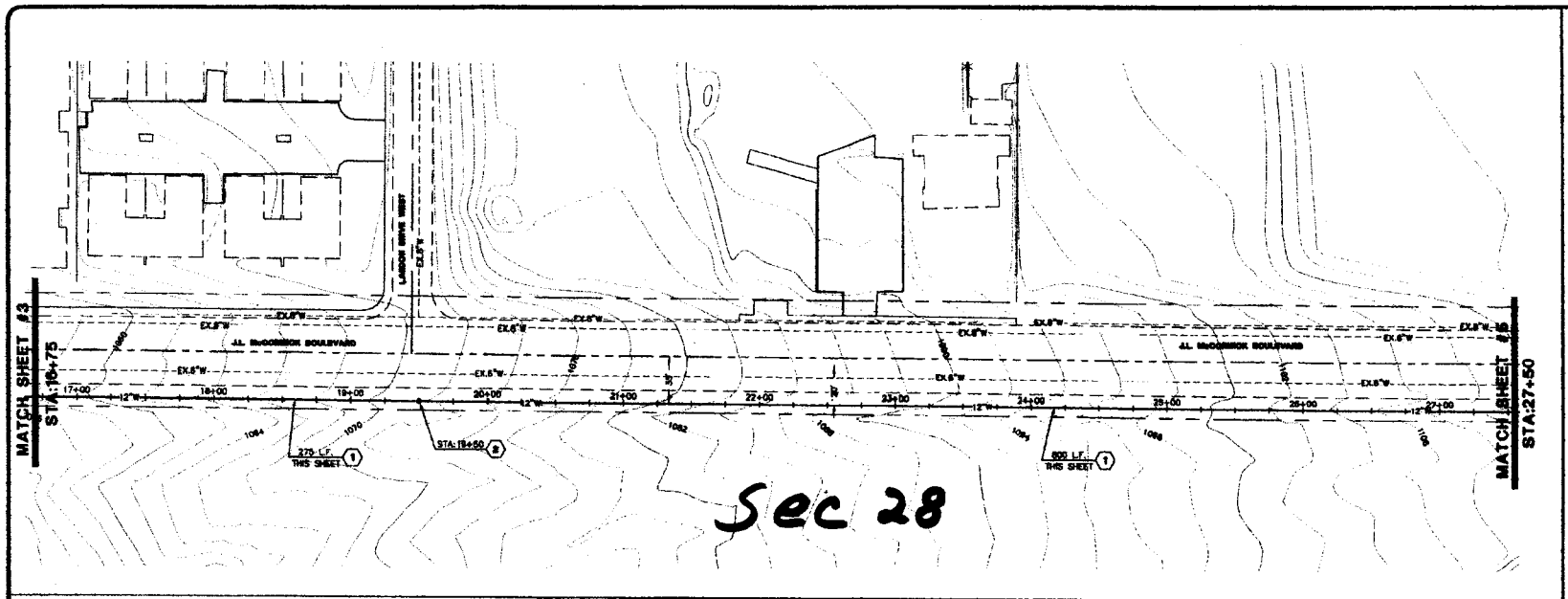
WATER PLAN

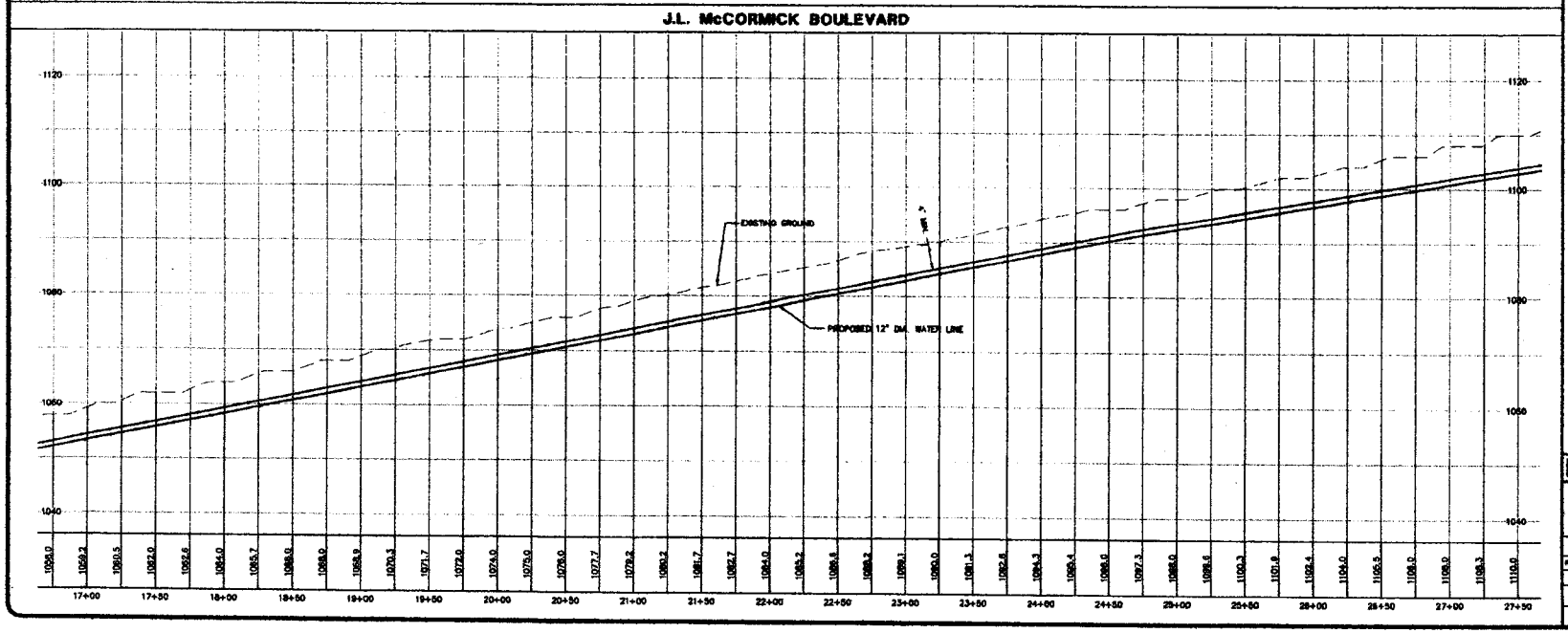
NO.	DATE	BY	REVISIONS & REMARKS	NO.	DATE	BY	REVISIONS & REMARKS
				2			

DRAWN BY	DESIGNED BY	APPROVED BY	DATE	SHT. 3 OF 6
MAC	DNA	DNA	12-20-04	

HORIZ. SCALE 1" = 40' VERT. SCALE 1" = 10'

JOB NO. 7217 FILE NO.





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P.U.E.	PUBLIC UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

N.M.V.C. RESERVOIR SITE #1 TO RESERVOIR SITE #2

Anderson-Nelson, Inc.
CIVIL ENGINEERING - LAND SURVEYING
CONSULTANTS
4143 North 12th Street, Suite 200, Phoenix, AZ. 85014 (602) 273-1600
Bullhead City, AZ (928) 704-4677

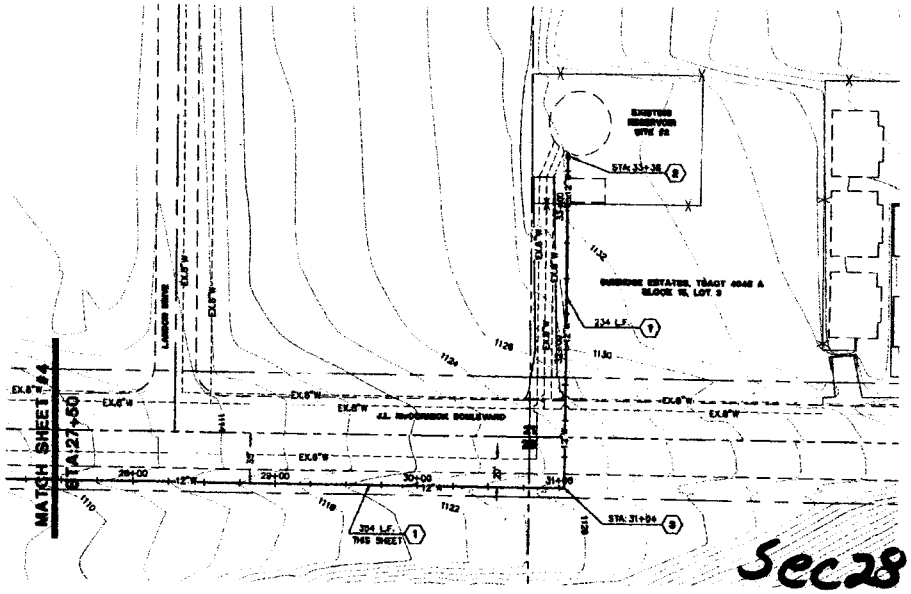
WATER PLAN

NO.	DATE	BY	REVISIONS & REMARKS	NO.	DATE	BY	REVISIONS & REMARKS
				2			

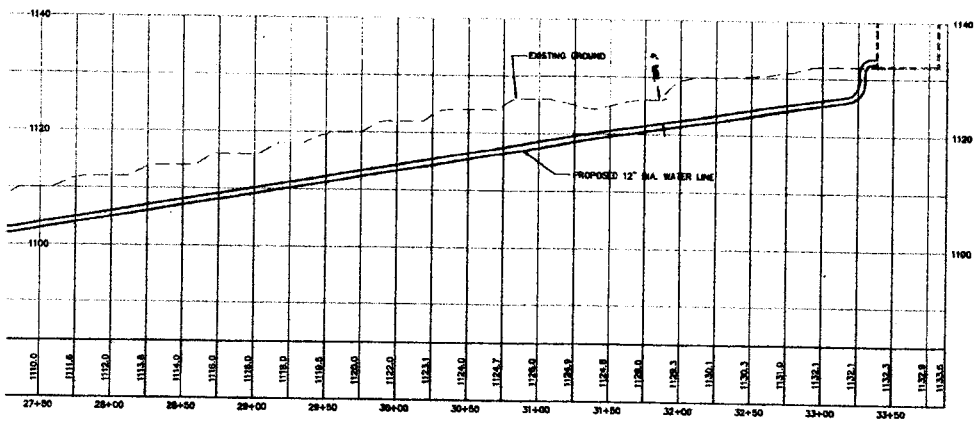
DRAWN BY	DESIGNED BY	APPROVED BY	DATE	SHT. 4 OF 5
MAC	DNA	DNA	12-28-01	

HORIZ. SCALE 1" = 40' VERT. SCALE 1" = 10'

JOB NO. 7217 FILE NO.



J.L. McCORMICK BOULEVARD



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N.M.V.C. RESERVOIR SITE #1 TO RESERVOIR SITE #2

Anderson-Nelson, Inc.
CIVIL ENGINEERING - LAND SURVEYING CONSULTANTS
4143 North 12th Street, Suite 200, Phoenix, AZ 85014 (602) 273-1650
Bullhead City, AZ (520) 704-4877

WATER PLAN

NO.	DATE	BY	REVISIONS & REMARKS	NO.	DATE	BY	REVISIONS & REMARKS
				2			

DRAWN BY	DESIGNED BY	APPROVED BY	DATE	SHT. 5 OF 5
MAC	DNA	DNA	12-28-04	

HORIZ. SCALE 1" = 40' VERT. SCALE 1" = 10'

JOB NO. 7217 FILE NO.

DESERT CANYON AT SUNRIDGE - TRACT 5156

PART OF THE NORTH 1/2 OF SECTION 21, T.21 N., R.21 W., G.& S.R.M.

MOHAVE COUNTY, ARIZONA

WATER NOTES

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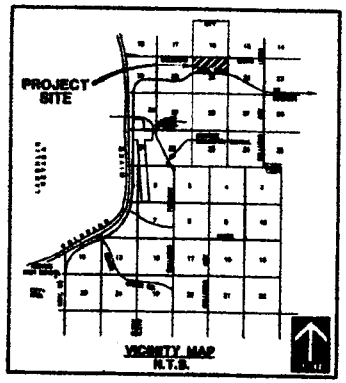
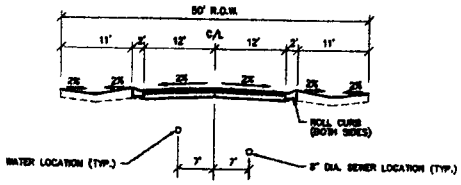
10. THE CONTRACTOR IS TO INSTALL A TEMPORARY PLUG OR VALVE ON A SECTION OF NEW LINE AND IS REQUIRED TO TEST LINES BEFORE CONNECTING TO EXISTING WATER SYSTEM WHERE THERE IS NO VALVE ON THE END OF EXISTING LINE.
11. ALL WATER LINES TO BE P.V.C. OR APPROVED SUBSTITUTE OF WATER COMPANY WITH JURISDICTION WHERE DUCTILE IRON PIPE IS USED. ALL PIPE AND FITTINGS SHALL BE ENCASED IN A POLYETHYLENE TUBE AND INSTALLED IN ACCORDANCE WITH A.W.W.A. C105 AND C600 UNLESS DIRECTED OTHERWISE BY THE CITY OF BULLHEAD.
12. ALL WORK SHALL BE IN ACCORDANCE WITH MARICOPA ASSOCIATION OF GOVERNMENTS STANDARD SPECIFICATIONS AND DETAILS UNLESS OTHERWISE STATED ON PLANS.
13. IN ACCORDANCE WITH ARIZONA ADMINISTRATIVE CODE (AAC) R18-4-118, ALL MATERIALS ADDED AFTER JANUARY 1, 1993 WHICH COMES INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NATIONAL SANITATION FOUNDATION STANDARDS 60 AND 61.
14. ALL WATER LINES SHALL HAVE A MINIMUM OF 3 FEET OF COVER OVER THE TOP OF PIPE.
15. ALL WATER LINES SHALL BE SEPARATED FROM SEWER LINES PER R-18-9-11 (SEWER RULES) AND R-18-4-502.C (DRINKING WATER RULES).
16. ALL WATER LINES SHALL BE DISINFECTED ACCORDING TO ADEQ BULLETIN No. 8 OR AWWA C-651-92.
17. ALL WATER LINES SHALL BE LEAKAGE TESTED ACCORDING TO ADEQ BULLETIN No. 10, PART 7.1.2 AND AWWA C-600-93 FOR DIP OR C605-94 FOR PVC.
18. INSTALL VACUUM AIR RELEASE AT ALL HIGH POINTS IN THE DISTRIBUTION SYSTEM PER ADEQ ENGINEERING BULLETIN No. 10, PART 7.0.3
19. NO PORTION OF THE DEVELOPED SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN.



VICINITY MAP
N.T.S.



WATER AND SEWER LOCATION (TYP.)
N.T.S.

SHEET INDEX

SHEET 1	COVER SHEET
SHEET 2	SHEET LAYOUT PLAN AND DETAILS
SHEET 3-20	WATER PLAN SHEETS

WATER QUANTITIES

FIRE HYDRANT ASSEMBLY	30 EA.
6" DIA. WATER LINE, P.V.C.	1,996 L.F.
8" DIA. WATER LINE, P.V.C.	21,691 L.F.
8" DIA. WATER LINE, D.I.P.	628 L.F.
6" VALVE, BOX AND COVER	4 EA.
8" VALVE, BOX AND COVER	47 EA.
12" VALVE, BOX AND COVER	11 EA.
CURB STOP W/ FLUSHING PIPE	11 EA.
1" DOUBLE SERVICE	53 EA.
¾" SINGLE SERVICE	36 EA.
8" PRESSURE REDUCING STATION	2 EA.
12" DIA. WATER LINE, D.I.P.	628 L.F.
12" DIA. WATER LINE, P.V.C. CLASS 150	1,060 L.F.
12" DIA. WATER LINE, P.V.C. CLASS 200	4,253 L.F.

SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, ON, OR NEAR THE CONSTRUCTION SITE.

ENGINEERS NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE DRAWINGS, ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE DRAWINGS AND WE ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OF THEIR DEPICTED LOCATION ON THESE DRAWINGS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN, AND ALL OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE DRAWINGS BY VERIFICATION OF THEIR LOCATION IN THE FIELD PRIOR TO THE INITIATION OF THE ACTUAL PORTION OF THEIR WORK ATTRIBUTED TO THEIR LOCATION. THE QUANTITIES SHOWN ON THESE PLANS ARE FOR INFORMATION PURPOSES ONLY, AND ARE NOT TO BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.

LEGAL DESCRIPTION

A PORTION OF THE NORTH HALF OF SECTION 21 T. 21.N., R.21 W., OF THE GILA AND SALT RIVER MERIDIAN, MOHAVE COUNTY, ARIZONA, CONTAINING AN AREA OF 247 ACRES MORE OR LESS.

FEMA REQUIREMENTS

PARCEL IS LOCATED WITHIN ZONE X - AREA DETERMINED OUTSIDE OF 500 YEAR FLOOD PLAIN PER FIRM COMMUNITY PANEL NO. 040125 0005 D. MARCH 2, 1996.

OWNER/SUBDIVIDER

MJC - McCORMICH, A JOINT VENTURE
1875 HIGHWAY 95
P.O. BOX 23938
BULLHEAD CITY, ARIZONA
(928) 763-2867

CIVIL ENGINEER

ANDERSON-NELSON, INC.
4143 N. 12TH STREET, SUITE 200
PHOENIX, AZ 85014
PHONE (602) 273-1850
FAX 602-273-0264

BENCHMARK

THE BENCHMARK IS THE G.L.O. BRASS CAP AT THE NORTHEAST CORNER OF SECTION 21, T.21N., R. 21W OF THE GILA AND SALT RIVER BASE AND MERIDIAN. THE ELEVATION AT THE BRASS CAP IS 1246.75 FEET.

BASIS OF BEARING

THE BASIS OF BEARING FOR THIS PLAT IS THE NORTH LINE OF SECTION 21 BETWEEN THE NW CORNER OF SECTION 21 AND THE F N. CORNER OF SECTION 21 LINE BEARS NORTH 88° 38' 37" W.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "AS-BUILT" INFORMATION SHOWN HEREON WAS MADE UNDER MY DIRECT SUPERVISION AND IS CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DON R. ANDERSON, JR., P.E. No. 11288 _____ DATE

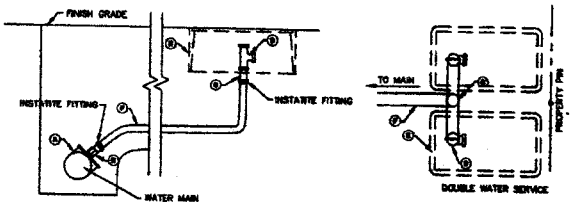
APPROVALS

THIS PLAN WAS APPROVED BY THE CITY ENGINEER

BY: _____ DATE _____
CITY ENGINEER

BY: _____ DATE _____
NORTH MOHAVE WATER CORP.

BY: _____ DATE _____
PLANNING & ZONING DIRECTOR



*SERVICE LINE MATERIALS

A) FORD S91 BRASS SADDLE FOR C900 CLASS 150 PVC PIPE WITH ONE INCH I.P.T. FEMALE TAP.

B) FORD F700 OR JONES J-1505 CORPORATION STOP WITH ONE INCH I.P.T. X C.T. OUTLET AND ONE INCH C.T. X P.E. MUELLER INSTANTE FITTING (H-15073.

C) JONES J-1575 X 13.5" OR FORD U25-43-14.0" BRANCH WITH ONE INCH C.T. X P.E. MUELLER INSTANTE FITTING (H-15073 DOUBLE SERVICE ONLY.

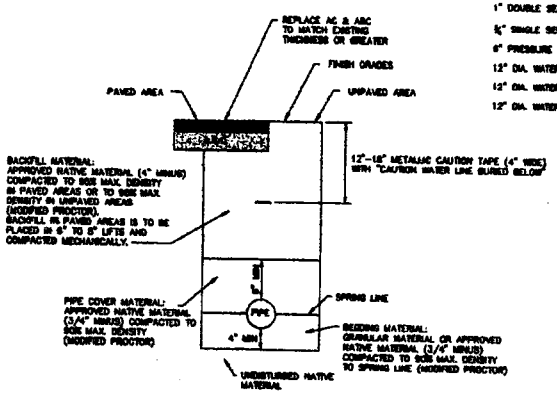
D) FORD ANGLE BALL METER VALVES (BA13-232W.

E) FIT METER BOX 19" LONG X 12" WIDE X 10" DEEP WITH COVER (LID).

F) ONE INCH IPS DRISCO 9100 POLYETHYLENE PIPE

* USE 3/4" FOR SINGLE SERVICE

WATER SERVICE DETAIL
N.T.S.



UPON APPROVAL OF THE ENGINEER PIPE MAY BE LAID ON UNDISTURBED NATIVE MATERIAL.

EXPANDING AND CONTRACTING MATERIAL (HIGH CLAY CONTENT, ETC.) WILL NOT BE PERMITTED IN BEDDING NOR PIPE COVER MATERIALS.

TYPICAL TRENCH & BACKFILL DETAIL
N.T.S.

DESERT CANYON AT SUNRIDGE - TRACT 5156

Anderson - Nelson, Inc.
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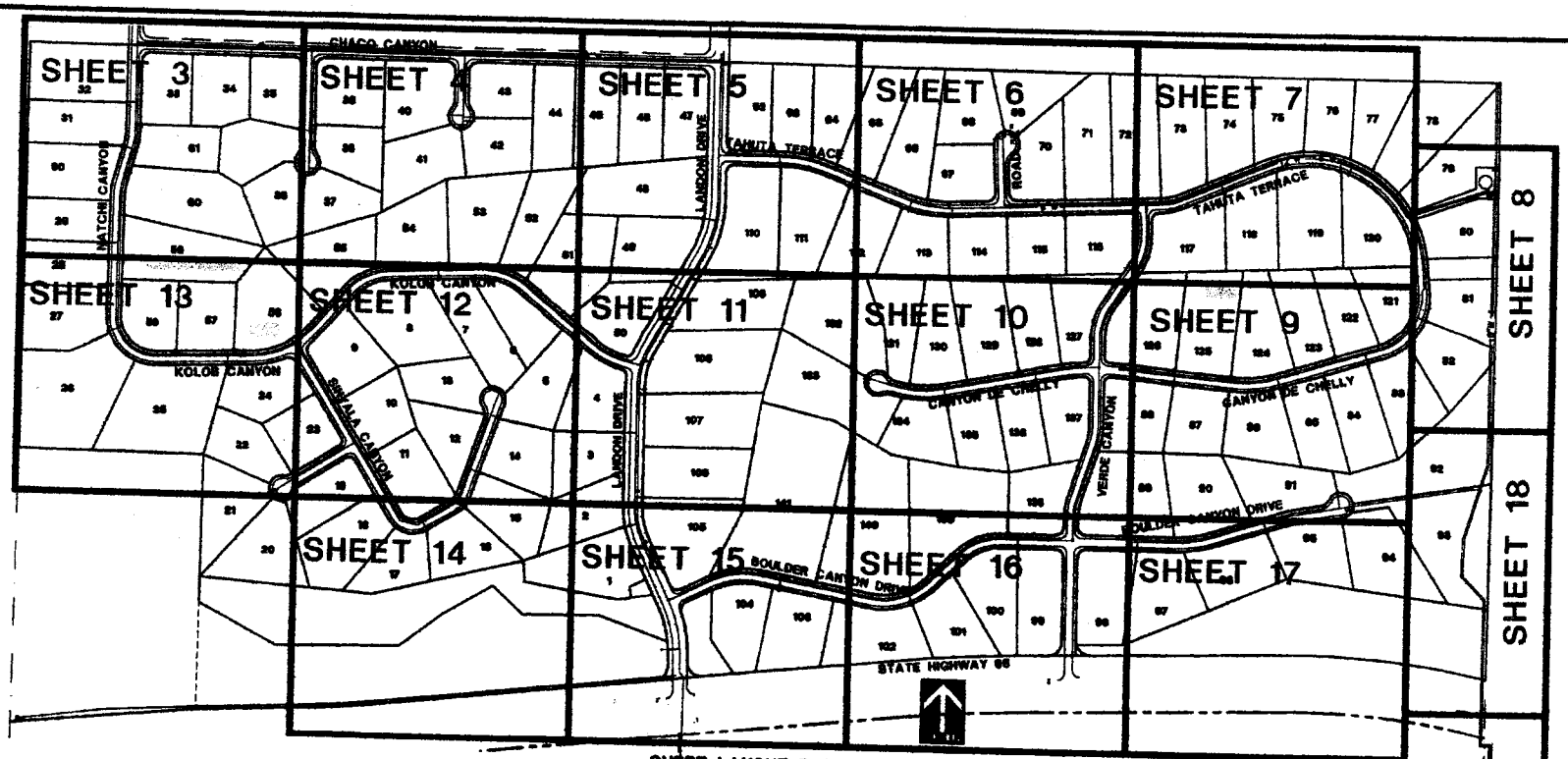
4143 N. 12th St., Suite 200, Phoenix, Arizona 85014
(602) 273-1850
Bullhead City, AZ 86431 704-0477

WATER PLAN

1 of 20

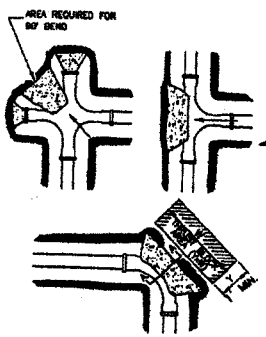
1 800 STAKE-IT
1 800 782-5348

DOCKET # W-02259A-07-0434



SHEET LAYOUT PLAN

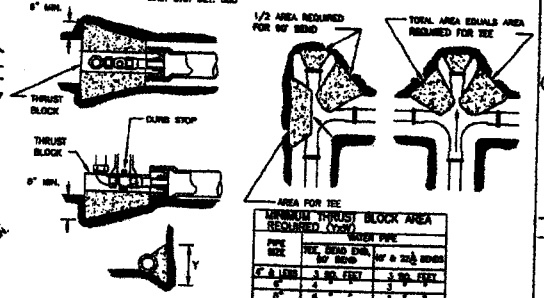
SCALE: 1" = 200'



NOTE: THRUST BLOCKS ARE TO EXTEND TO UNDISTURBED GROUND, CONCRETE TO BE CLASS C, SECT. 725.

TYPICAL LOCATIONS OF THRUST BLOCKS

MCG. STD. DET. 380



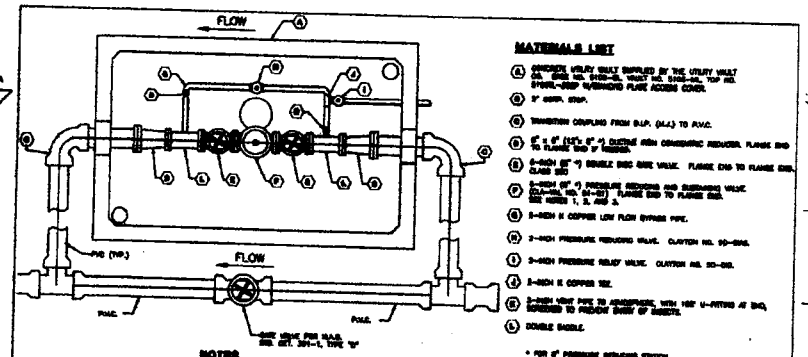
SECTION A-A

MINIMUM THRUST BLOCK AREA REQUIRED (cm²)

PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° & 22½° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 " "	3 " "
8"	6 " "	5 " "
12"	13 " "	7 " "
16"	23 " "	12 " "

NOTES

1. TABLE IS BASED ON 3000 /SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPE LARGER THAN 16" SHALL BE CALCULATED FOR EACH PROJECT.
3. FORM ALL NON-BEARING VERTICAL SURFACES.



MATERIALS LIST

- (A) APPROVED UTILITY VAULT SUPPLIED BY THE UTILITY VAULT CO., BOISE, IDA. MODEL NO. [illegible], WITH [illegible] TOP NO. [illegible], STEEL-REEF W/RAINBOW PLATE ACCESS COVER.
- (B) 5" GATE STOP.
- (C) TRANSITION COUPLING FROM D.I.P. (M.J.) TO P.V.C.
- (D) 8" x 6" (12") x 6" x 1 DUCTILE IRON CONCENTRIC REDUCER, FLANGE END TO FLANGE END w/ [illegible].
- (E) 2-INCH 125 # 1 DOUBLE DISC GATE VALVE. FLANGE END TO FLANGE END, CLASS 250.
- (F) 2-INCH 125 # 1 PRESSURE REDUCING AND SUSTAINING VALVE. CLAYTON NO. 07-[illegible] FLANGE END TO FLANGE END. SEE NOTES 1, 2, AND 3.
- (G) 2-INCH X COPPER LOW FLOW BYPASS PIPE.
- (H) 2-INCH PRESSURE REDUCING VALVE. CLAYTON NO. 30-[illegible].
- (I) 2-INCH PRESSURE RELIEF VALVE. CLAYTON NO. 30-[illegible].
- (J) 2-INCH X COPPER TEE.
- (K) 2-INCH VENT PIPE 20 HORSEPOWER, WITH 180° U-FITTING AT END, SCREENED TO PREVENT ENTRY OF INSECTS.
- (L) DOUBLE SADDLE.

* FOR 6" PRESSURE REDUCING STATION.

NOTES

1. PRESSURE REDUCING VALVE SHALL BE HIGH BODY, GLASS BOX FLANGED END, HORIZONTALLY OPERATED, PILOT CONTROLLED, DIAPHRAGM TYPE, GLOBE PATTERNED VALVE, WITH STAINLESS STEEL TRIMMING.
2. PRESSURE REDUCING VALVE MANUFACTURER SERIES, TYPE OF MANUFACTURER, SIZE OF VALVE AND GUARANTEED VERIFIED PRESSURE SHALL BE STAMPED ON THE VALVE OR ON A NAMEPLATE ATTACHED TO THE VALVE.
3. PRESSURE REDUCING VALVE SHALL BE SUPPLIED BY A CERTIFIED DEALER WITH REQUIRED PILOT CONTROLS FOR PRESSURE REDUCING AND FOR PRESSURE SUSTAINING. SUCH PILOT CONTROLS SHALL BE FREE FROM ANY PRESSURE SPIKES THE RANGE OF 0 P.S.I. TO 150 P.S.I.

PRESSURE REDUCING STATION

N.T.S.

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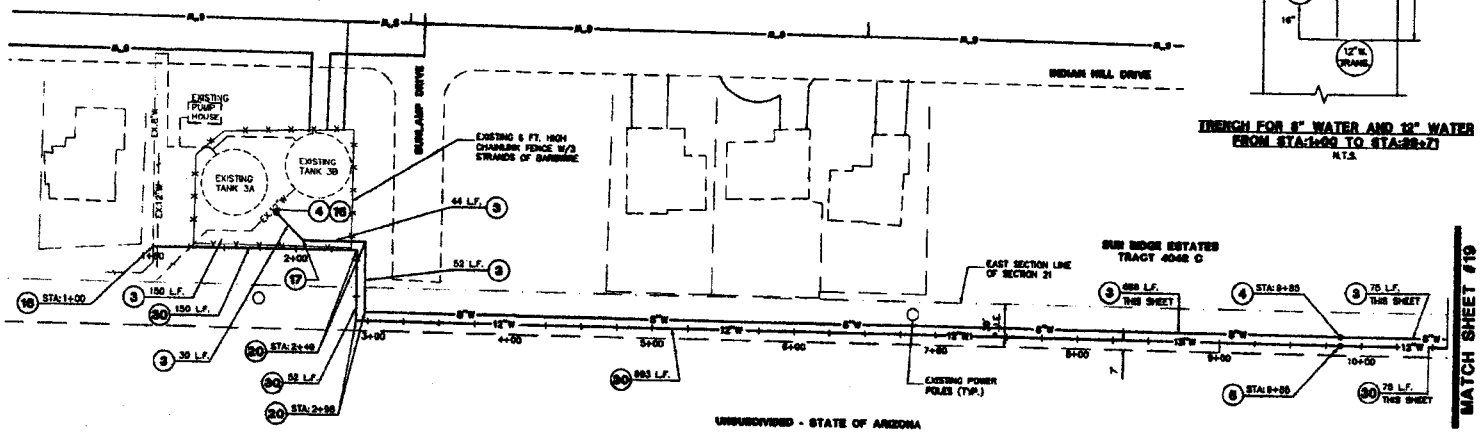
4143 N. 12th St., Suite 200
Phoenix, Arizona 85014
(602) 273-1880
Sedona Ofc. AZ (520) 704-0877

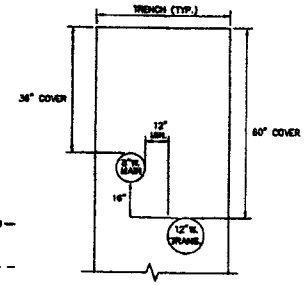
WATER PLAN

DRAWN MAC
APPROVED DWL
DATE 8-4-90

1 800 STAKE-IT
1 800 782-5348

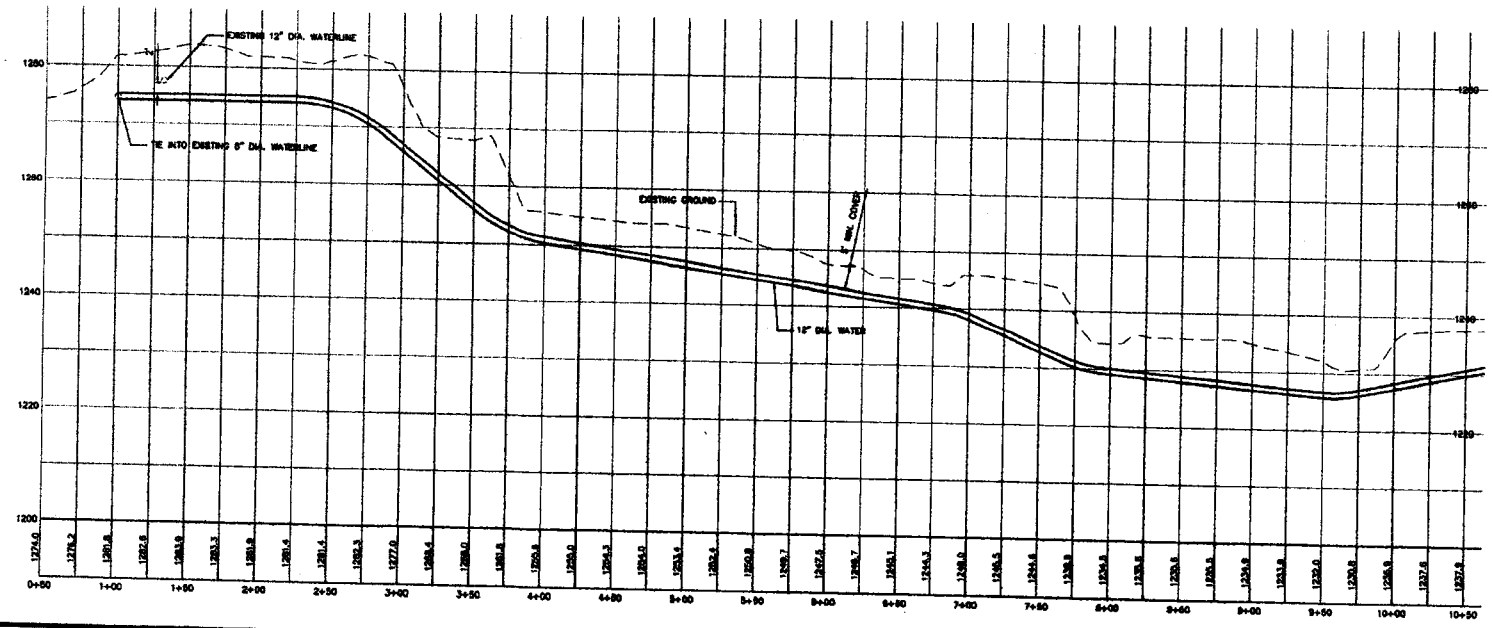
SHEET 2 OF 20





TRENCH FOR 8" WATER AND 12" WATER FROM STA:1+00 TO STA:29+71

N.T.S.



WATER CONSTRUCTION NOTES

1. INSTALL 6" PVC C900 CLASS 150.
2. INSTALL 6" GATE VALVE, BOX & COVER PER M.A.G. STD. DET. 391-1 TYPE "C", 301 & 380.
3. INSTALL 8" PVC C900 CLASS 150.
4. INSTALL 8" GATE VALVE, BOX & COVER PER M.A.G. STD. DET. 391-1 TYPE "C", 301 & 380.
5. INSTALL 12" PVC C900 CLASS 150.
6. INSTALL 12" GATE VALVE, BOX & COVER PER M.A.G. STD. DET. 391-1 TYPE "C", 301 & 380.
7. INSTALL COMPLETE FIRE HYDRANT ASSEMBLY (6" LINE) PER BULLHEAD CITY FIRE DEPT. STANDARDS FOR FIRE HYDRANT INSTALLATION.
8. INSTALL POTABLE CURB STOP WITH FLUSHING PIPE PER M.A.G. STD. DET. 390, TYPE "A"
9. INSTALL 1" DOUBLE WATER SERVICE PER DETAIL.
10. INSTALL 3/4" SINGLE WATER SERVICE PER DETAIL.
11. SAWCUT, REMOVE & REPLACE AC PVMT PER MAG STD DET 200, TYPE A, T-TOP
12. INSTALL 8" TAPPING SLEEVE AND VALVE PER M.A.G. STD. DET. 340
13. INSTALL 8" X 6" TEE
14. INSTALL 8" X 6" TEE
15. INSTALL 8" X 8" TEE
16. INSTALL 12" X 8" TEE
17. INSTALL 45° BEND
18. INSTALL 22.5° BEND
19. INSTALL 11.25° BEND
20. INSTALL 90° BEND
21. INSTALL 8" X 6" REDUCER
22. CONSTRUCT VERTICAL REALIGNMENT OF WATER MAINS PER. M.A.G. STD. DET. 370, "MECHANICAL JOINT"
23. REMOVE CAP AND CONNECT TO EXISTING LINE
24. INSTALL 1" AIR RELEASE VALVE
25. INSTALL 6" PRESSURE REDUCING VALVE, PER DETAIL ON SHEET 2
26. INSTALL 8" CROSS.
27. INSTALL 8" PRESSURE REDUCING VALVE, PER DETAIL ON SHEET 2
28. INSTALL 12" PVC C900 CLASS 150, TRANSMISSION LINE
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30. INSTALL 12" PVC C900 CLASS 200.

LEGEND

EG	EXISTING GROUND
P.U.E.	PUBLIC UTILITY EASEMENT
	PROPOSED WATER SERVICE
	PROPOSED SEWER MANHOLE
	PROPOSED FIRE HYDRANT
	PROPOSED WATER VALVE
	MONUMENT LINE

SCALE: H:1"=40' V:1"=10'

DESERT CANYON AT SUNRIDGE - TRACT 4042-I

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Construction Management - Computer Services
4143 N. 12th St., Suite 200
Phoenix, Arizona 85014
(602) 273-1850
Bullhead City, AZ (928) 704-4677

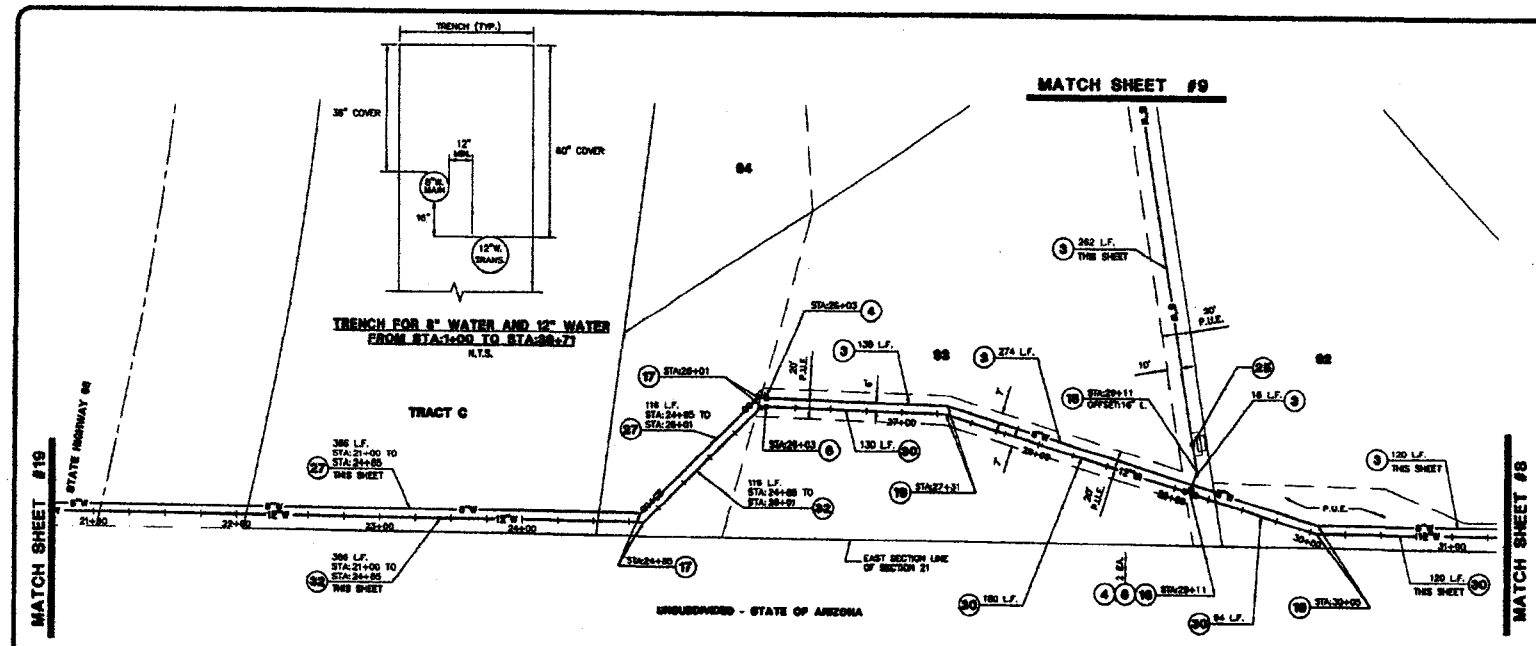
WATER PLAN

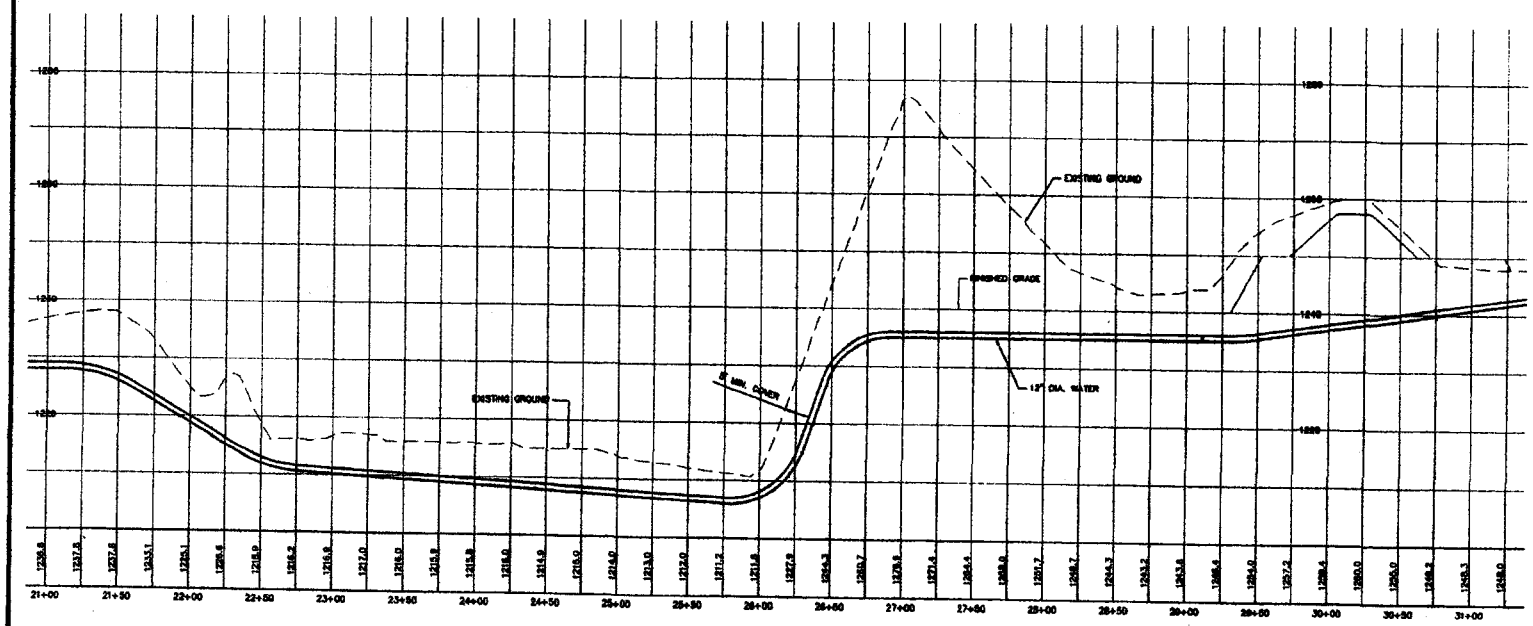
DESIGNED		REVISIONS	DATE / BY
DRAWN	MAC		
APPROVED	DNA		
DATE	8-8-05		

1 800 STAKE-IT
1 800 782-5348

SHEET 20 OF 20

FILE 6078
BOX 83 TUBE 05





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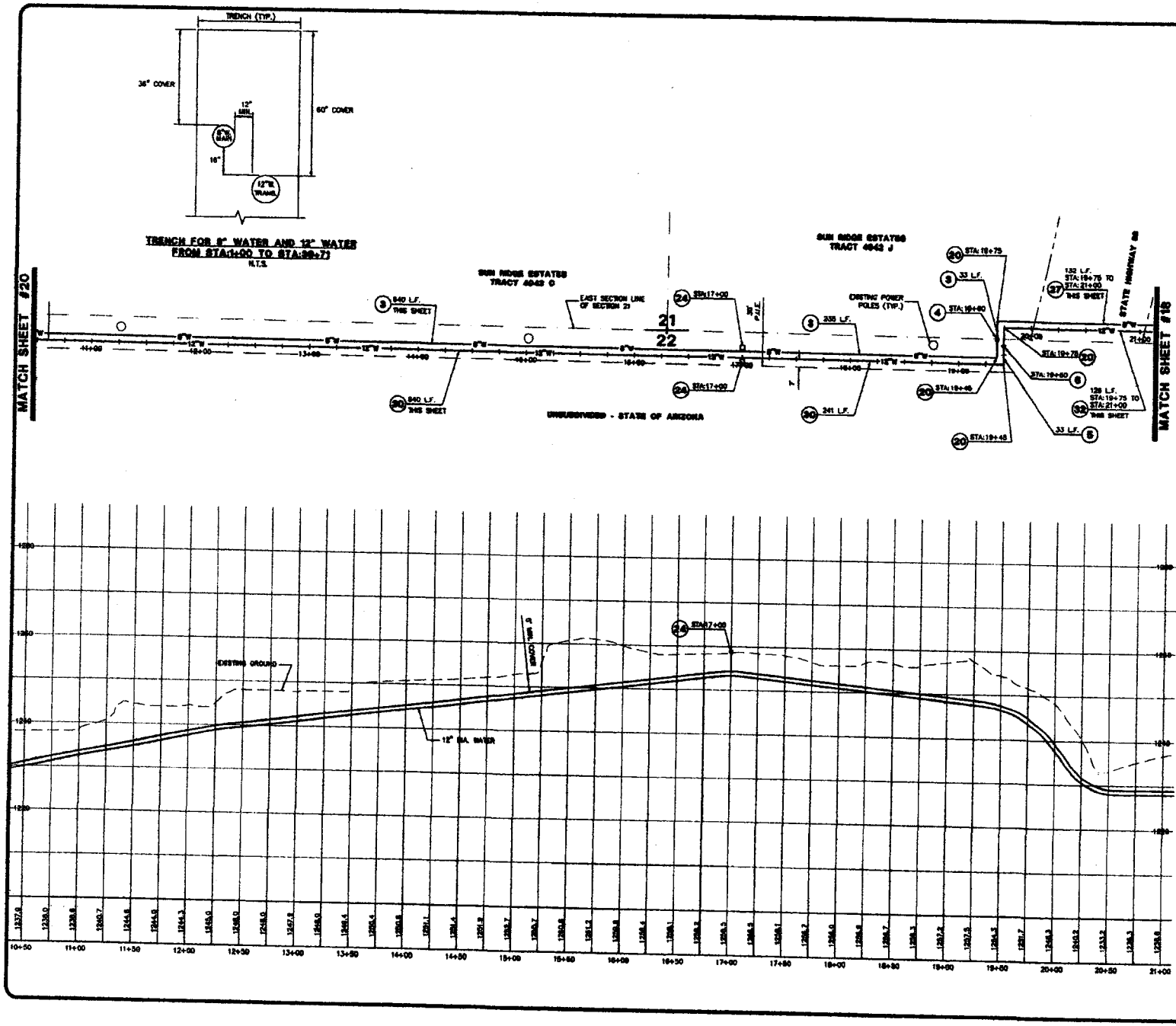
WATER PLAN

DESIGNED	MAC	REVISIONS	DATE	BY
DRAWN	DMA			
APPROVED				
DATE	8-8-05			

1 800 STAKE-IT
1 800 782-5348

SHEET 18 OF 20

FILE 6078
BOX 61 7888 05



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Bullhead City, AZ (928) 704-4977

WATER PLAN

DESIGNED	DRAWN	APPROVED	DATE
MAC	DNA	8-8-05	

1 800 STAKE-IT
1 800 782-5348

SHEET 19 OF 20

PILE 6075
BOX 83 TUBE 05

NORTH MOHAVE VALLEY CORPORATION
SECTIONS 31, 32 & 33 WATERLINE EXTENSION

DOCKET # W-02259A-07-0434

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS PUBLISHED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS AS ADOPTED BY THE CITY OF BULLHEAD CITY.
2. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEERING DEPARTMENT AT LEAST 48 HOURS IN ADVANCE OF ANY CONSTRUCTION.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS FOR TRAFFIC CONTROL AND BARRICADING AS PER THE CITY OF BULLHEAD CITY TRAFFIC BARRICADE MANUAL.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO COMMENCING EXCAVATION.
6. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION AND DIRT MOVING PERMIT FROM THE CITY OF BULLHEAD CITY AND COMPLY WITH ALL REQUIREMENTS THEREIN.

ENGINEER'S NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE DRAWINGS, ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE DRAWINGS. AND WE ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OR THEIR DEPICTED LOCATION ON THESE DRAWINGS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN, AND ALL OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE DRAWINGS BY VERIFICATION OF THEIR LOCATION IN THE FIELD PRIOR TO THE INITIATION OF THE ACTUAL PORTION OF THEIR WORK ATTRIBUTED TO THEIR LOCATION. THE QUANTITIES SHOWN ON THESE PLANS ARE FOR INFORMATION PURPOSES ONLY, AND ARE NOT TO BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.

SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND CONTINUALLY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE duty OF THE ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON NEAR THE CONSTRUCTION SITE.

BENCHMARK

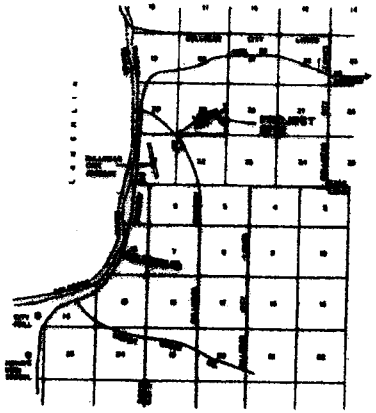
N.W. CORNER OF SECTION 33, T. 21 N., R.21 W., BRASS CAP IN HANDHOLE
ELEV. = 682.26 DATUM A.D.O.T. (U.S.G.S.)

DATUM ADJUSTMENT

DATUM SHOWN FOR THIS PROJECT MINUS 2.74 FEET ('-2.74') EQUALS DATUM ESTABLISHED BY A-N MOBT, INC. FOR BULLHEAD FREEWAY IMPROVEMENT PLANS.

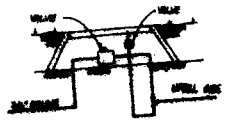
UTILITIES

NORTH MOHAVE VALLEY WATER CORP.	763-5695
BULLHEAD SANITARY DISTRICT	758-9909
MOHAVE ELECTRIC COOPERATIVE	763-4115
SOUTHWEST GAS COMPANY	754-2364
CITIZENS UTILITIES COMPANY	763-0423
DISCOVISION CABLE SERVICES	758-4884



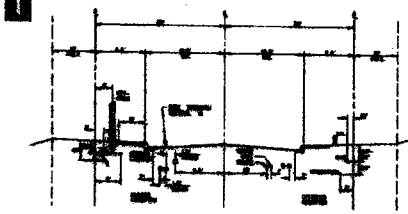
VICINITY MAP

NOT TO SCALE



TEE & DRAIN LINE WITH 3/4 INCH BRASS VALVE ON ALL UPHILL SIDES OF THE BLOCK VALVE IN AIRLINE TO DRAIN WATER. IF VALVE IS IN LOW POINT, DRAIN VALVES WILL BE REQUIRED ON ALL SIDES OF BLOCK VALVES. THE 16 MS MUSTS BELOW BOTTOM OF AIRLINE.

AIRLINE VALVE ASSEMBLY



UTILITY LOCATION - DETAIL "B"

WATER NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT M.A.G. SPECIFICATIONS AND B.A.G. STANDARD DETAILS, AS ADOPTED BY THE CITY OF BULLHEAD CITY.
2. THE CONTRACTOR SHALL UNCOVER ALL EXISTING LINES WHICH THEY THINK TO CONFLICT WITH LOCATION. THE CONTRACTOR SHALL INFORM IN WRITING ALL AGENCIES (GAS, TELEPHONE, PIPELINE, ETC.) AND [illegible] OF CONFLICTS AND WILL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
3. LOCATION OF ALL VALVES MUST BE REFERENCED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL HAVE SUFFICIENT EQUIPMENT OF GOOD ACCEPTABLE FOR MAINTAINING DUST CONTROL, AND WHEN ORDERED, DONE AS DIRECTED BY THE CITY ENGINEER.
5. THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADE FOR CLEANING TRENCH AND/OR OTHER EQUIPMENT OF ANY TYPE TO PROVIDE PUBLIC SAFETY, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, ALLEY DUST, AND TRAFFIC HAZARDS CAUSED BY THEIR WORK THAT ARE NECESSARY TO A LEVEL, DEEM AND DUST FREE CONDITION OF ALL TIMES.
6. WHEN WATER PIPE AND SEWER PIPE ARE LAID PARALLEL TO EACH OTHER, THE HORIZONTAL SEPARATION BETWEEN THE PIPE SHALL BE AT LEAST ONE (1) FOOT. THE PIPE SHALL BE LAID IN A SEPARATE TRENCH OR ON THE SIDE OF TRENCH WITH CONTRACTED FIELD.
7. ALL VALVES AND FITTINGS MUST CONFORM TO A.W.W.A. OR A.S.T.M. STANDARDS.
8. PVC PIPE USED FOR FOUNDLE USE MUST BE NOT REFERENCE (MUST-PV SEAL.)
9. AIR AND VACUUM RELIEF VALVES ARE REQUIRED AT WATER SYSTEM HIGH POINTS.
10. MINIMUM DEPTH OF COVER OVER WATER LINE IS FOUR FEET.
11. PRESSURE RELIEF VALVES ARE REQUIRED IF PRESSURE EXCEEDS 100 PSI.
12. ALL WATER LINES MUST BE DISINFECTED PER BULLETIN 8 OF A.W.W.A. C651-92.
13. PRESSURE TESTING OF WATER LINES TO CONFORM WITH A.W.W.A. C604 OR B.A.G. SPEC. SPECIFICATION 530-10.
14. WATER/SEWER SEPARATION MUST CONFORM TO R18-9-B11 (LATEST REVISION.)
15. CONTRACTOR PERFORMING EXCAVATION OPERATIONS IS RESPONSIBLE FOR LOCATION AND PROTECTION OF ALL UNDERGROUND UTILITIES.
16. THE CONTRACTOR IS TO CONTACT THE ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT OR DISCREPANCY IS FOUND IN THESE PLANS.
17. CONTINUOUS COLOR COATED TAPE TO BE UNBRAND ON EACH LINE.
18. 3/4 INCH SCHEDULE 40 INTERMEDIATE AIRLINE SHALL HAVE BRASS GATE VALVES INSTALLED EVERY 1000 FT. OF LINE. SEE DETAIL THIS SHEET.
19. PROCEDURES 3/4 INCH AIRLINE TO 125 PSIG BEFORE A CHANGED INSTALLATION, ASSEMBLE 1000 FEET AT A TIME WITH A GAUGE AND STOPPING. AIRLINE PUMP HELD WITHIN 5 PSIG OF THEIR PRESSURE FOR A 24 HOUR PERIOD.

NOTE

THE ENGINEER CERTIFIES THAT HE HAS CONTACTED ALL INTERSECTED UTILITY COMPANIES AND HAS TRANSFERRED ALL EXISTING AND OR PROPOSED UTILITY LINES AND RELATED INFORMATION ONTO THESE PLANS, AND THAT HE HAS CORRECTLY PLOTTED THE EXISTING AND PROPOSED U/G TEL COMPANY LINES.

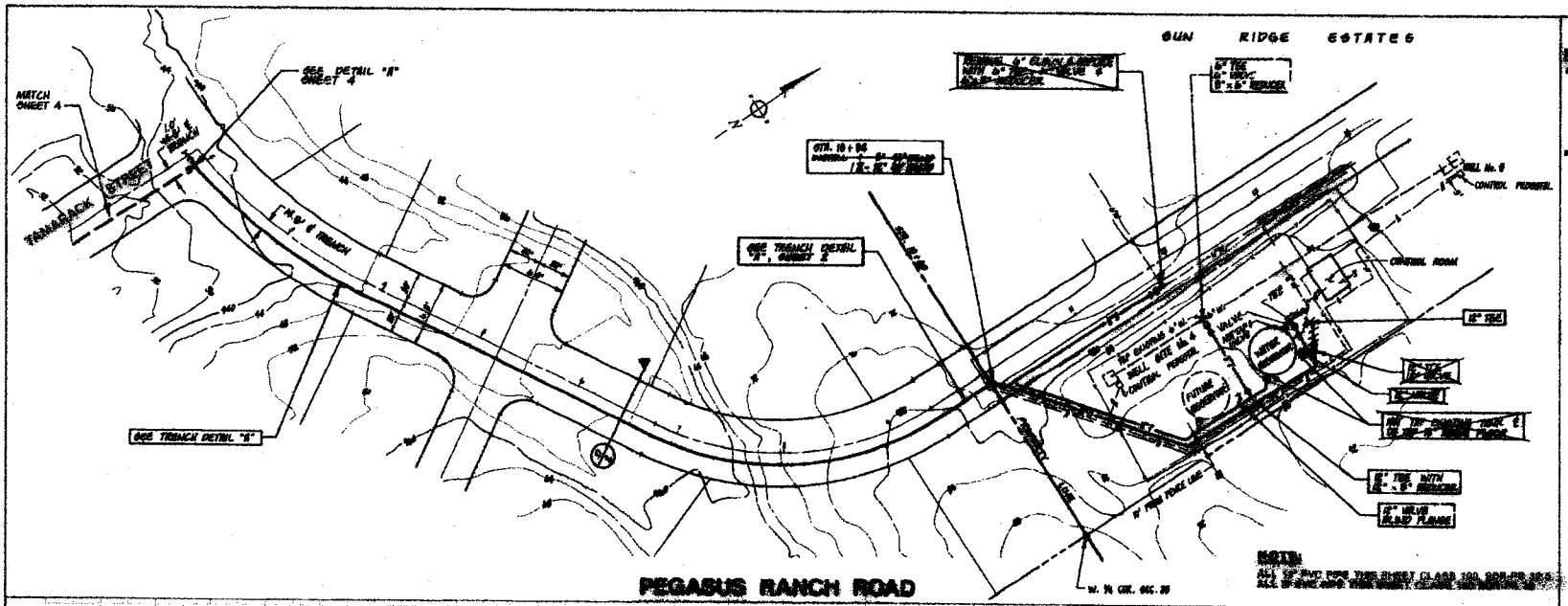
AS-BUILT CERTIFICATION

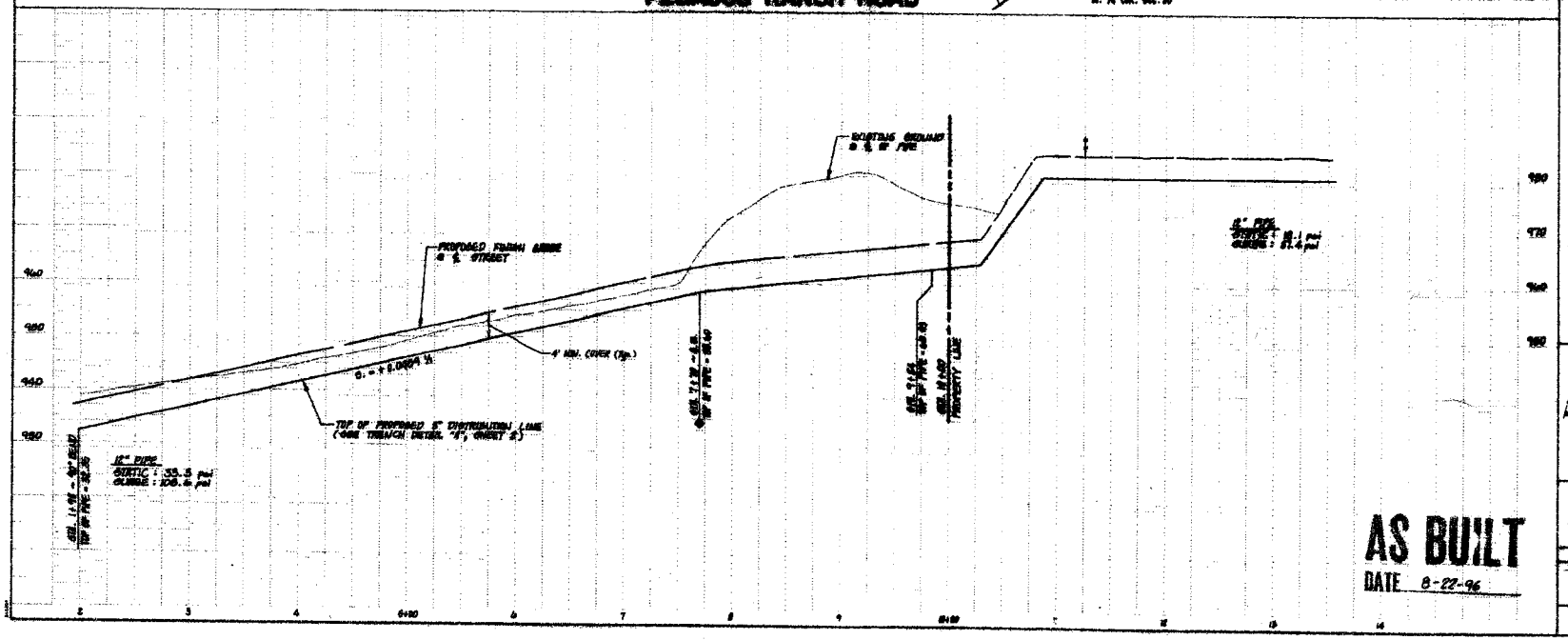
I HEREBY CERTIFY THAT THE "AS-BUILT" INFORMATION SHOWN HEREON WAS OBTAINED UNDER MY DIRECT SUPERVISION AND IS CORRECT AND CONFORMS TO THE BEST OF MY KNOWLEDGE AND BELIEF.

8-07-96

AS BUILT
DATE 8-07-96

ANDERSON-SHELTON, INC.
CIVIL ENGINEERS
LAND SURVEYORS
4441 E. Hollywood Blvd., Suite 1, Bullhead City, Arizona 86442





NOTES:

8) 3/8" AIRLINE SHALL BE EXTENDED TO THE FOLLOWING LOCATIONS:

1) WELL NO. 5.
2) EAST SIDE OF CONTROL ROOM NORTH SIDE OF GARAGE DOOR.
3) TEE & GO TO WELL NO. 4.
4) AIRLINE AT WELL SITES TO TERMINATE CENTER OF AND ALONG SOUTH SIDE OF WELL PLAN.

9) CONTROL CABLE TO GO TO S.E. CORNER OF CONTROL ROOM. 2 EXISTING 2 INCH SWEEPS ARE LOCATED. NEED MINIMUM 10 FEET OF CONTROL CABLE INSIDE BUILDING FROM SHEET UP. 2 CABLES: 1 - 150 PAIR
1 - 100 PAIR

NOTE:
BEFORE ANY CONSTRUCTION AND/OR TIE IN IS COMMENCED WITHIN WELL AND TANK SITE 1 ALL EXISTING LINES & FACILITIES SHALL BE LOCATED AND IDENTIFIED.

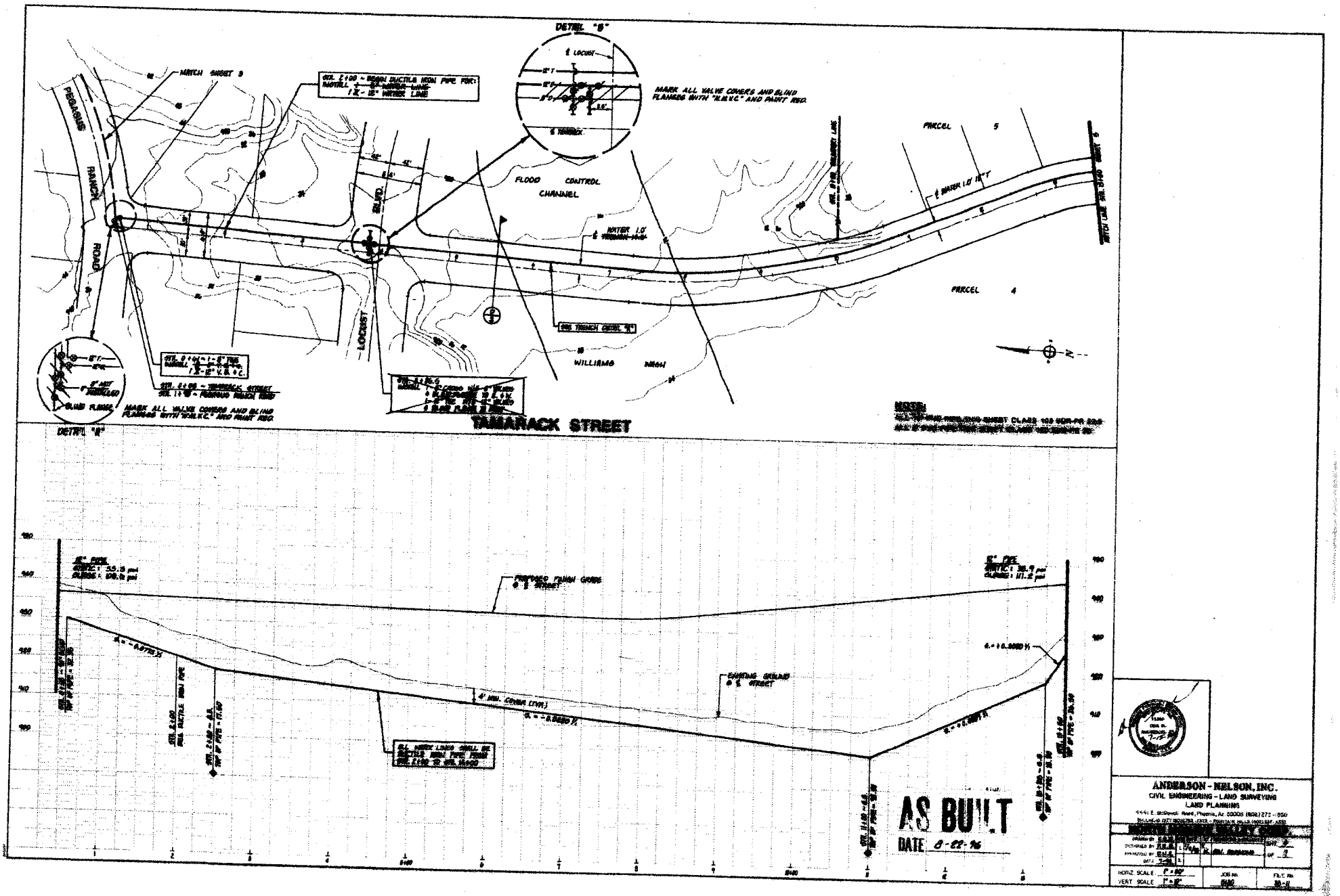
BEWARE OF BURIED POWER & CONTROL CABLES IN THIS AREA.

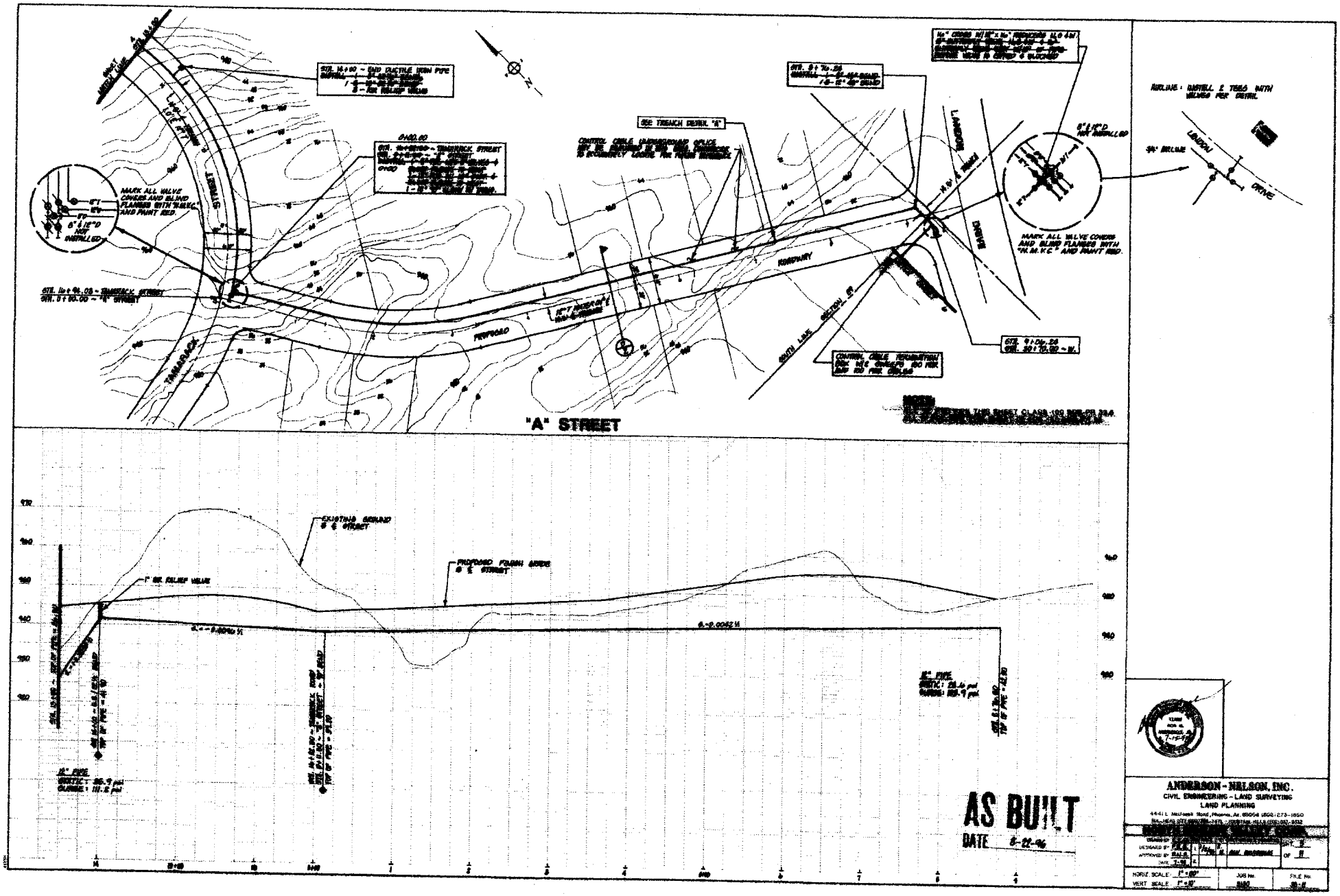
NOTE:
[illegible] CALCULATOR BASED [illegible]

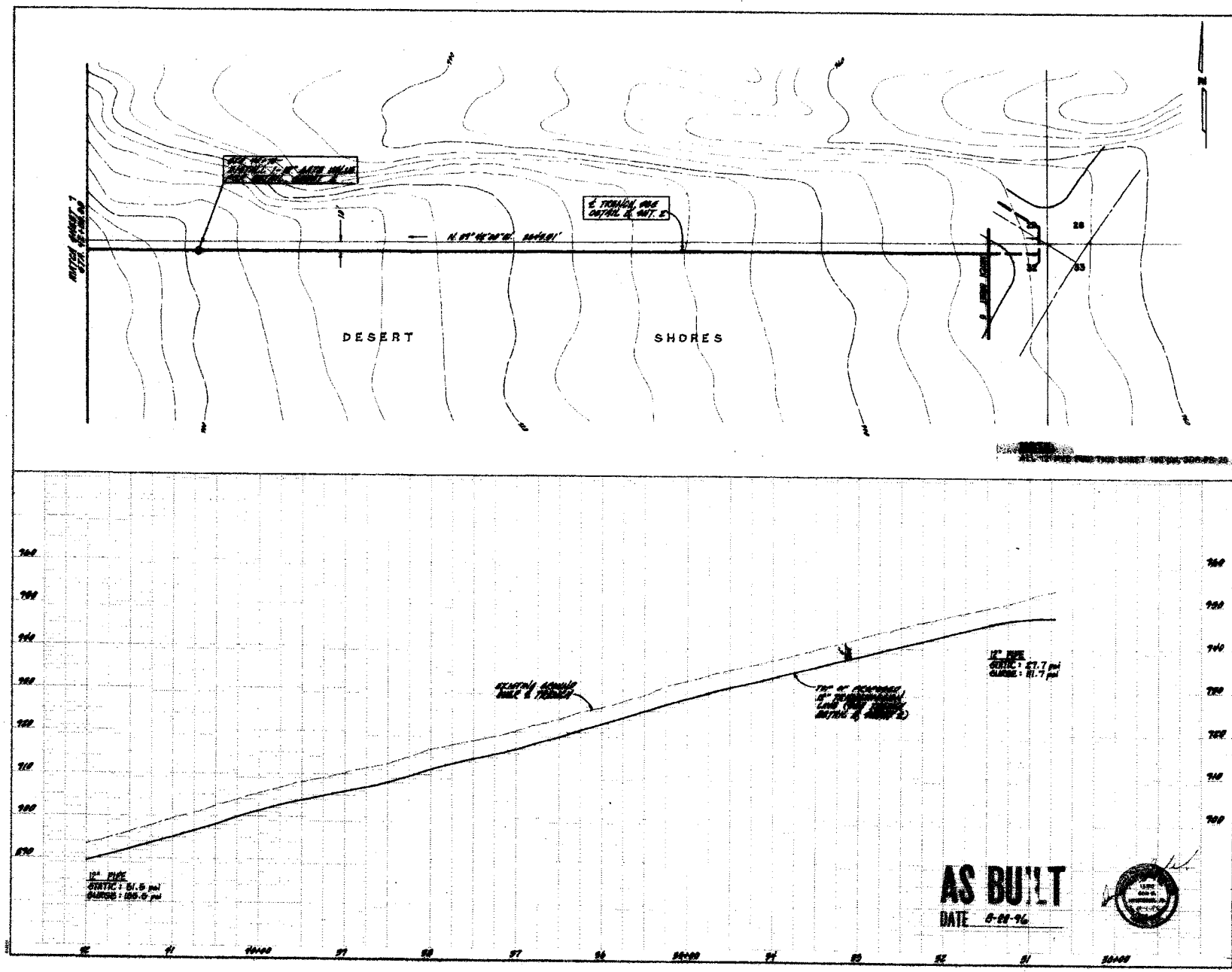
AS BUILT
DATE 8-22-96

ANDERSON - NELSON, INC.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING
4441 E. McDowell Road, Phoenix, Az. 85008 (602) 273-1850
[illegible]

DRAWN BY [illegible]			SHT. 3
DESIGNED BY [illegible]			OF 11
APPROVED BY [illegible]			
DATE 7-96			
HORIZ. SCALE: 1" = 50'	JOB No. [illegible]	FILE No. [illegible]	
VERT. SCALE: 1" = 10'			


DETAIL "B"
MARK ALL VALVE COVERS AND BLIND FLANGES WITH "W.M.V.C." AND PAINT RED.
MATCH SHEET 3
PEGASUS RANCH ROAD
FLOOD CONTROL CHANNEL
LOCUST
BLVD.
PARCEL 5
PARCEL 4
WILLIAMS MESA
TAMARACK STREET
DETAIL "A"
PROPOSED FINISH GRADE @ ℄ STREET
EXISTING GROUND @ ℄ STREET
AS BUILT
DATE 8-22-96
ANDERSON - NELSON, INC.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING
HORIZ. SCALE 1" = 60'
VERT. SCALE 1" = 12'
JOB No.
FILE No.


"A" STREET
TAMARACK
STREET
PROPOSED
KOADWAY
LANDON
DRIVE
SEE TRENCH DETAIL "A"
MARK ALL VALVE COVERS AND BLIND FLANGES WITH "N.M.V.C." AND PAINT RED.
AIRLINE: INSTALL 2 TEES WITH VALVES PER DETAIL
EXISTING GROUND @ ℄ STREET
PROPOSED FINISH GRADE @ ℄ STREET
1" AIR RELIEF VALVE
12" PIPE
AS BUILT
DATE 8-22-96
ANDERSON - NELSON, INC.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING
HORIZ. SCALE: 1" = 60'
VERT. SCALE: 1" = 10'
JOB No.
FILE No.



ANDERSON - NELSON, INC.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING