ORIGINAL

0000144404

VAIL WATER

VAIL WATER COMPANY
1010 N Finance Center Dr., Suite 200, Tucson, AZ 85710

April 16, 2013

Docket Control Center
Arizona Corporation Commission
1200 West Washington
Phoenix, AZ 85007-2996

RE: Docket No. W-01651B-99-0351/Decision No. 62450
Docket No. W-01651B-99-0406/Decision No. 73218

This letter is in response to compliance action for submittal of Vail Water Company's deadline to file final plans for the direct use of CAP water in its service area by June 30, 2013.

If you have any questions please do not hesitate to contact me at (520) 571-1958, extension 7105 or via fax at (520) 571-1961.

Sincerely,

Christopher T. Volpe
Vice President

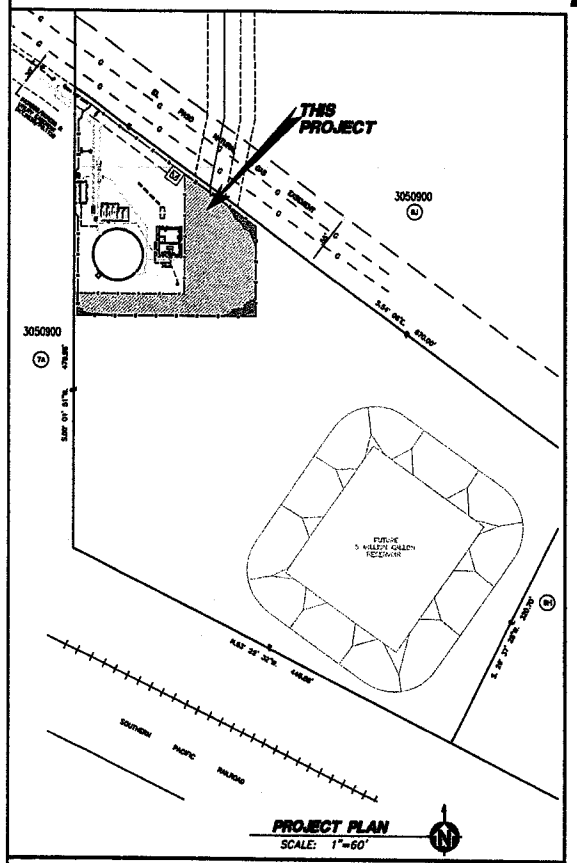
Enclosures

Arizona Corporation Commission
DOCKETED
APR 18 2013
DOCKETED BY

RECEIVED
2013 APR 18 A 8: 55
AZ CORP COMMISSION
DOCKET CONTROL

ACC CAP Pipeline Plans cover letter

OLD VAIL ROAD
"G" TO VAIL WATER "I" ZONE
BOOSTER STATION



PROJECT PLAN
SCALE: 1"=60'

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET AND LOCATION PLAN
2	SITE, GRADING, AND FENCING PLAN
3	MECHANICAL PLAN
4	BOOSTER PUMP PAD DETAILS
5	MECHANICAL DETAILS SHEET 1
6	MECHANICAL DETAILS SHEET 2
7	PIPE PROFILES
8	5000 GALLON HYDROPNEUMATIC TANK
9	HYDRO TANK ACCESSORIES
10	ELECTRICAL CONTROL CENTER (ECC) PANEL RACK AND SHADE STRUCTURE DETAILS
11	ELECTRICAL SITE PLAN
12	ELECTRICAL SCHEDULE
13	SINGLE LINE ELECTRICAL DIAGRAM
14	ELECTRICAL SCHEMATIC
15	ELECTRICAL DETAILS
16	ANTENNA INSTALLATION AND RADIO CABINET DETAILS
17	STATION CONTROL PANEL FIELD WIRING TERMINATIONS
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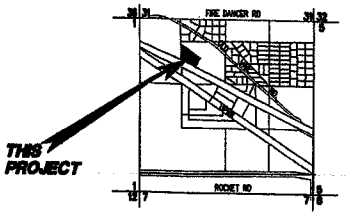
19	MECHANICAL & ELECTRICAL AS-BUILT DATA SHEET 1
20	MECHANICAL & ELECTRICAL AS-BUILT DATA SHEET 2

GENERAL NOTES:

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE TUCSON WATER STANDARD SPECIFICATIONS AND DETAILS, EXCEPT WHERE NOTED.
2. SECURITY OF SITE SHALL BE MAINTAINED THROUGHOUT THE PERIOD OF CONSTRUCTION.
3. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZING THEMSELVES WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID FOR THE PROJECT.
4. CAUTION MUST BE EXERCISED DURING CONSTRUCTION DUE TO THE PRESENCE OF EXISTING UNDERGROUND UTILITIES. LOCATION AND NUMBER SHOWN ON PLANS ARE APPROXIMATE AND FIELD VERIFICATION SHALL BE USED AS NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE AND AT THEIR EXPENSE, FOR RESTORING ANY DAMAGE (CAUSED BY THE CONSTRUCTION PROCESS)TO EXISTING UTILITIES, STRUCTURES, EQUIPMENT, LANDSCAPING AND WATERLINES. REPAIRS SHALL BE MADE TO THE FIELD ENGINEER'S SATISFACTION.
5. PRIOR TO FABRICATION OF ANY BELOW GROUND PIPE, THE CONTRACTOR SHALL POTHOLE & VERIFY THE LOCATION AND INVERT ELEVATIONS OF ALL PIPING AND VALVES TO BE CONNECTED TO. LOCATIONS OF EXISTING PIPE AND VALVES SHOWN ARE APPROXIMATE.
6. THE CONTRACTOR IS REQUIRED TO CONTACT "BLUE STAKE" PRIOR TO ANY EXCAVATION TO DETERMINE ACCURATE UTILITY LOCATIONS.
7. CONTRACTOR SHALL REMOVE ALL EXCESS EXCAVATED MATERIAL, CONSTRUCTION DEBRIS, AND GRUBBED VEGETATION FROM SITE AND LEGALLY DISPOSE OF THESE MATERIALS OFF SITE. COST OF SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACTOR'S UNIT PRICE FOR THE PROJECT.
8. CONTRACTOR TO PROVIDE EROSION CONTROL AND STORM WATER POLLUTION PREVENTION FEATURES DURING CONSTRUCTION. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACTOR'S UNIT PRICES FOR THE PROJECT.
9. FOR ANY TECHNICAL QUESTIONS, CONTACT JIM MESKAN AT 837-2194. REGARDING ELECTRICAL AND CONTROL CONTACT FRANK YOURISON AT 837-2197.



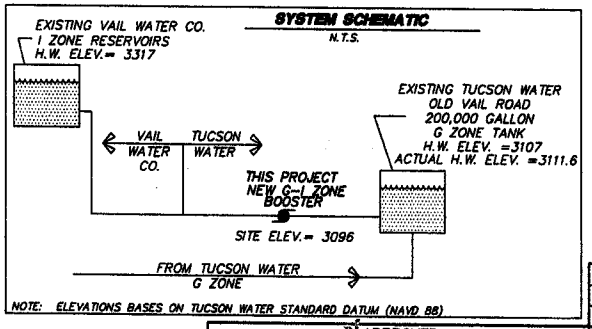
SITE LOCATION PLAN
N.T.S.
NW 1/4 SEC. 6, T.16S., R.16E.
G.&S.R.B.&M., PIMA COUNTY, AZ.

ADDRESS: 11210 E. OLD VAIL ROAD

LATITUDE & LONGITUDE
LATITUDE: 32° 4' 21"
LONGITUDE: 110° 45' 11"
PIMA COUNTY DATUM
PIMA COUNTY DISTRICT #4

INSPECTOR'S COPY
INSPCT. ____
CONTR. ____
START ____ FINAL ____
PIPE ____ SIZE ____ PIECE ____ PVC ____
END LINE MAT ____
S.P.N. ____
GATES ____
F.N.I.S. ____ ____ ____
MAGNETIC TAPE INST ☐ ☐
REBAR PENIOS INST ☐ ☐
ZONE ____ PSI ____
MAPPING INFO
1"=200' ____ ON ____
1"=600' ____ ON ____
checked ____ date ____
All valves were installed per plan.
Signature ____
Date ____

SYSTEM SCHEMATIC
N.T.S.



NOTE: ELEVATIONS BASES ON TUCSON WATER STANDARD DATUM (NAVD 88)

PUMP & MOTOR REQUIREMENTS

	PUMP #1	PUMP #2	PUMP #3
DESIGN CAPACITY @ 1770 RPM (GPM)	960	960	FUTURE
DESIGN T.D.H. (PUMP LIFT IN FEET)	243	243	FUTURE
MINIMUM SHUT OFF HEAD @ 1760 RPM (FT)	286	286	FUTURE
VOLTAGE	460	460	460
PHASE	3	3	3
HORSEPOWER	75	75	75

PLAN REFERENCE

DOCUMENT NO.	NAME
PN 71-1998	OLD VAIL ROAD "G" ZONE TANK
PN 96-2008	OLD VAIL ROAD "G-H" ZONE BOOSTER STATION

BOOSTER ON/OFF SETTINGS

PUMP NO.	ON		OFF	
	PSI	FT	PSI	FT
1	95	220	114	264
2	95	220	115	267
3	FUTURE		FUTURE	

You notify one call before you dig
CALL FOR THE ELEVATIONS
1-800-782-5348
1-800-STAKE IT
Blue Stake Center

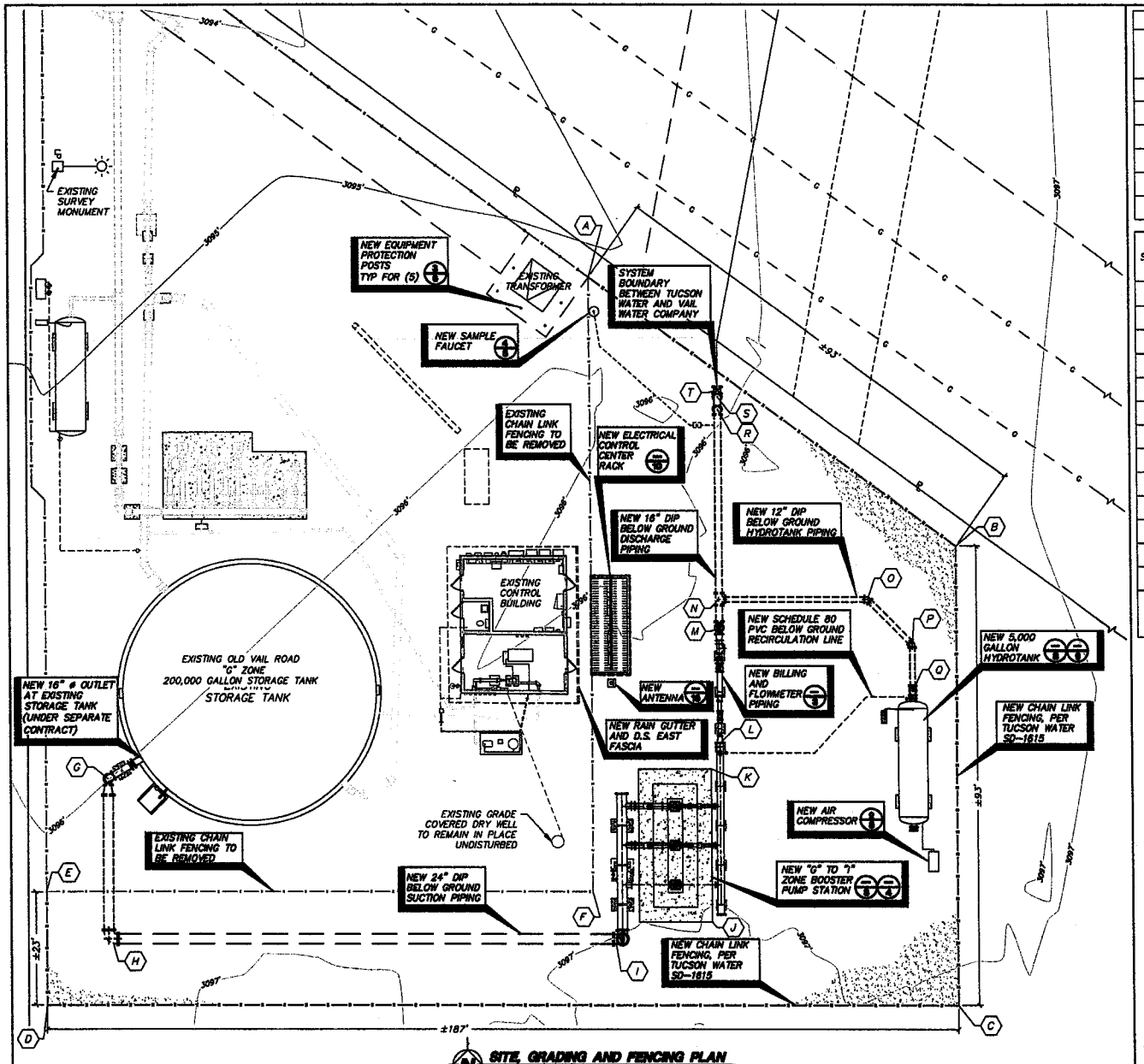
PRELIMINARY
NOT FOR CONSTRUCTION
TUCSON WATER

APPROVED:
PLANNING & ENGINEERING ADMINISTRATOR ____ DATE ____
DEPUTY DIRECTOR ____ DATE ____

NO.	BY	DATE	REVISION	APPR.	DATE

CITY OF TUCSON
OLD VAIL ROAD "G" TO VAIL WATER "I" ZONE BOOSTER STATION
COVER SHEET AND LOCATION PLAN

DESIGNED BY J. MESKAN	DATE 12/12	NO. REF. 1442012-01	SHEET 1 OF 20
DRAWN BY L. SPITZER	DATE 12/12	SCALE: AS NOTED	
REVIEWED BY M. SANDERS	DATE 12/12	PLAN NO. 9-144-2012	



SITE, GRADING AND FENCING PLAN
SCALE: 1"=10'

COORDINATE TABLE

SYMBOL	NORTHING	EASTING	EXISTING GROUND ELEVATION	DESCRIPTION
A	9110.735	11306.073	3095.310	NW CONNECTION BETWEEN NEW FENCE AND EXISTING FENCE
B	9058.376	11381.132	3096.610	NE CORNER NEW FENCE
C	8983.281	11380.969	3097.050	SE CORNER NEW FENCE
D	8983.281	11194.086	3096.520	SW CORNER NEW FENCE
E	8986.281	11194.086	3096.130	CONNECTION BETWEEN NW CORNER OF NEW FENCE AND EXISTING FENCE
F	8986.305	11306.087	3096.600	SE CORNER OF EXISTING FENCE

SYMBOL	NORTHING	EASTING	DESCRIPTION
G	9009.161	11206.671	START OF BELOW GROUND (B.G.) PIPING THIS PROJECT, STA. 0+7.99, SHEET 7
H	8976.667	11206.671	B.G. 24"x90° HORIZ. BEND, STA. 0+40.49, SHEET 7
I	8976.667	11312.087	B.G. 24"x90° VERT. BEND, STA. 1+45.90, SHEET 7
J	8980.166	11330.592	SE CORNER BOOSTER PUMP PAD
K	9011.166	11330.592	NE CORNER BOOSTER PUMP PAD
L	9016.386	11332.428	16"x8" ECCENTRIC REDUCER
M	9039.783	11332.428	B.G. 16"x90° VERT. BEND, STA. 10+00, SHEET 7
N	9045.544	11332.428	B.G. 16"x12" TEE, STA. 10+5.76, SHEET 7
O	9045.544	11362.985	B.G. 12"x45° HORIZ. BEND, (SOUTHEAST) STA. 20+30.56, SHEET 7
P	9036.474	11372.051	B.G. 12"x45° HORIZ. BEND, (SOUTH) STA. 20+43.38, SHEET 7
Q	9027.097	11372.051	B.G. 12"x90° VERT. BEND, STA. 20+52.76, SHEET 7
R	9084.033	11332.428	B.G. 16"x45° VERT. BEND, STA. 10+44.25, SHEET 7
S	9086.523	11332.428	B.G. 16"x45° VERT. BEND, STA. 10+46.74, SHEET 7
T	9087.849	11332.428	B.G. 16" GATE VALVE, B&C, D.I. BLIND FLANGE TO NORTH (IF VALVE EXISTS CONNECT TO EXISTING VALVE.) STA. 10+48.07, SHEET 7.

NOTES:

1. AREA WITHIN ENCLOSURE TO BE GRADED SMOOTH BETWEEN EXISTING ELEVATIONS AS NOTED IN THE COORDINATE TABLE ("A"–"F").
2. AREA OF NEW CONSTRUCTION SHALL BE GRADED TO UNDISTURBED EARTH OR FILLED AND COMPACTED TO 95% UNDER EQUIPMENT, 90% ELSEWHERE AS DETERMINED BY A.A.S.H.T.O. T-99, METHOD A.
3. AT COMPLETION OF PROJECT, NEW AREA WITHIN FENCED ENCLOSURE TO BE COVERED WITH GRAVEL PER SPECIFICATIONS.

BASIS OF BEARING:

DIRECTION BETWEEN FOUND MONUMENTS AT THE NORTHWEST CORNER OF THAT PARCEL DESCRIBED IN DOCKET 9865, PAGE 1683, AND THE INTERSECTION OF THE WEST LINE OF SAID PARCEL WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF THE UNION PACIFIC RAILROAD, ALL AS SHOWN ON RECORD OF SURVEY BOOK 38, PAGE 74 – S00°01'51"W.

BASIS OF ELEVATION:

THE BASIS OF ELEVATION IS A C.O.T. BENCHMARK 131C, FIELD BOOK 1989-C-1, PAGE 20 LEFT ("X" ON NORTH CORNER OF WEST HEADWALL BY 2ND UTILITY POLE NORTH OF OLD VAIL ROAD) – ELEVATION 3006.361 (NAVD 88).

NO.	BY	DATE	REVISION	APPR.	DATE

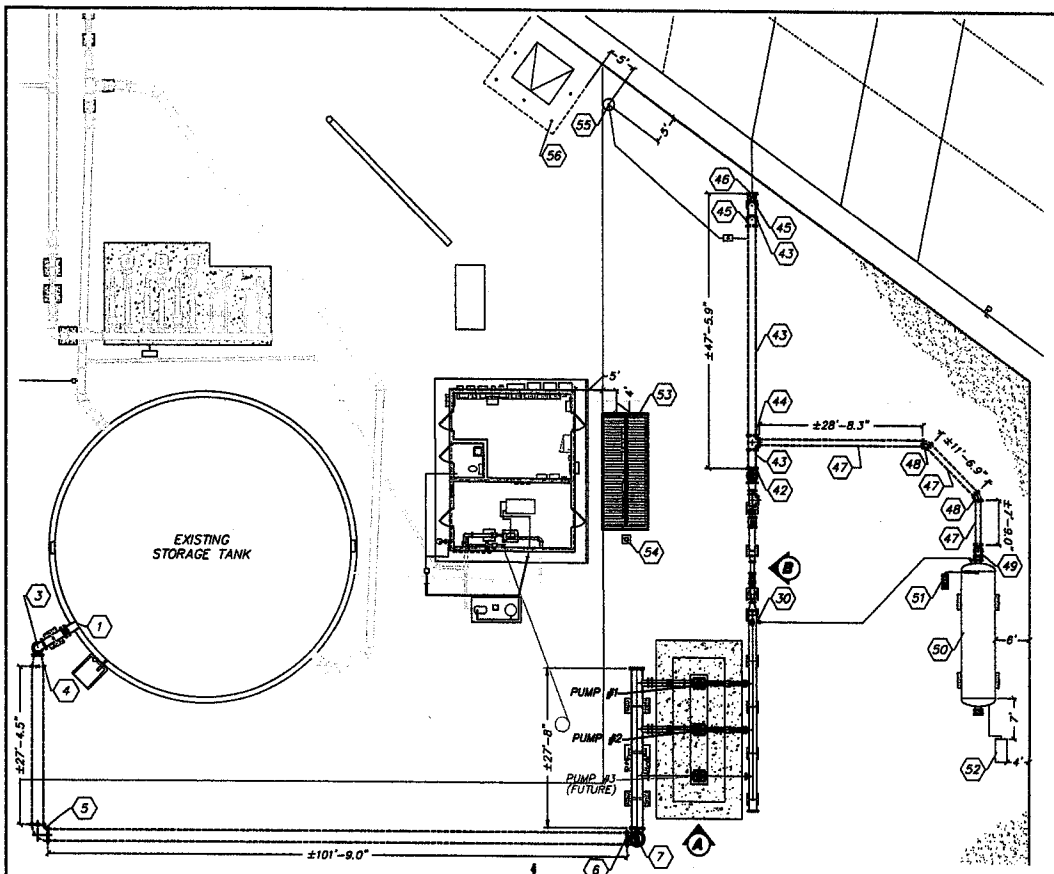
PRELIMINARY
NOT FOR CONSTRUCTION

TUCSON WATER

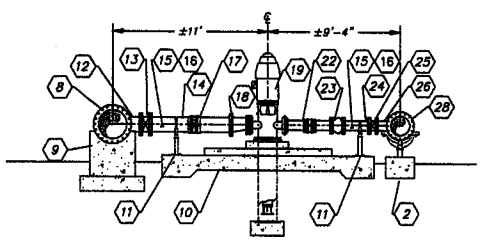
CITY OF TUCSON
OLD VAIL ROAD "G" TO VAIL WATER "I" ZONE BOOSTER STATION

SITE, GRADING AND FENCING PLAN

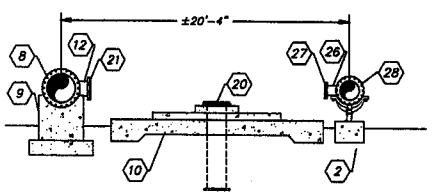
DESIGNED BY J. MESKAN	DATE 12/12	W.O. NO. 1443012-02	SHEET 2 OF 20
DRAWN BY L. SPITZER	DATE 12/12	SCALE: AS NOTED	
CHECKED BY M. SANDERS	DATE 12/12		DWG. NO. 9-144-2012



MECHANICAL PLAN
SCALE: 1"=10'



BOOSTER PUMPS 1 & 2

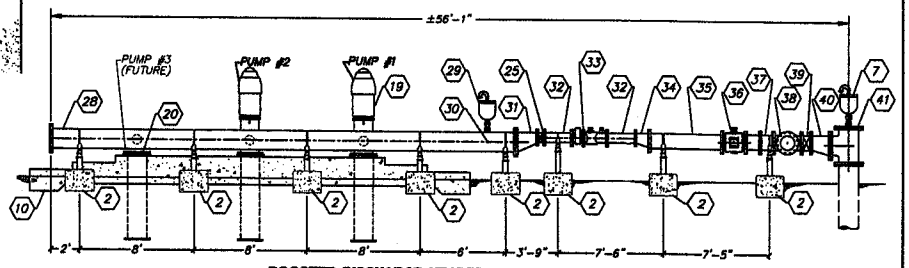


FUTURE BOOSTER PUMP 3

(A) SUCTION & DISCHARGE HEADER PROFILE
SCALE: 1"=4'

EQUIPMENT

1. UNDER SEPARATE CONTRACT:
   16" ø TAPPED OUTLET W/ 16" GATE VALVE
   16" FLANGED PIPE W/ PIPE SUPPORT
   BLIND FLANGE, SOUTHWEST
2. PIPE SADDLE SUPPORT (EARTH) (TYP. 8) — 1/6
3. 16"x90° VERT. BEND
   16" PIPE (LENGTH AS REQUIRED)
   16"x90° VERT. BEND, ROTATE AS REQUIRED
4. 16"x24" INCREASER
   24" D.I. PIPE
5. 24"x90° HORIZ. BEND
   24" D.I. PIPE
6. 24"x90° VERT. BEND
   24" VERT. PIPE (LENGTH AS REQUIRED) W/ F.I.K.
   24" VERT. TEE W/ TAPPED BLIND FLANGE
7. 2" COMBINATION AIR RELEASE VALVE (FLANGE MOUNTED) — 3/6
8. 24" SUCTION HEADER W/ BLIND FLANGE NORTH SEE SHEET 4 FOR LENGTH
9. 24" CONCRETE PIPE SUPPORT (TYP. 3) SEE SHEET 4 FOR SPACING — 6/6
10. BOOSTER PUMP PAD — —/4
11. PIPE SADDLE SUPPORT (CONCRETE) (TYP. 4) — 6/6
12. 12" OUTLET
13. 12" BUTTERFLY VALVE
14. 12" STANDARD STEEL SPOOL PIECE (S.S.S.P.)
15. 3/4" THRED-O-LET W/ 3/4" HOSE BIBB ON HORIZ ℄ — 3/6
16. 1/2" THRED-O-LET WITH PLUG ON HORIZ. ℄ (OPPOSITE SIDE)
17. 12" VICTAULIC DEPEND-O-LOK COUPLING
18. 12"x10" ECCENTRIC REDUCER
19. 16"ø SHORT SET "T" CAN WITH FABRICATED STEEL HEAD VERTICAL TURBINE PUMP ASSEMBLY
20. 16"ø SHORT SET "T" CAN W/ BLIND FLANGE TOP
21. 12" BLIND FLANGE (EAST)
22. 8" S.S.S.P. WITH VICTAULIC DEPEND-O-LOK COUPLING
23. 8" CHECK VALVE
24. 8" S.S.S.P.
25. 8" BUTTERFLY VALVE
26. 8" INLET
27. 8" BLIND FLANGE (WEST)
28. 16ø DISCHARGE HEADER
29. 2" COMBINATION AIR RELEASE VALVE (PIPE MOUNTED) — 1/6
30. RECIRCULATION ASSEMBLY — 7/6
31. 16"x8" ECCENTRIC REDUCER
32. 8" x 2' S.S.S.P. (MIN. 2-1/2x PIPE ø)
33. 8" OMNI T2 BILLING METER
34. 8"x12" ECCENTRIC INCREASER
35. 12"x5' S.S.S.P (MIN. 5x PIPE ø)
36. 12" MAGNETIC FLOWMETER
37. 12"x2' S.S.S.P. (MIN. 2x PIPE ø) WITH VICTULIC DEPEND-O-LOC COUPLING
38. 12" TEE (BLIND FLANGE EAST)
39. 12" BUTTERFLY VALVE
40. 12"x16" ECCENTRIC INCREASER
41. 16" VERT. TEE W/ TAPPED BLIND FLANGE
42. 16" VERT. PIPE (LENGTH AS REQUIRED) W/ F.I.K.
    16"x90° VERT. BEND
43. 16" D.I. PIPE
44. 16"x12" TEE (EAST)
45. 16"x45° VERT. BEND
46. 16" GATE VALVE B&C
47. 12" D.I. PIPE
48. 12"x45° HORIZ. BEND
49. 12"x90° VERT. BEND
    12" VERT. PIPE (LENGTH AS REQUIRED)
    12"x90° VERT. BEND
    12" GATE VALVE
50. 5,000 GALLON HYDROPNEUMATIC DISCHARGE TANK (250 PSI) — —/6
51. PRESSURE CONTROL ASSEMBLY BASE AND PEDESTAL — 3/16
52. AIR COMPRESSOR AND ENCLOSURE — 3/6
53. ELECTRICAL CONTROL CENTER RACK AND SHADE STRUCTURE — —/10
54. RADIO ANTENNA — —/16
55. SAMPLE FAUCET — 4/6
56. EQUIPMENT BARRIER (TYP. 5) — 3/6



(B) BOOSTER DISCHARGE HEADER AND FLOW METER PROFILE
SCALE: 1"=4'

PRELIMINARY
NOT FOR CONSTRUCTION

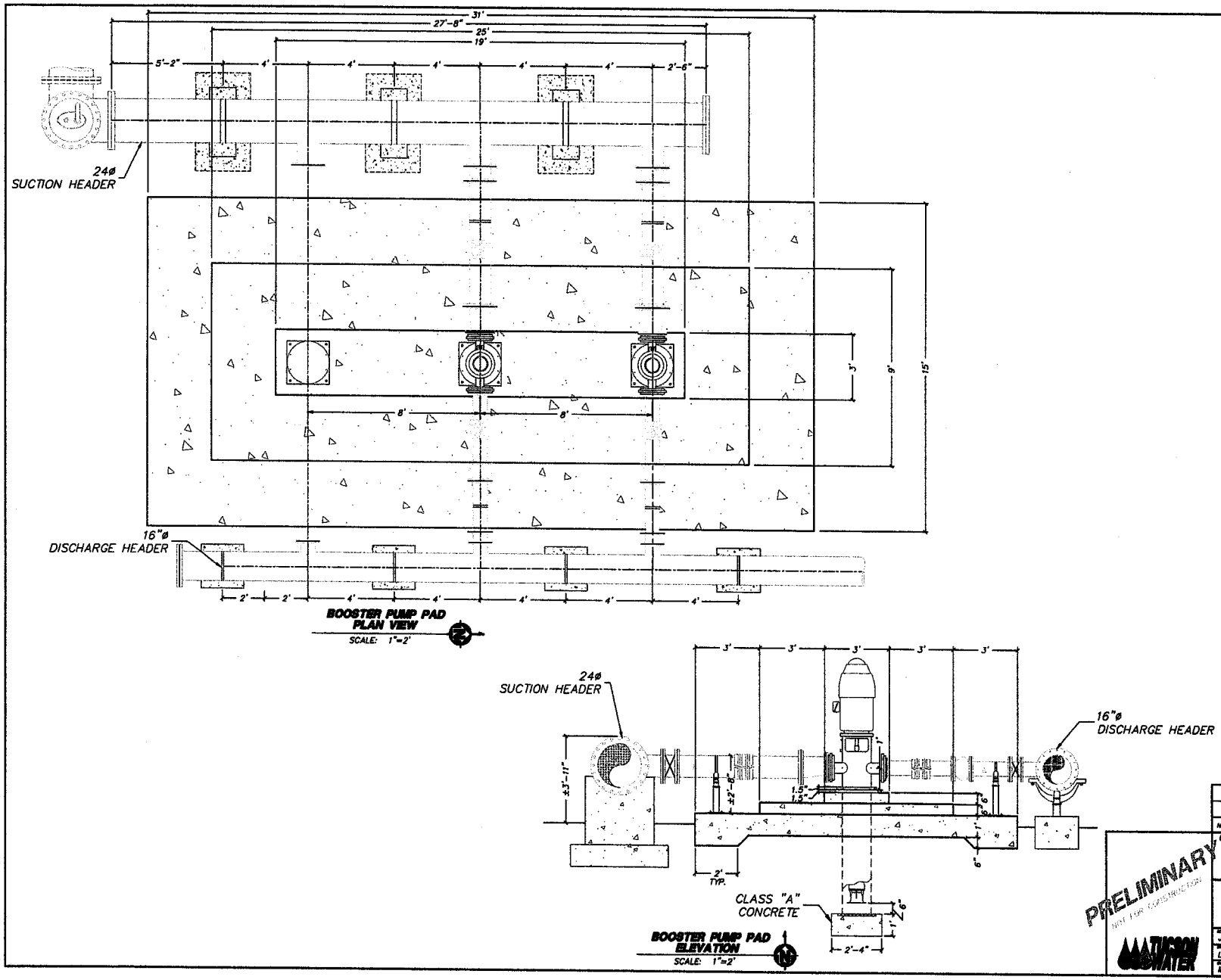
NO.	BY	DATE	REVISION	APPR.	DATE

TUCSON WATER

CITY OF TUCSON
OLD VAIL ROAD "G" TO VAIL WATER "T" ZONE BOOSTER STATION

MECHANICAL PLAN

DESIGNED BY J. MESKAN	DATE 12/12	CAD FILE NO. 1442012-03	SHEET 3 OF 20
DRAWN BY L. SPITZER	DATE 12/12	SCALE:	
REVIEWED BY M. SANDERS	DATE 12/12		PLAN NO. 9-144-2012



NO.	BY	DATE	REVISION	APPR.	DATE

CITY OF TUCSON

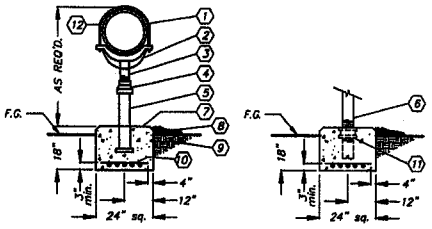
OLD VAIL ROAD
"G" TO VAIL WATER "I" ZONE
BOOSTER STATION

BOOSTER PUMP PAD
DETAILS

PRELIMINARY
NOT FOR CONSTRUCTION

TUCSON WATER

DESIGNED BY J. MESKAN	DATE 12/12	DWG FILE NO. 1442012-04	SHEET 4 OF 20
DRAWN BY L. SPITZER	DATE 12/12	SCALE: AS NOTED	
CHECKED BY M. SANDERS	DATE 12/12		PLAN NO. 9-144-2012



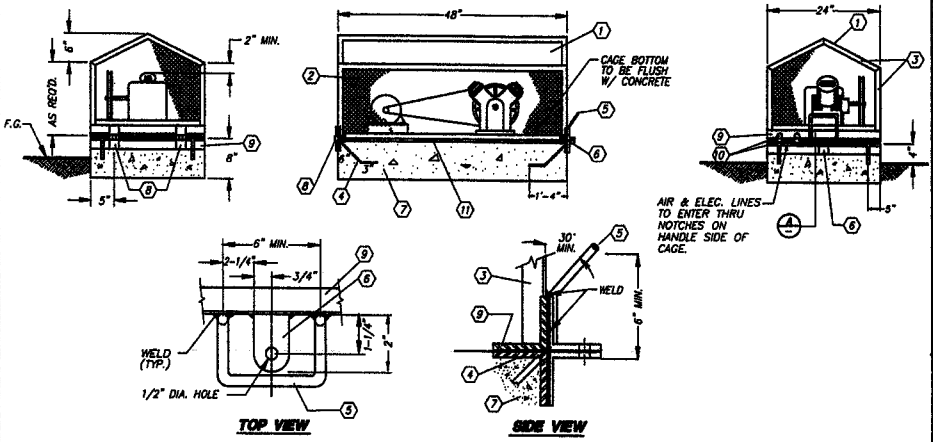
EQUIPMENT

1---STANDARD STEEL PIPE
2---CAST IRON SADDLE
3---STAKED LOCKNUT NIPPLE
4---SPECIAL REDUCER
5---4"ø RISER PIPE
6---4"ø RISER PIPE (THREAD ON BOTTOM PER NPT)
7---CLASS "B" CONCRETE
8---2" LAYER OF GRAVEL (EXIST./NEW)
9---UNDISTURBED SOIL OR 95% MINIMUM COMPACTION.
10---4 X 4--W2.9/W2.9 WWF OR 5--#3 RE-BARS @ 4" O.C., BOTH WAYS.
11---IMBED 3" GALV. COUPLING & 3"ø x 8" GALV. PIPE (THREAD ON TOP PER NPT)
12--STEEL YOKE WITH STEEL NUTS

NOTES:

1. "ANVIL" ADJUSTABLE PIPE STANCHION SADDLE, FIG. 259 OR EQUAL, W/ LOCKNUT NIPPLE FOR VERTICAL ADJUSTMENT.
2. HORIZONTAL CONCRETE SURFACES SHALL BE FORMED WITH 3/4" CHAMFER.

1 PIPE SADDLE SUPPORT
NOT TO SCALE

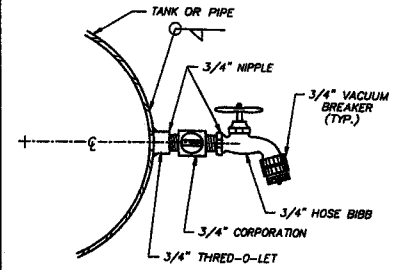


A DETAIL
NOT TO SCALE

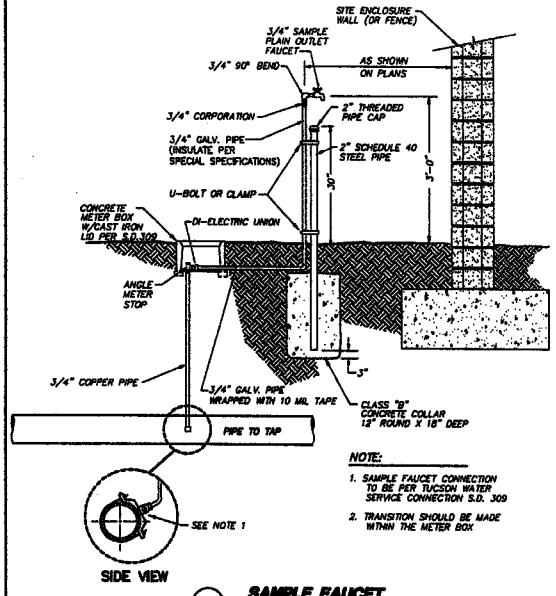
EQUIPMENT

1-- 1/16" STEEL PLATE
2-- 1/2"X13 GA. FLATTENED EXPANDED METAL
3-- 1"X1"X1/8" ANGLE IRON THROUGHOUT
4-- 2"X2"X1/4" ANGLE IRON (2). W/WELDED REBAR ANCHORS (4), CAST INTO CONCRETE
5-- 1/2" DIA. ROUND STEEL STOCK
6-- 2"X2"X1/4" ANGLE IRON
7-- 24"X48"X8" CONCRETE PAD W/6X6 10/10 WWF CENTERED (CLASS "B" CONCRETE)
8-- 3"X4"X0.12" PLAIN STEEL FULL SERVICE HINGES W/TIGHT PINS (HEAVY WEIGHT)
9-- 2"X2"X1/4" ANGLE IRON
10-- DRILL (2) 1-1/4" HOLES & NOTCH THRU BOTTOM OF ANGLE TO ACCOMODATE AIR & ELEC. LINES. LINES TO BE SECURED IN PLACE.
11-- VIBRATION ISOLATION PADS, PER MANUFACTURER'S RECOMMENDATIONS, INSTALLED BETWEEN AIR COMPRESSOR AND CONCRETE PAD.

2 AIR COMPRESSOR MOUNTING PAD & ENCLOSURE
NOT TO SCALE



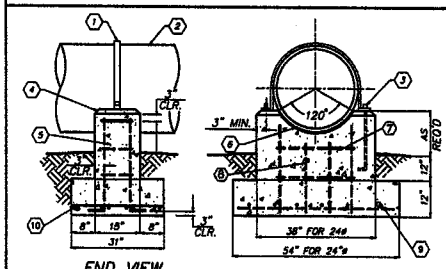
3 HOSE BIBB DETAIL
NOT TO SCALE



NOTE:

1. SAMPLE FAUCET CONNECTION TO BE PER TUCSON WATER SERVICE CONNECTION S.D. 309
2. TRANSITION SHOULD BE MADE WITHIN THE METER BOX

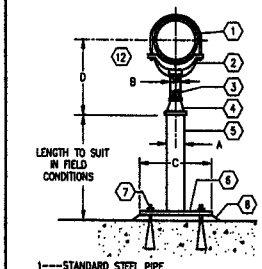
4 SAMPLE FAUCET
NOT TO SCALE



KEYNOTES

1. 1/2" x 3" HOLD DOWN STRAP (FLAT STAINLESS STEEL BAR)
2. PIPE
3. 3/4" x 18" STAINLESS STEEL ANCHOR BOLT
4. 3/4" CHAMFER
5. CLASS 'A' CONCRETE
6. 1/8" THICK NEOPRENE PAD, BOND TO PIPE W/EPOXY
7. #4 @ 12" O.C.
8. #4 @ 6" O.C.
9. #6 @ 12" O.C.
10. #6 @ 6" O.C.

5 24" CONCRETE PIPE SUPPORT
NOT TO SCALE



ADJUSTABLE PIPE SADDLE SUPPORT SCHEDULE
DIMENSIONS IN INCHES

PIPE SIZE	A	B	C	D MIN.	D MAX.
2.5	2.5	1.5	9	8	12
3	2.5	1.5	9	8.5	13.5
3.5	2.5	1.5	9	8.5	13.5
4	3	2.5	9	8.5	14
6	3	2.5	9	10.5	15.5
8	3	2.5	9	11.5	16.5
10	3	2.5	9	13.5	18.5
12	3	2.5	9	15	19.5
14	4	3	11	16.5	20.5
16	4	3	11	17.5	22.5
18	5	3.5	13.5	19.5	24
20	5	3.5	13.5	21	25.5
24	5	4	13.5	23.5	28.5
30	5	4	13.5	27	31.5
32	5	4	13.5	28.5	32.5
36	5	4	13.5	30.5	34.5

1---STANDARD STEEL PIPE
2---CAST IRON SADDLE
3---STAKED LOCKNUT NIPPLE
4---SPECIAL REDUCER
5---RISER PIPE
6---1/2"X8"X8" STL. PLATE
7--- 4 - 3/4" THREADED RODS W/LEVELING NUTS AND WASHERS IN FLUSH SHELLS
8---NON-SHRINK GROUT
12---STEEL YOKE WITH STEEL NUTS

NOTES:

1. "ANVIL" ADJUSTABLE PIPE SADDLE SUPPORT, FIG. 259 OR EQUAL.
2. VERTICAL ADJUSTMENT IS OBTAINED BY TURNING LOCKNUT NIPPLE.

6 PIPE SADDLE SUPPORT
NOT TO SCALE

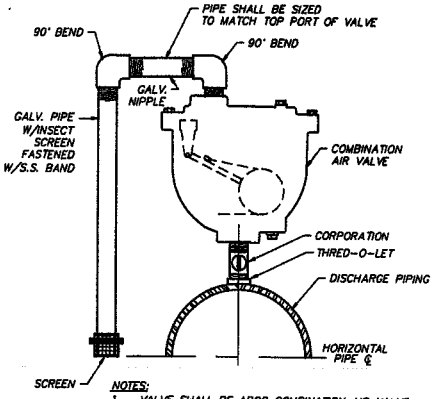
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	APPR.	DATE

CITY OF TUCSON
TUCSON WATER

OLD VAIL ROAD "G" TO VAIL WATER "T" ZONE BOOSTER STATION
MISCELLANEOUS MECHANICAL DETAILS SHEET 1

SURVEYED BY J. MESKAN	DATE 12/12	DWG NO. REV. 1442012-05	SHEET 5 OF 20
DRAWN BY L. SPITZER	DATE 12/12	SCALE AS NOTED	
DESIGN BY M. SANDERS	DATE 12/12	PLAN NO. 9-144-2012	

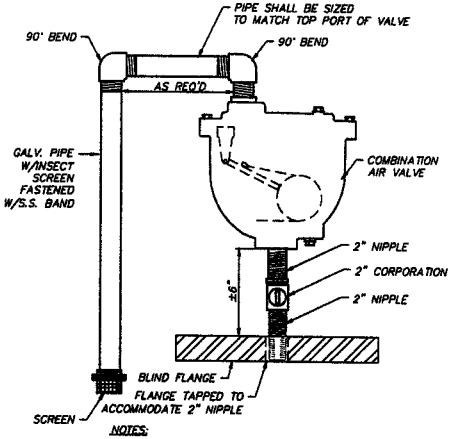


NOTES:

1. VALVE SHALL BE APCO COMBINATION AIR VALVE, (SINGLE BODY TYPE), SERIES 140C OR VALMATIC COMBINATION AIR VALVE (SINGLE BODY TYPE), MODEL # 201C OR 202C, OR ENGINEER APPROVED EQUAL.
2. INTERIOR OF VALVE TO BE COATED WITH CORROSION-INHIBITING NSF 61 COMPLIANT COATING.
3. SCREEN SHALL BE 16 GAUGE BRONZE WIRE OR APPROVED EQUAL.

COMBINATION AIR RELEASE VALVE (PIPE MOUNTED)

1 NOT TO SCALE

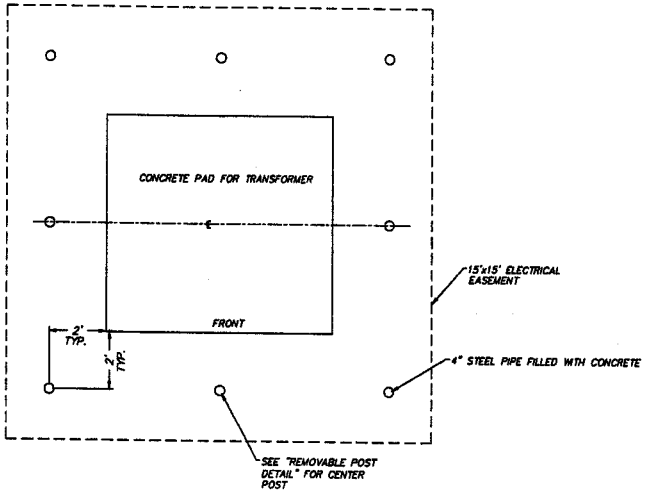


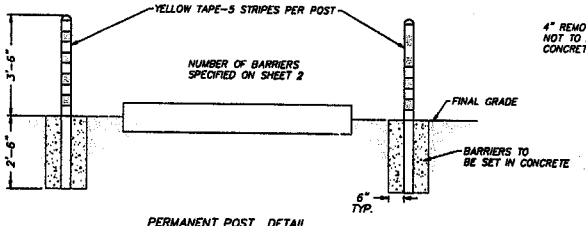
NOTES:

1. VALVE SHALL BE APCO COMBINATION AIR VALVE, (SINGLE BODY TYPE), SERIES 140C OR VALMATIC COMBINATION AIR VALVE (SINGLE BODY TYPE), MODEL # 201C OR 202C, OR ENGINEER APPROVED EQUAL.
2. INTERIOR OF VALVE TO BE COATED WITH CORROSION-INHIBITING NSF 61 COMPLIANT COATING.
3. SCREEN SHALL BE 16 GAUGE BRONZE WIRE OR APPROVED EQUAL.

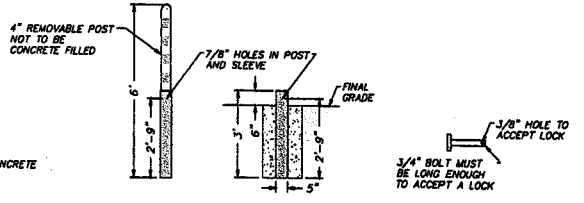
COMBINATION AIR RELEASE VALVE (PIPE MOUNTED)

2 NOT TO SCALE





PERMANENT POST DETAIL
N.T.S.



REMOVABLE POST DETAIL
N.T.S.

EQUIPMENT BARRIER

3 NOT TO SCALE

NOTES:
EQUIPMENT BARRIER PER TEP SR-230 STANDARDS

PRELIMINARY
NOT FOR CONSTRUCTION

TUCSON WATER

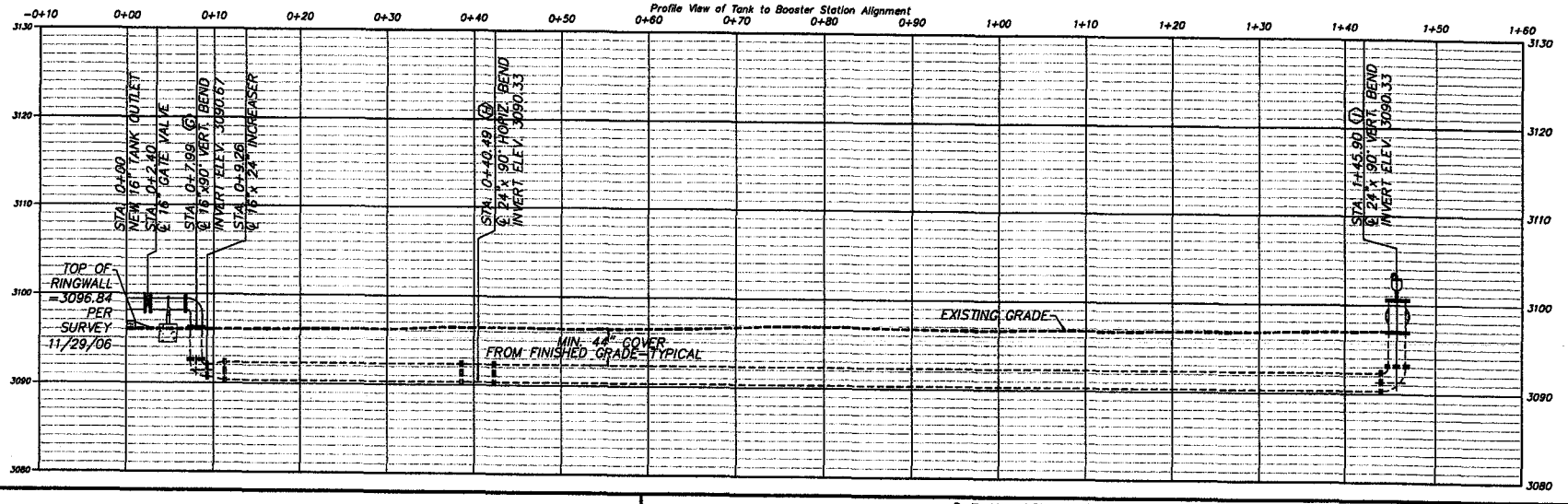
NO.	BY	DATE	REVISION	APPR.	DATE

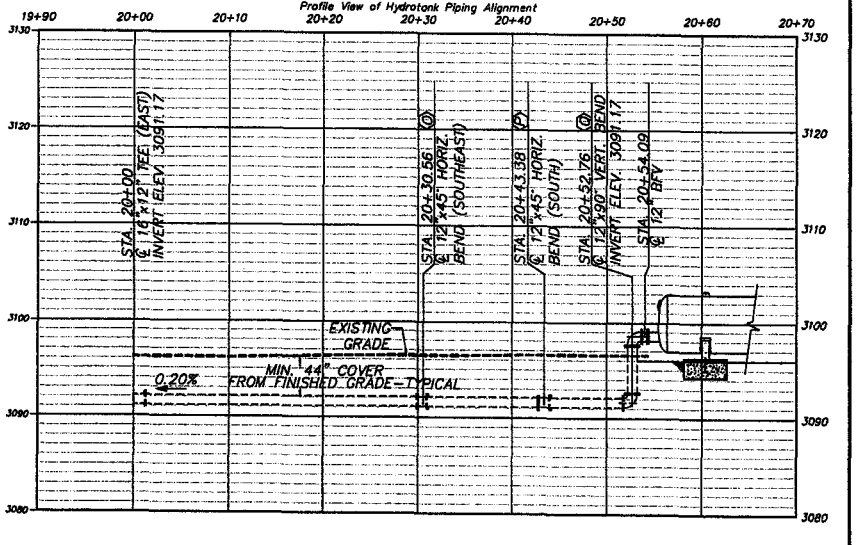
CITY OF TUCSON

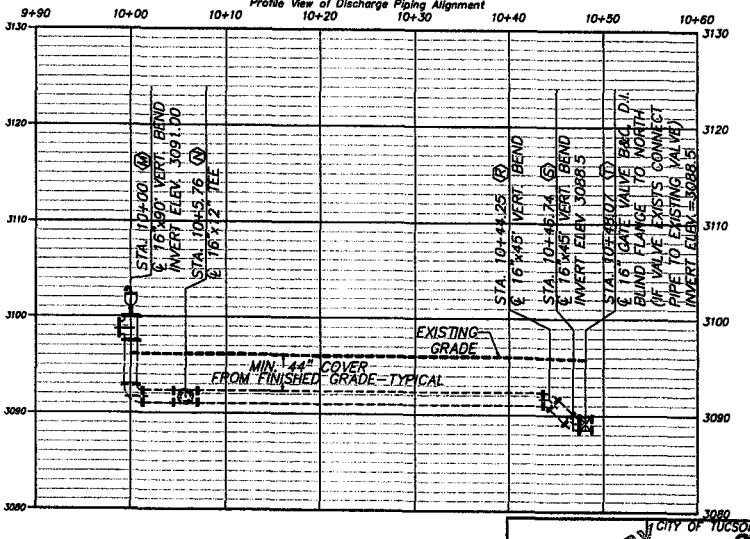
OLD VAIL ROAD "G" TO VAIL WATER "F" ZONE BOOSTER STATION

MECHANICAL DETAILS SHEET 2

DESIGNED BY J. MESKAN	DATE 12/12	WO NO. 11-12012-046	SHEET 6 OF 20	
DRAWN BY L. SPITZER	DATE 12/12	SCALE AS NOTED		
CHECKED BY M. SANDERS	DATE 12/12		PLAN NO. 9-144-2012	







PRELIMINARY
NOT FOR CONSTRUCTION

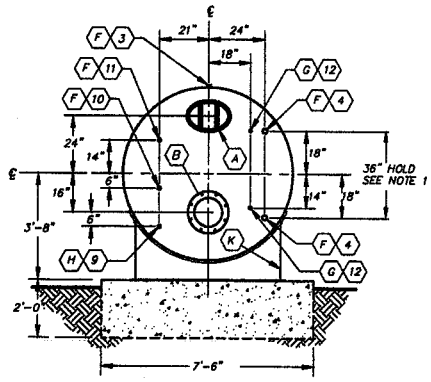
NO.	BY	DATE	REVISION	APPR.	DATE

TUCSON WATER

CITY OF TUCSON
OLD VAIL ROAD
"G" TO VAIL WATER "T" ZONE
BOOSTER STATION

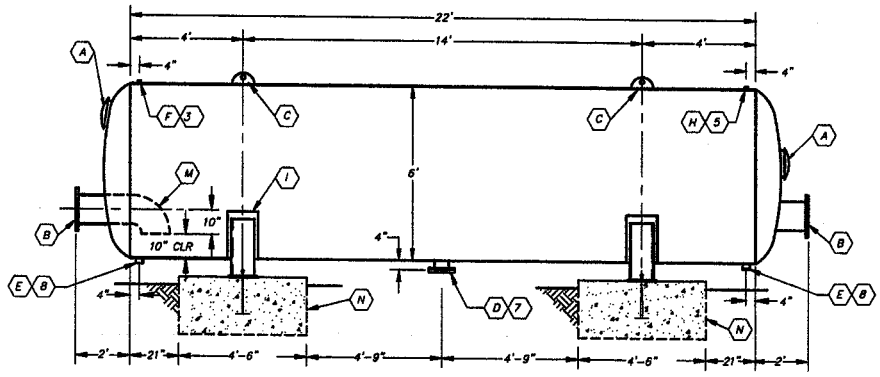
PIPE PROFILES

DESIGNED BY J. MESKAN	DATE 12/12	PROJECT NO. 1442012-07	SHEET 7 OF 20
DRAWN BY L. SPITZER	DATE 12/12	SCALE: VERT. 1"=6' HORIZ. 1"=6'	
CHECKED BY M. SANDERS	DATE 12/12		DWG NO. 9-144-2012



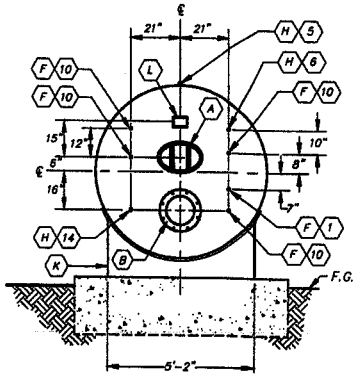
INLET/ELECTRICAL END
SCALE: 1"= 2'

NOTES:
1. DIMENSION MUST BE ACCURATE TO 21" BEYOND THE CONNECTION

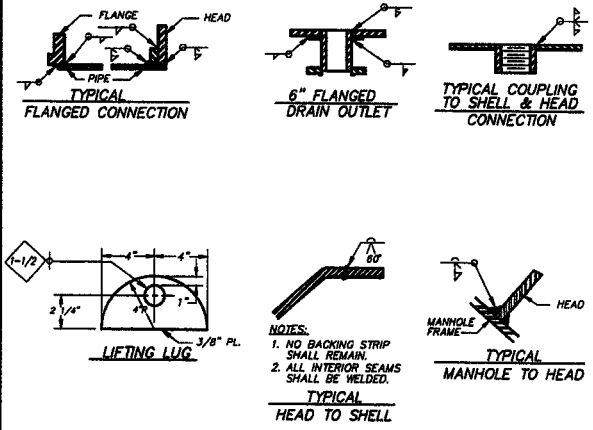


5000 GALLON HYDROPNEUMATIC LOW PROFILE PRESSURE TANK

SCALE: 1"= 2'



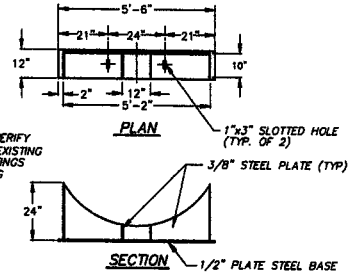
OUTLET/MECHANICAL END
SCALE: 1"= 2'



1 TYPICAL TANK WELDS

NOTE:

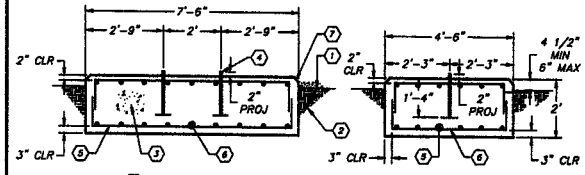
1. 6" FLANGED DRAIN AND ALL THE COUPLINGS INSTALLED ON THE TANK SHELL AND HEADS SHALL BE INSTALLED FLUSH WITH THE I.D. OF THE TANK, PER DETAILS.
2. WELD DETAILS SHOWN ARE PICTORIAL ONLY. TANK FABRICATORS SHALL BE RESPONSIBLE FOR PROPER SIZING AND TYPES OF WELDS.



NOTE:
CONTRACTOR SHALL VERIFY BOLT LOCATIONS ON EXISTING CONCRETE TANK FOOTINGS PRIOR TO FABRICATING TANK SUPPORTS

2 TANK SUPPORTS

SCALE: 1"= 2'



KEYNOTES

1-- TOP OF ASPHALT CONCRETE FINISH GRADE, IF APPLICABLE
2-- UNDISTURBED SOIL OR 95% MIN. COMPACTED AGGREGATE BASE COURSE FILL (ENGINEERED FILL)
3-- CLASS "A" CONCRETE; f'c = 3500 PSI
4-- 2-3/4" X 1'-6" (2" PROJECTION; 1'-4" EMBED) ASTM F1554 GALVANIZED ANCHOR RODS GRADE 36, W/ ANCHOR ⅊ 1/4x3x3 W/ NUT AT EA PLATE, TYP
5-- 6-#6 T & B EQUALLY SPACED W/ 90° STD HOOK @ EA END
6-- 9-#6 T & B EQUALLY SPACED W/ 90° STD HOOK @ EA END
7-- 3/4" CHAMFER TYP PERIMETER

1'-0" 7'-0" 1'-0"
1'-0" 4'-0" 1'-0"

3 TANK FOOTING DETAIL

SCALE: 1"= 2'

TANK COMPONENTS

A---- 14" X 18" ASME MANHOLE
B---- 250# 12" FLANGED OUTLET (DISCHARGE TANK)
C---- LIFTING LUG (1)
D---- 6" FLANGED DRAIN OUTLET
E---- 3" 3000# HALF COUPLING
F---- 1" 3000# COUPLING
G---- 1/2" 3000# COUPLING
H---- 3/4" 3000# COUPLING
* I---- 3/8" x 8" x 5'-6" STL. PLATE REINFORCING PAD
J---- 1/4" STEEL PLATE WELDED BOTH SIDES CONTINUOUS
K---- TANK SUPPORTS (2)
** L---- NAMEPLATE OR STAMP PER SPECIFICATIONS & ASME BOILER & PRESSURE VESSEL CODE UG-118 & UG-119
M---- 12" x 90° BEND, DIMENSIONED AS SHOWN
N---- TANK FOOTINGS (3)

* TO BE WELDED CONTINUOUS BOTH SIDES TO TANK SHELL & GUSSET PLATE.

** NAMEPLATE SHALL BE PLACED ON A 1/4" STL. PLATE WELDED CONTINUOUS TO TANK HEAD & LOCATED AS SHOWN.

TANK ACCESSORIES

(SEE ACCESSORY DETAILS ON SHEET 10)

1------ 1" COMBINATION AIR RELEASE VALVE
2------ NOT USED
3------ PRESSURE CONTROL ASSEMBLY
4------ LIQUID LEVEL ASSEMBLY
5------ 1/2" WATTS VALVE
6------ 3/4" AIR COMPRESSOR INLET
7------ 6" BLIND FLANGE
8------ 3" TANK DRAIN ASSEMBLY
9------ 3/4" HOSE BIBB
10------ 1" PLUG
11------ PRESSURE GAUGE
12------ 1/2" PLUG
13------ 3/4" PLUG
14------ 3/4" & CORP. FOR RECIRCULATION LINE

PRESSURE RATING:

TANK PRESSURE RATING: 250 psi (DISCHARGE)

ALL TANK ACCESSORIES SHALL BE RATED FOR THE PRESSURE RATINGS OF THE TANK

NO.	BY	DATE	REVISION	APPR.	DATE

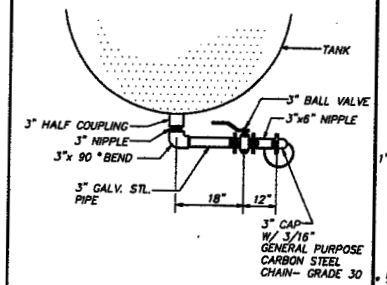
PRELIMINARY
NOT FOR CONSTRUCTION

TUCSON WATER

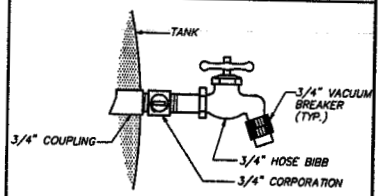
CITY OF TUCSON
OLD VAIL ROAD "Q" TO VAIL WATER "T" ZONE BOOSTER STATION

5000 GALLON HYDROPNEUMATIC TANK

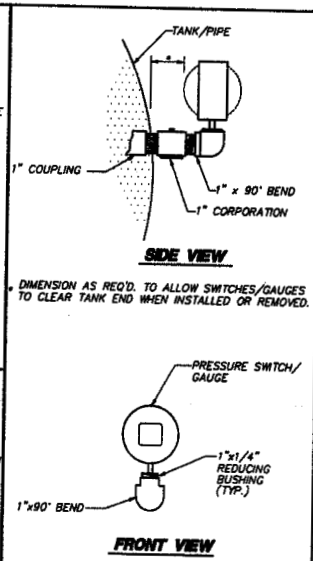
DESIGNED BY PLANT DESIGN	DATE 12/12	DWG NO. OF NO. 1442012-08	SHEET 8 OF 20
DRAWN BY PLANT DESIGN	DATE 12/12	SCALE: AS NOTED	
REVIEWED BY M. SANDERS	DATE 12/12		DATE 9-144-2012



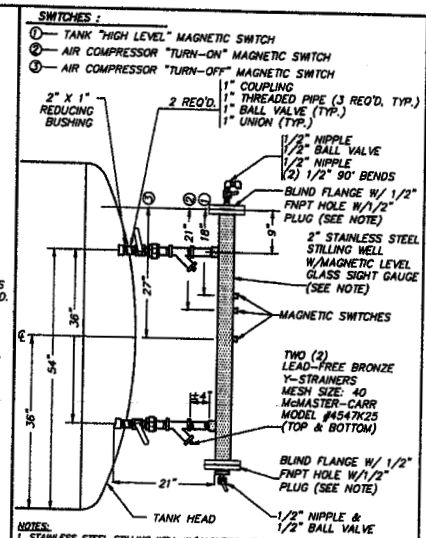
1 TANK DRAIN ASSEMBLY
N.T.S.



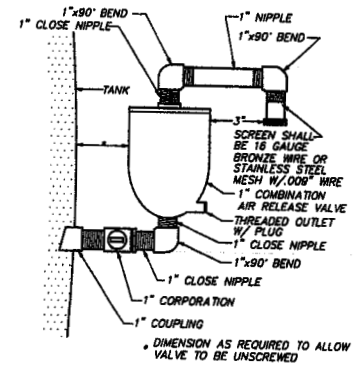
2 3/4" HOSE BIBB INSTALLED ON TANK HEAD
N.T.S.



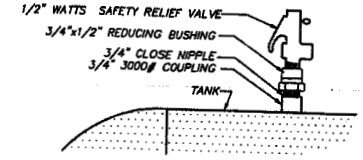
3 PRESSURE GAUGE/SWITCH
N.T.S.



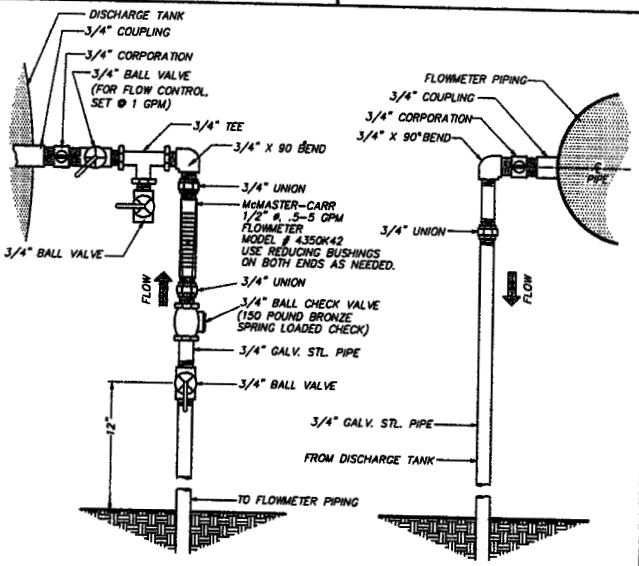
4 LIQUID LEVEL ASSEMBLY
DISCHARGE TANK 1" = 1'



5 1" COMBINATION AIR RELEASE VALVE
N.T.S.



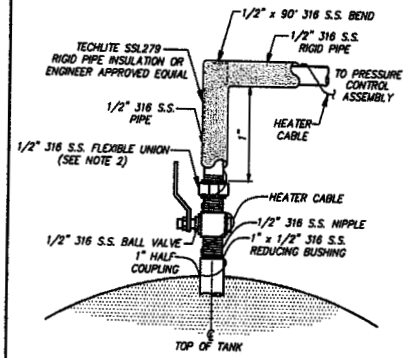
6 1/2" WATTS SAFETY RELIEF VALVE
N.T.S.



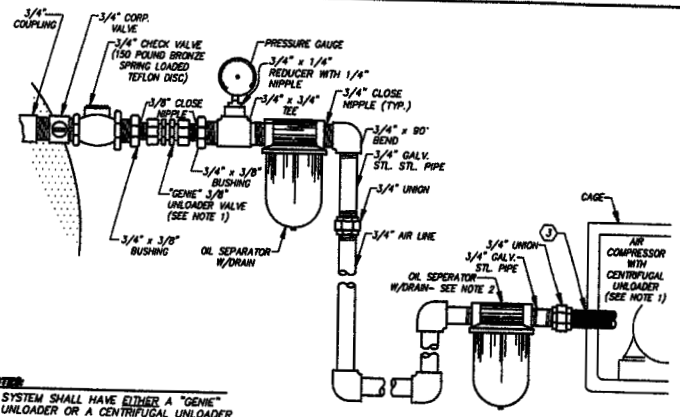
7 RECIRCULATION ASSEMBLY
N.T.S.

NOTES:

1. SEE "PRESSURE CONTROL ASSEMBLY, BASE AND PEDESTAL" (2/2) FOR CONTINUATION OF ASSEMBLY
2. A FLEXIBLE UNION, OR COMBINATION OF A FLEXIBLE MATERIAL AND A UNION SHALL BE INSTALLED TO ELIMINATE VIBRATION TO THE PRESSURE CONTROL ASSEMBLY.



8 PRESSURE CONTROL ASSEMBLY HYDRAULIC CONNECTION
N.T.S.



NOTES:

1. SYSTEM SHALL HAVE EITHER A "GENIE" UNLOADER OR A CENTRIFUGAL UNLOADER
2. OIL SEPARATOR AT AIR COMPRESSOR SHALL BE LOCATED WITHIN CAGE IF THERE IS SUFFICIENT ROOM.
3. McMASTER-CARR NO. 5489K27 (TYPE A) 3/4" TYPE 316 STAINLESS STEEL OR APPROVED EQUAL

9 AIR COMPRESSOR TO SINGLE HYDRO TANK SYSTEM CONNECTION
N.T.S.

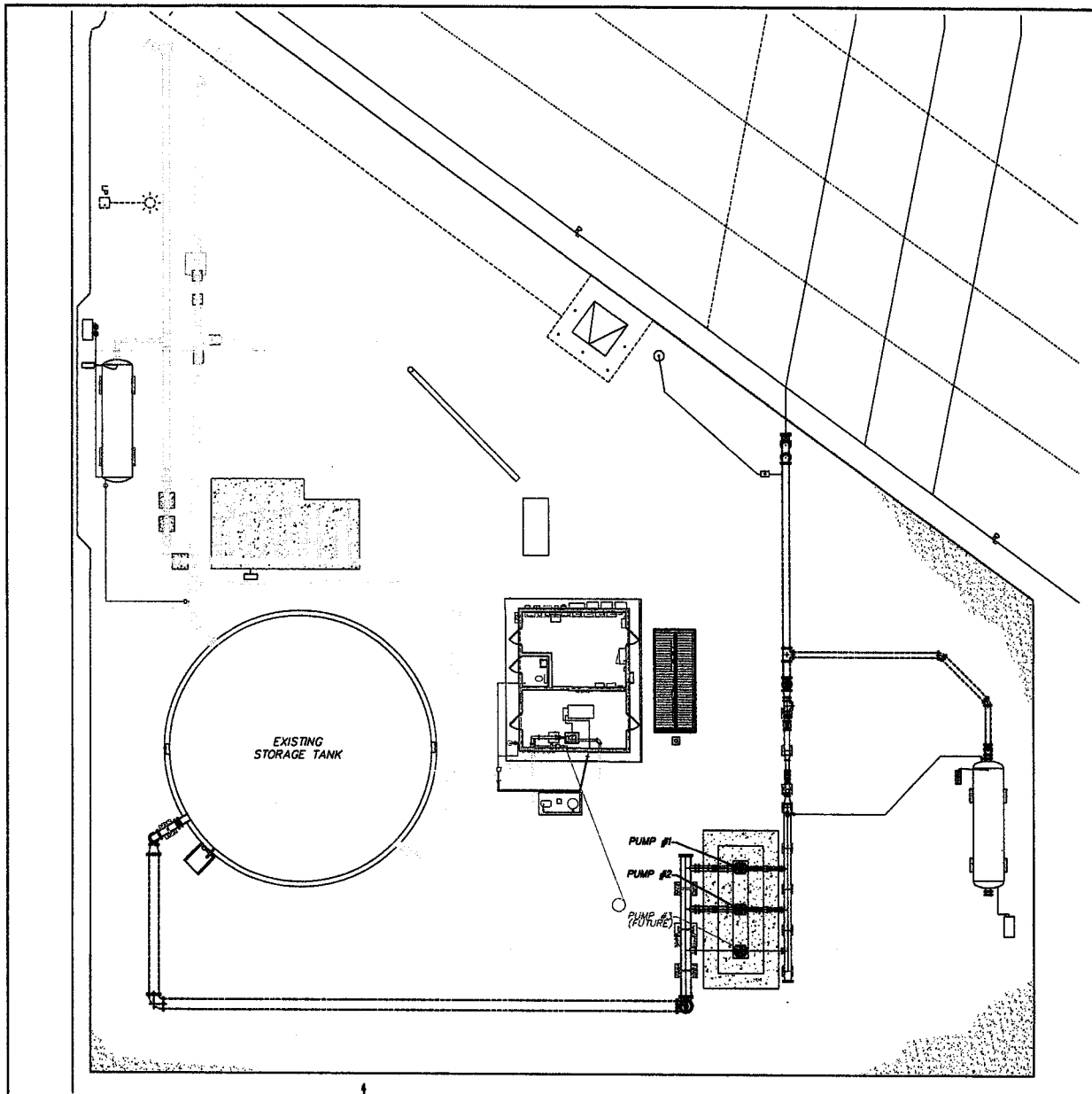
PRELIMINARY
NOT FOR CONSTRUCTION

TUCSON WATER

CITY OF TUCSON
OLD VAIL ROAD "G" TO VAIL WATER "T" ZONE BOOSTER STATION

HYDRO TANK ACCESSORIES (NON FLOW-THRU TANK)
(ALL TANK ACCESSORES SHALL BE RATED 250 PSI)

PLANT DESIGN	12/12	1412012-9	SHEET 9 OF 20
PLANT DESIGN	12/12	AS NOTED	9-144-2012
M. SANDERS	12/12		



ELECTRICAL SITE PLAN
SCALE: 1"=10'

NO.	BY	DATE	REVISION	APPR.	DATE

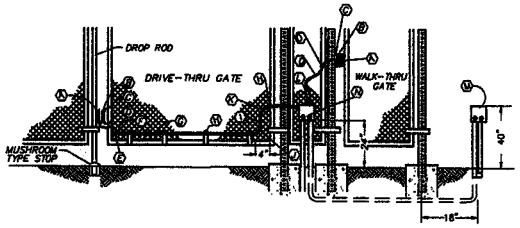
PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF TUCSON
OLD VAIL ROAD
"G" TO VAIL WATER "T" ZONE
BOOSTER STATION

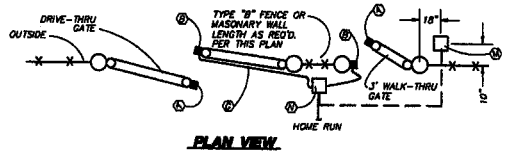
ELECTRICAL SITE PLAN

TUCSON WATER

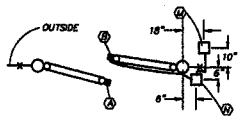
DESIGNED BY F. YOURISON	DATE 12/12	SUBMITTED BY 144-2012-11	SHEET 11 OF 20
DRAWN BY L. SPITZER	DATE 12/12	SCALE: AS NOTED	
CHECKED BY F. YOURISON	DATE 12/12		PLAN NO. 9-144-2012



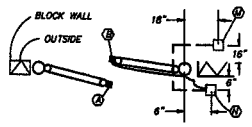
1 GATE INTRUSION DETAIL
(VIEWED FROM INSIDE THE FENCE) NOT TO SCALE



PLAN VIEW



ALTERNATE ONE
(FOR DRIVE-THRU GATE ONLY)



ALTERNATE TWO
(FOR DRIVE-THRU GATE IN BLOCK WALL)

EQUIPMENT:

A--MAGNETIC PORTION OF INTRUSION SWITCH
1. MOUNT ON DROP ROD WITH STAINLESS STEEL SCREWS
2. LOCATE MAGNET 12" TO 30" ABOVE BOTTOM OF FENCE.
3. USE SHIM BRACKET (C) ONLY WHEN SWITCH SHIM BRACKET (C) DOES NOT ALLOW FOR 3/4" TO 2" CLEARANCE BETWEEN SWITCH (B) AND MAGNET (A).

B--SWITCH SENSING PORTION OF INTRUSION SWITCH
1. COMES WITH 36" ARMORED CABLE TO BE TERMINATED IN CONDULETTE (F) FOR SPLICING.
2. TO BE MOUNTED ON SHIM BRACKET (C) FOR 3/4" TO 2" CLEARANCE OF MAGNET.

C--SHIM BRACKET
1. ADJUSTABLE MOUNTING HOLES USED TO POSITION SWITCH (B) 3/4" TO 2" FROM MAGNET.

D--ARMORED CABLE
1. SUPPLIED WITH SWITCH (B)
2. TO TERMINATE INSIDE CONDULETTE (F) THROUGH COMPRESSION FITTING (E)

E--COMPRESSION FITTING
1. TO ACCEPT ARMORED CABLE (D)
2. TO MOUNT ON 1/2" CONDULETTE (F)

F--CONDULETTE
1. "C" TYPE 1/2" CONDUIT CONNECTION-FEMALE-THREADED
2. COVER AND GASKET TO BE INCLUDED

G--1/2" RIGID CONDUIT

H--CONDUIT STRAP 1/2"
1. MOUNT CLOSE TO (F) AND (I)
2. SPACE NO MORE THAN 40" APART

I-- BEND IN CONDUIT (4" RADIUS)

J-- CONNECTOR-RIGID TO LIQUIDTIGHT
1. 1/2" STRAIGHT FITTING

K--1/2" LIQUIDTIGHT FLEXIBLE CONDUIT
1. ALLOW LENGTH FOR FULL SWING OF GATE (NOT TO EXCEED 3' IN LENGTH)

L-- CONNECTOR-LIQUIDTIGHT TO JUNCTION BOX
1. 1/2" FITTING

M--DEFEAT SWITCH LOCATED OUTSIDE FENCE

N--WEATHERPROOF JUNCTION BOX (SEE NOTE 2)

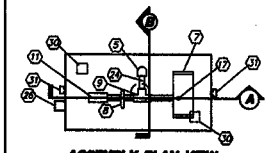
O--ARMORED CABLE STRAP

NOTES:

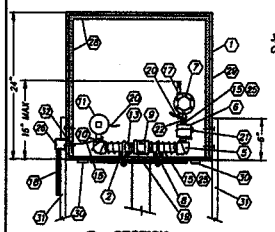
1. A 12' DRIVE-THRU GATE WITH 3' WALK-THRU GATE COMBINATION MAY REQUIRE THE MUSHROOM TYPE STOP AND CONCRETE TO BE MOVED TO THE LOCATION AS SHOWN ON THIS SHEET AND AS DIRECTED BY THE ENGINEER.
2. JUNCTION BOX SHALL BE INSTALLED AS CLOSE TO AND DIRECTLY BEHIND FENCE IN SITES WHERE THERE ARE BOTH DRIVE-THRU AND WALK-THRU GATES LOCATED SIDE BY SIDE.
3. A DRIVE-THRU GATE AND WALK-THRU GATE LOCATED SIDE BY SIDE MUST BE HINGED AS SHOWN IN PLAN VIEW. IF NOT, RELOCATE WALK-THRU GATE AS REQUIRED BY THE ENGINEER.

NOTES:

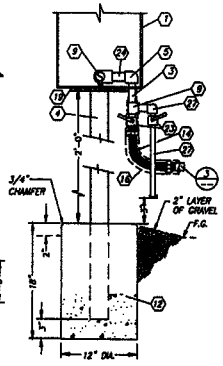
1. ALL HOLES IN BASE SHALL BE SEALED ONCE CONDUITS HAVE BEEN INSTALLED.
2. ALL HOLES IN CABINET BASE (EXCEPT 3/8"ø FOR U-BOLTS) SHALL BE FIELD LOCATED AND DRILLED ACCORDINGLY.
3. THERE ARE THREE PRESSURE CONTROL ASSEMBLIES REQUIRED FOR THIS SITE. THE PRESSURE CONTROL ASSEMBLY CONNECTED TO THE PRV LOWER PRESSURE PIPING SIDE ("Z" ZONE) NEEDS A 1/2" PLUG INSTALLED IN PLACE OF THE PRESSURE SWITCH.



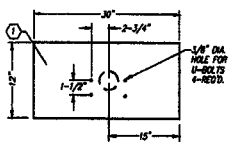
ASSEMBLY PLAN VIEW



A SECTION



B SECTION

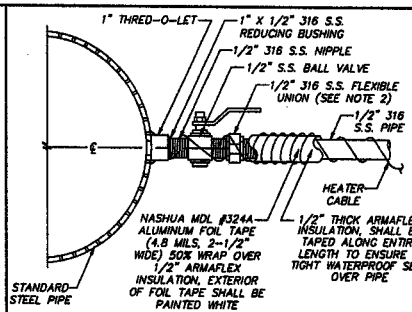


CABINET BOTTOM

EQUIPMENT

1. 30"W x24"H x12"D FRONT AND REAR ACCESS 12 GAUGE ENCLOSURE, NEMA 3R/4 RATED. ENCLOSURE SHALL HAVE SIDE OR BOTTOM HINGED FULL LENGTH AND WIDTH FRONT & REAR DOORS, WITH DOOR SUPPORT BRACKET AND LATCHING, NON-KEYED DOOR HANDLES.
2. 2"x2"x3/4" HARD RUBBER MOUNTING BLOCK
3. 1/2"x6" 316 STAINLESS STEEL NIPPLE THRU HOLE IN CABINET BASE (ATTACH TO #5) (LENGTH SHALL BE ADJUSTED AS REQ'D. TO ALLOW OPERATION OF BALL VALVE)
4. 2" SCHED. 40 STL PIPE (WELD TO CABINET BOTTOM ①)
5. 1/2" x 90° 316 STAINLESS STEEL BEND
6. 2-WAY VALVE MANIFOLD
7. PRESSURE TRANSMITTER
8. 5/16" DIA. U-BOLT (LENGTH AS REQ'D)
9. 1/2" TEE 316 STAINLESS STEEL
10. 1/2" TO 1/4" 316 STAINLESS STEEL REDUCING BUSHING
11. PRESSURE SWITCH (SEE NOTE 3)
12. CLASS "B" CONCRETE FOUNDATION
13. 1/2" 316 STAINLESS STEEL NIPPLE
14. 1 FT. OF 1/2" STAINLESS STEEL HOSE ASSEMBLY W/STAINLESS STEEL WIRE BRAIDED COVER. HOSE SHALL BE MC MASTER CARR #5793K13, TYPE 316 S.S. OR APP'D EQUAL
15. HEATER CABLE (WRAP AS SHOWN AGAINST PIPE) AVOID HEATER CABLE CROSSINGS PER MANUFACTURER'S RECOMMENDATIONS.
16. ALUMINUM FOIL TAPE, 50% WRAP OVER ARMAFLEX INSULATION, EXTERIOR PAINTED WHITE.
17. SURGE SUPRESSOR
18. 1/2" FLEX CONDUIT
19. 10"x15"x1/4" STL. PLATE WELDED TO TOP OF 2" SUPPORT POST AND BOLTED TO ①.
20. CONDUIT TO CONTROL SYSTEM THRU HOLE IN CABINET BOTTOM.
21. 2-WAY VALVE BLEED PORT, W/90° ELBOW AND 1/2" BALL VALVE.
22. 1/2" NIPPLE 316 STAINLESS STEEL, LENGTH AS REQ'D
23. 1/2" STAINLESS STEEL BALL VALVE
24. 1/2"x 3" 316 STAINLESS STEEL NIPPLE (LENGTH SHALL BE ADJUSTED AS REQUIRED)
25. INSTALL NYLON CLAMPS ALONG LENGTH OF HEATER CABLE TO SECURE HEATER CABLE AGAINST PIPE.
26. POWER TERMINATION FOR HEATER CABLE TO BE MADE IN 4" DEEP W.P. BOX WITH 120 VAC, 20A, 5MA TRIP, NON-PLUG GFI RECEPTACLE MOUNTED ON THE SIDE OF ①.
27. 1/2" NIPPLE 316 STAINLESS STEEL, 1/2"x90° 316 STAINLESS STEEL END, 1/2" STAINLESS STEEL PIPE WITH 16 GAUGE BRONZE OR STAINLESS STEEL INSECT SCREEN.
28. 1" ARMAFLEX SELF ADHERING ROLL/SHEET INSULATION, SECURE TO COVER PER MANUFACTURER'S INSTALLATION RECOMMENDATION (TYP 5 SIDES-ALL EXCEPT BOTTOM OF INTERIOR).
29. EXTERIOR PAINTED WHITE.
30. LOUVER AND FILTER, HOFFMAN MODEL NO.'S AVK44 AND AFLT44.
31. 1-5/8" UNISTRUT CHANNEL, SECURE TO ENCLOSURE WITH TWO 3/8"ø x 1 5/8" BOLTS WITH SPRING NUTS. UNISTRUT SHALL BE EMBEDDED IN AN 8"x 8"x 8" CONCRETE BASE.
32. 1/2" HOLE IN ENCLOSURE SIDE.

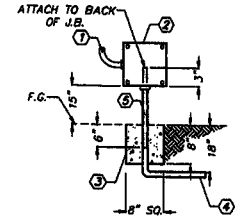
2 PRESSURE CONTROL ASSEMBLY
NOT TO SCALE



NOTE:

1. SEE "PRESSURE CONTROL ASSEMBLY, BASE AND PEDESTAL" FOR CONTINUATION OF ASSEMBLY
2. A FLEXIBLE UNION, OR COMBINATION OF A FLEXIBLE MATERIAL AND A UNION SHALL BE INSTALLED TO ELIMINATE VIBRATION TO THE PRESSURE CONTROL ASSEMBLY.

3 PRESSURE CONTROL ASSEMBLY HYDRAULIC CONNECTION
NOT TO SCALE



EQUIPMENT

1. FLEXIBLE CONDUIT, LIQUIDTITE
2. JUNCTION BOX, 6"H x 6"W x 4"D MINIMUM
3. 8"x8"x8" CLASS "C" CONCRETE SUPPORT
4. GALV. STL. CONDUIT
5. 1-5/8" x 1-5/8" PRE-GALVANIZED UNISTRUT LENGTH AS REQ'D. BY NEC 314.23

4 JUNCTION BOX INSTALLATION
NOT TO SCALE

NO.	BY	DATE	REVISION	APPR.	DATE

PRELIMINARY NOT FOR CONSTRUCTION

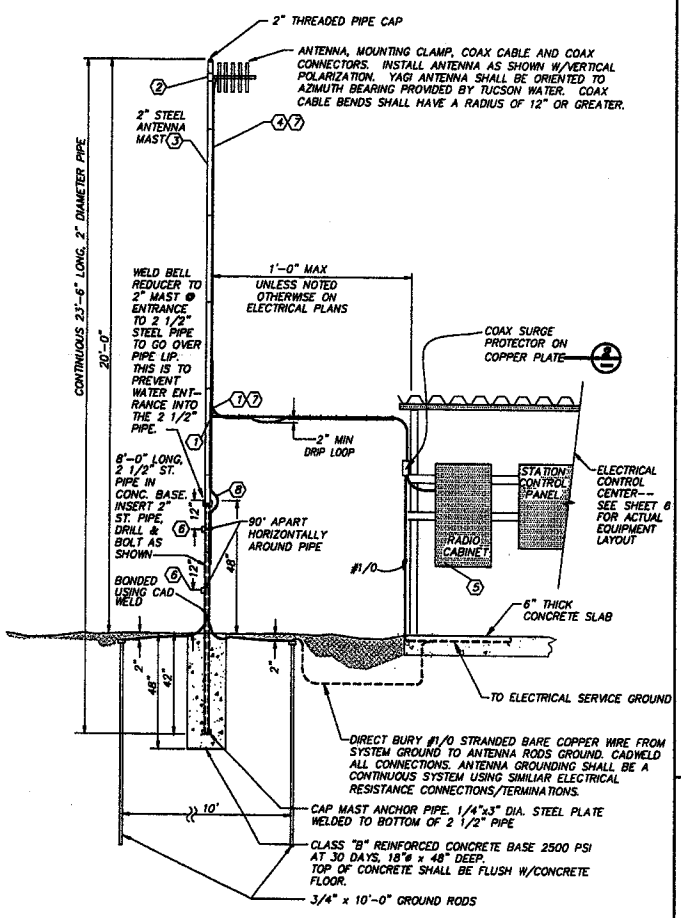
TUCSON WATER

CITY OF TUCSON

OLD VAIL ROAD "G" TO VAIL WATER "T" ZONE BOOSTER STATION

ELECTRICAL DETAILS

DESIGNED BY F. YOURISON	DATE 12/12	CITY PROJECT 1442012-15	SHEET 15 OF 20	
DRAWN BY L. SPITZER	DATE 12/12	SCALE:	DWG NO. 9-144-2012	
REVIEWED BY F. YOURISON	DATE 12/12			

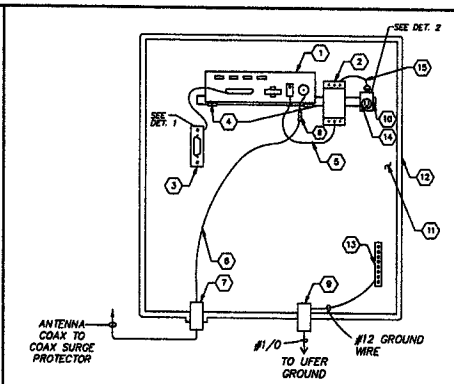


NOTES:

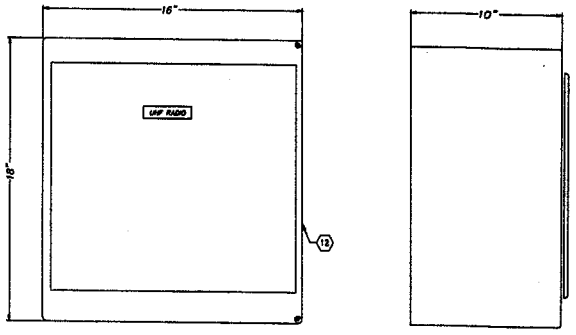
1. COAX GROUNDING KIT, ANDREW TYPE 241088-1, INSTALL AS SHOWN IN KIT. RUN #1/0 COPPER WIRE OR BRAIDED UPPER STRAP TO GROUND ROD.
2. WEATHERPROOF 1/2" ANTENNA COAX CABLE TO ANTENNA CONNECTION POINT USING CONNECTOR/SPLICE WEATHERPROOF KIT; ANDREW TYPE 221213; TO SEAL AGAINST MOISTURE.
3. PIPE SHALL BE GALVANIZED "STD" WEIGHT STEEL PIPE AS PER ASTM 120.
4. INSTALL COAX LINE INSIDE +/- 10 FT. OF 1" RIGID STEEL CONDUIT. SECURELY WELD CONDUIT TO ANTENNA MAST AT TOP, MIDDLE AND BOTTOM OF +/- 10 FT. CONDUIT.
5. SEE ELECTRICAL PLAN FOR RADIO CABINET AND STATION CONTROL PANEL LOCATIONS ON ELECTRICAL CONTROL CENTER, AND RADIO ANTENNA LOCATION ADJACENT TO ELECTRICAL CONTROL CENTER.
6. 1/2" STEEL NUT WELDED TO 2 1/2" PIPE WITH HOLE THRU PIPE AT NUT OPENING. 1/2" STEEL BOLT SCREWED INTO NUT TO PREVENT 2" PIPE FROM MOVING INSIDE 2-1/2" PIPE.
7. ATTACH ANDREWS 43211A HANGER KIT FOR ½" COAX TO 2" MAST USING ANDREWS 31670-2 STAINLESS STEEL ROUND MEMBER ADAPTOR KIT, WHERE CABLE ENTERS TOP AND BOTTOM OF 1" RIGID STEEL CONDUIT.
8. SINGLE HOLE COMPRESSION LUGS WITH BOLT AND NUT, CONNECTING GROUND WIRE AROUND BELL REDUCER.

1 RADIO ANTENNA INSTALLATION DETAILS

1/2" = 1'



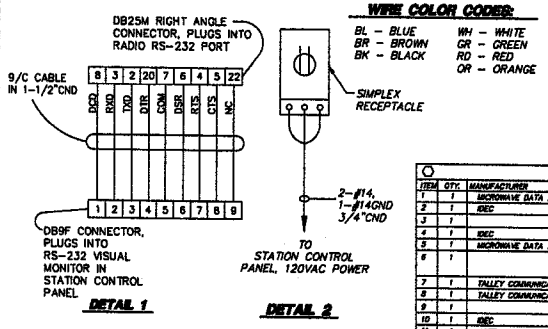
INTERIOR LAYOUT



FRONT VIEW

SIDE VIEW

BOTTOM VIEW



DETAIL 1 **DETAIL 2**

WIRE COLOR CODES:

BL - BLUE	WH - WHITE
BR - BROWN	GR - GREEN
BK - BLACK	RD - RED
	OR - ORANGE

BILL OF MATERIALS

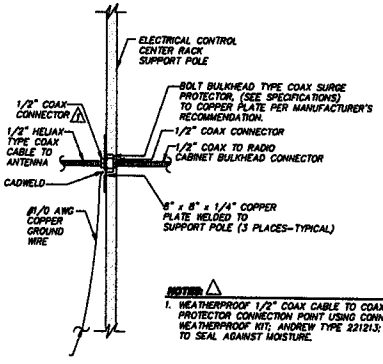
ITEM	QTY.	MANUFACTURER	PART NUMBER	DESCRIPTION
1	1	MICROWAVE DATA SYSTEMS	9810	800 MHZ DATA TRANSCEIVER
2	1	IDEC	PS5R-SC12	12 VOLT POWER SUPPLY
3	1			PC BRACKET W/F-D SUB CONNECTOR FLAT CABLE (SEE NOTE 7)
4	1	IDEC	PS9Z-3E40	DIN RAIL BRACKET
5	1	MICROWAVE DATA SYSTEMS		POWER INPUT CONNECTOR
6	1			LENGTH AS REQ'D OF RG-58/U COAXIAL CABLE, N-MALE TO N-MALE CONNECTORS
7	1	TALLEY COMMUNICATIONS	82-66	N-FEMALE TO N-FEMALE BULKHEAD CONNECTOR
8	1	TALLEY COMMUNICATIONS	82-94	RIGHT ANGLE N-MALE TO N-FEMALE CONNECTOR, MITER BODY
9	1			C-CLAMP GROUNDING LUG
10	1	IDEC	BNDN1000	DIN RAIL
11	1	HOFFMAN	A-18P16	FULL LENGTH @ WIDTH PANEL
12	1	HOFFMAN	A-18181002HQRFG	NEMA 4X ENCLOSURE 18" X 18" X 10"/QUICK-RELEASE LATCHES
13	1			GROUND BUS BAR
14	1	PHOENIX CONTACT	2903060	SIMPLEX RECEPTACLE
15	1			3 PRONG PLUG W/2-#14

NOTES:

1. NAMEPLATE "UHF RADIO" SHALL BE PERMANENTLY ATTACHED TO OUTSIDE OF RADIO ENCLOSURE DOOR.
2. CONTRACTOR SHALL FIELD VERIFY RS-232C CONNECTION WIRING AND WIRE TAGGING, WITH THE RADIO AND STATION CONTROL PANEL SUPPLIED AND ADJUST WIRING AND WIRE TAGGING AS REQUIRED.
3. SEE SPECIFICATIONS FOR UHF RADIO SYSTEM REQUIREMENTS.
4. CLEARANCE DIMENSIONS FOR PANEL INSTRUMENTS SHALL BE VERIFIED BY THE CONTRACTOR DURING PANEL FABRICATION. CONTRACTOR IS RESPONSIBLE FOR INSURING THAT ALL INSTRUMENT INSTALLATIONS CLEAR DOOR OPENING.
5. ALL SUBPANELS SHALL BE BONDED TOGETHER WITH #12 AWG GROUND WIRE.
6. ALL EQUIPMENT, DEVICES, ETC. MOUNTED ON THE SUBPANEL(S) SHALL BE MOUNTED USING DRILL AND TAP METHOD. NUTS SHALL NOT BE USED ON THE BACK OF SUBPANEL(S). FLAT WASHERS AND LOCK WASHERS SHALL ALSO BE USED TO SECURE EQUIPMENT TO SUBPANEL(S). MDS 9710A SHALL BE MOUNTED TO RAIL BRACKETS AND SECURED BY TWO #10-32-1/2" SCREWS AND #10-32 WING NUTS.
7. SUPPLIED AND INSTALLED BY TUCSON WATER DURING FIELD STARTUP.

3 UHF RADIO ENCLOSURE W/EQUIPMENT

N.T.S.



NOTES:

1. WEATHERPROOF 1/2" COAX CABLE TO COAX SURGE PROTECTOR CONNECTION POINT USING CONNECTOR/SPLICE WEATHERPROOF KIT; ANDREW TYPE 221213; TO TO SEAL AGAINST MOISTURE.

2 COAX SURGE PROTECTOR INSTALLATION DETAIL

N.T.S.

NO.	BY	DATE	REVISION	APPR.	DATE

CITY OF TUCSON

OLD VAIL ROAD "G" TO VAIL WATER "T" ZONE

ANTENNA INSTALLATION AND RADIO CABINET DETAILS

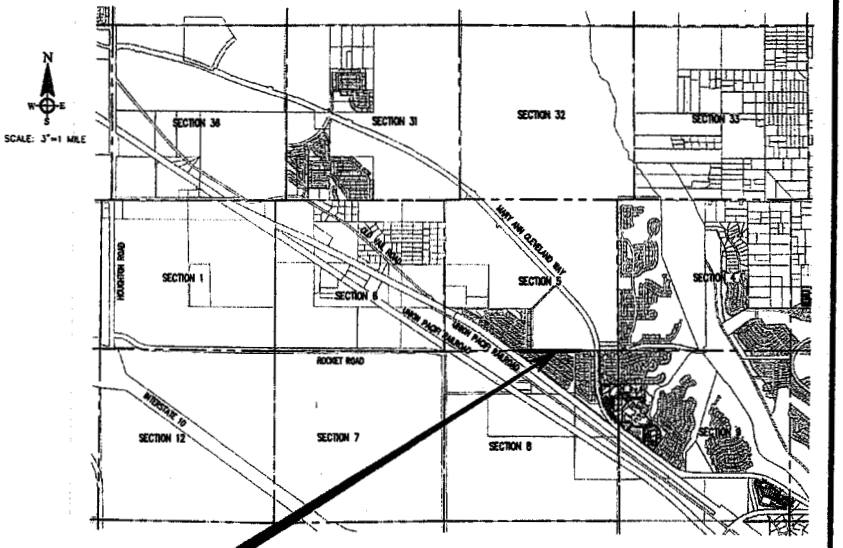
PRELIMINARY NOT FOR CONSTRUCTION

TUCSON WATER

DESIGNED BY F. YOURISON	DATE 12/12	CONTRACT NO. 1442012-16	SHEET 16 OF 20
DRAWN BY L. SPITZER	DATE 12/12	SCALE AS NOTED	
CHECKED BY F. YOURISON	DATE 12/12		DWG NO. 9-144-2012

VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN,
PHASE I WATER PLANS

VAIL WATER COMPANY



LOCATION MAP
A PORTION OF SECTION 8
T-16-S R-16-E, G&SRM
PIMA COUNTY, ARIZONA

OWNER/DEVELOPER
VAIL WATER COMPANY
14155 E. VIA RANCHO DEL LAGO BLVD.
BUILDING "B"
VAIL, ARIZONA 85641
PHONE: (520) 647-3679
FAX: (520) 647-3825
CONTACT: MANNY OROS

ACCEPTED:

VAIL WATER COMPANY 10/22/2012 DATE

SHEET INDEX

SHEET 1 .....COVER SHEET
SHEET 2 .....GENERAL NOTES AND PROJECT LAYOUT SHEET
SHEET 3 .....GENERAL NOTE AND STANDARD DETAIL SHEET
SHEET 4 .....PIPELINE PLAN AND PROFILE SHEET
SHEET 5 .....PIPELINE PLAN AND PROFILE SHEET

1-800-782-5348
1-800-STAKE IT

WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
4603 S. Pantano Park Drive
Tucson, Arizona 85713 (520) 298-9965

NO.	DATE	BY	REVISION	APP.	DATE

EXPIRES 3/31/2014

VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN,
PHASE I WATER PLANS

COVER SHEET

DESIGNED BY: G.G.F.	DRAWN BY: G.G.F.	CHECKED BY: K.D.F.	SHEET
DATE: OCTOBER 22, 2012	PROJECT NO. 228.126-A-6000	SCALE:	1
WESTLAND RESOURCES DRAWING PATH		HORIZ:	OF
W:\Projects\228.126\CAP\CAP-100-TRANS-MP1.dwg		VERT:	5

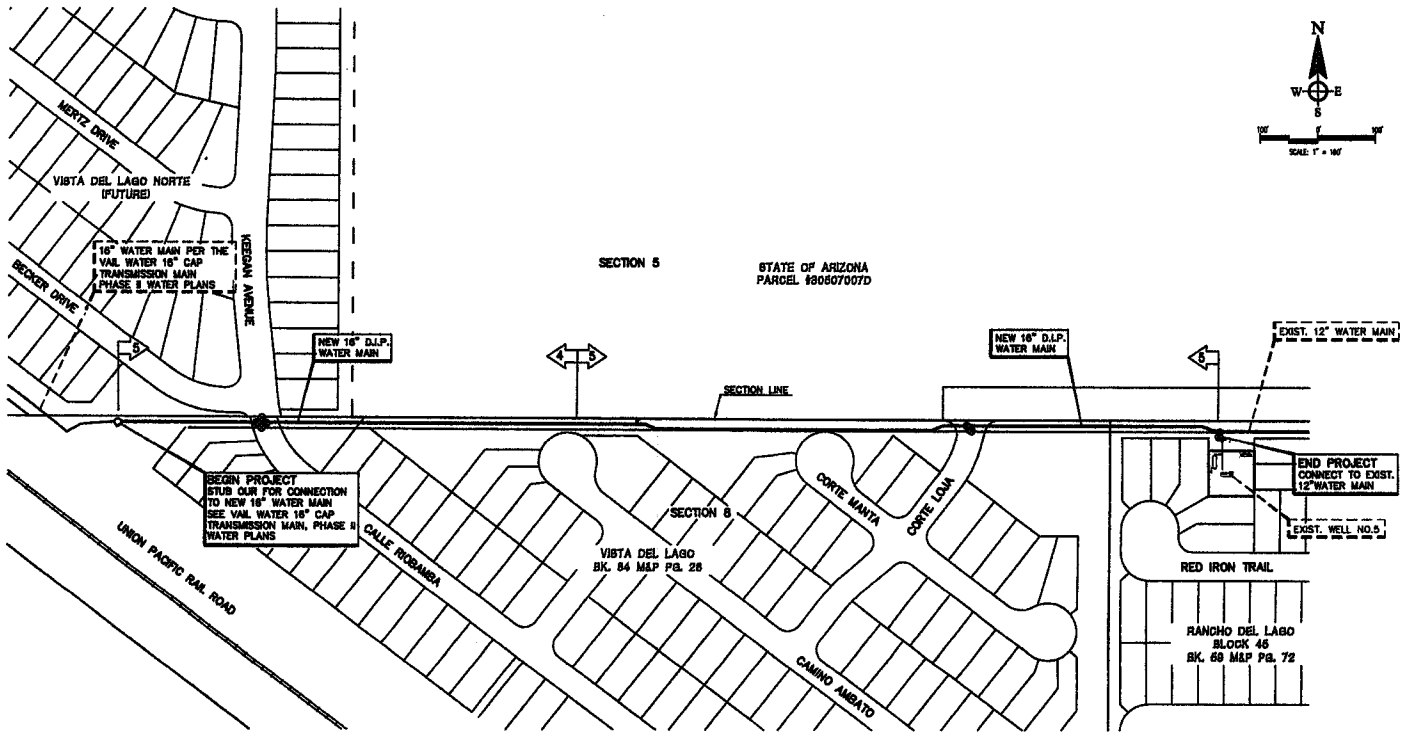
Oct 22, 2012 - 10:00am gordon

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF STANDARD SPECIFICATIONS FOR CONSTRUCTION FOR VAIL WATER COMPANY, THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY BULLETIN NO. 10, AND PIMA COUNTY.
2. ALL CONSTRUCTION SHALL CONFORM TO VAIL WATER COMPANY STANDARDS. SEE GENERAL NOTES AND STANDARD DETAIL SHEET.
3. THE CONTRACTOR SHALL SUPPLY ALL STAKES SET FOR THE LINES, LEVELS OR MEASUREMENTS OF THE WORK IN THEIR PROPER PLACES AND IT SHALL BE CERTIFIED BY A "REGISTERED LAND SURVEYOR". ANY EXPENSE INCURRED IN REPLACING ANY STAKES WHICH THE CONTRACTOR OR HIS SUBORDINATES MAY HAVE FAILED TO PRESERVE SHALL BE THE CONTRACTORS RESPONSIBILITY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CARE, MAINTENANCE, REPAIR OR REPLACEMENT OF EXISTING IMPROVEMENTS IN THE WORK AREA WHICH HAVE BEEN REMOVED OR DAMAGED DURING THE COURSE OF CONSTRUCTION. ALL REPAIR, REPLACEMENT, OR CLEANUP SHALL BE DONE TO THE SATISFACTION OF THE OWNER.
5. THE CONTRACTOR IS REQUIRED TO CONTACT "BLUE STAKE" (1-800-782-5348) 48 HOURS PRIOR TO ANY EXCAVATION TO DETERMINE ACCURATE UTILITY LOCATIONS.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FURNISH, HAUL AND APPLY ALL WATER REQUIRED FOR COMPACTION AND THE CONTROL OF DUST FROM CONSTRUCTION ACTIVITY. THE COST THEREOF IS TO BE INCLUDED IN THE PIPE INSTALLATION PRICE. UNIT PRICES FOR IMPORTED FILL SHALL BE FOR FILL COMPACTED IN PLACE.
7. THE CONTRACTOR SHALL EMPLOY A GEOTECHNICAL ENGINEER TO OBSERVE, INSPECT AND TEST ALL GRADING OPERATIONS. THE SAID ENGINEER SHALL CERTIFY THAT ALL GRADING OPERATIONS WERE PERFORMED IN ACCORDANCE WITH APPLICABLE PLANS.
8. VAIL WATER COMPANY AND THEIR ENGINEER SHALL REVIEW ALL SHOP DRAWINGS AND EQUIPMENT SUBMITTALS FOR COMPLIANCE WITH PLANS AND SPECIFICATIONS.
9. DISINFECTION TO BE PERFORMED IN ACCORDANCE WITH A.D.H.S. ENGINEERING BULLETIN NO. 8.
10. ALL GRADING SHALL BE IN CONFORMANCE WITH THE PIMA COUNTY GRADING ORDINANCE, LATEST EDITION.
11. ALL DUCTILE IRON PIPE SHALL BE CLASS 250
12. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE CEMENT-MORTAR LINED IN ACCORDANCE WITH AWWA C-104. ALL UNDERGROUND DUCTILE IRON PIPE SHALL BE WRAPPED PER AWWA C-105.
13. ALL BUTTERFLY VALVES, SHALL CONFORM TO AWWA C-504. GATE VALVES SHALL CONFORM TO AWWA C-509.
14. ALL TRANSITIONS BETWEEN DUCTILE IRON AND STEEL PIPING SHALL BE MADE USING APPROVED ADAPTORS AND FLANGE INSULATION KIT PER TUCSON WATER STANDARD DETAIL 704. (SUBMITTAL REQUIRED).
15. ALL BELOW GROUND PIPING TO BE MECHANICAL JOINT RESTRAINED FITTINGS. (MEGA LUG, LOK-TYTE, LOK-FAST OR EQUAL)
16. UNLESS OTHERWISE NOTED, ALL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
17. ALL FOREIGN MATERIALS ENCOUNTERED AS A RESULT OF CONSTRUCTING THIS PROJECT INCLUDING BUT NOT LIMITED TO ROCK, ORGANIC DEBRIS AND EXISTING PIPING OR CONCRETE SHALL BE REMOVED AND LAWFULLY DISPOSED OF AT THE CONTRACTORS EXPENSE.
18. UPON COMMENCEMENT OF WORK, TRAFFIC CONTROL DEVICES SHALL BE POSTED AND MAINTAINED BY THE CONTRACTOR UNTIL SUCH TIME AS THE WORK IS COMPLETED. ALL WARNING SIGNS, BARRICADES ETC. SHALL BE IN ACCORDANCE THE MANUAL FOR UNIFORM TRAFFIC CONTROL.
19. A QUALIFIED REGISTERED ENGINEER OR LAND SURVEYOR MUST CERTIFY THAT THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS PRIOR TO REQUESTING FINAL INSPECTION.
20. CONTRACTOR TO COORDINATE AND PAY ALL INSPECTIONS, TESTING AND RE-TESTING FEES REQUIRED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY PRIOR TO RELEASING "APPROVAL OF CONSTRUCTION".
21. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OCCUPATION SAFETY AND HEALTH ADMINISTRATION REGULATIONS.
22. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY GOVERNMENTAL AGENCIES.
23. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWING NOTES AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
24. A COPY OF THIS PLAN SHALL BE KEPT IN AN EASILY ACCESSIBLE LOCATION ON THE SITE AT ALL TIMES DURING CONSTRUCTION.
25. CONTRACTOR SHALL REMOVE ALL EXCESS EXCAVATED MATERIALS, CONSTRUCTION DEBRIS, AND GRUBBED VEGETATION FROM SITE AND LEGALLY DISPOSE OF THESE MATERIALS OFF SITE.
26. THE CONTRACTOR SHALL GRADE ALL AREAS DISTURBED BY THE PIPELINE INSTALLATION TO MATCH THE SURROUNDING CONTOURS.
27. ALL EXISTING DRAINAGEWAYS SHALL BE RESTORED TO EXISTING CONDITIONS AFTER CONSTRUCTION.
28. THE ENTIRE DISTURBED AREA OF PIPELINE ALIGNMENT SHALL BE HYDROSEEDED USING NATIVE SEED MIX APPROVED BY THE OWNER.
29. CONTRACTOR TO PROVIDE EROSION CONTROL AND STORM WATER POLLUTION PREVENTION FEATURES DURING CONSTRUCTION. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACTORS UNIT PRICES FOR THE PROJECT.

CORROSION REQUIREMENTS

1. ALL MATERIALS, WORK, AND TESTING PER TUCSON WATER SD-700.
2. ELECTRICAL CONTINUITY JOINT BONDS AT ALL NON-ISOLATED JOINTS. USE 2 EACH #2 HMWPE JOINT BONDS PER JOINT PER TUCSON WATER STANDARDS DETAILS 700 AND 702.
3. CTS (CORROSION TEST STATION) AS SHOWN WITH ABOVE GROUND BIG FINK OR EQUAL.
4. FIK (FLANGE INSULATING KIT) AT TIE-IN TO EXISTING PIPE FOR ISOLATION. PRE-TEST FIK PRIOR TO BACKFILL AND AFTER BACKFILL.



BASIS OF BEARING:

DIRECTION BETWEEN FOUND MONUMENTS AT THE NORTHWEST CORNER OF THAT PARCEL DESCRIBED IN DOCKET 9655, PAGE 1683, AND THE INTERSECTION OF THE WEST LINE OF SAID PARCEL WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF THE UNION PACIFIC RAILROAD, ALL AS SHOWN ON RECORD OF SURVEY BOOK 38, PAGE 74 – S00°01'51"W.

BASIS OF ELEVATION:

THE BASIS OF ELEVATION IS A C.O.T. BENCHMARK 131G, FIELD BOOK 1989-G-1, PAGE 20 LEFT ("X" ON NORTH CORNER OF WEST HEADWALL BY 2ND UTILITY POLE NORTH OF OLD VAIL ROAD) – ELEVATION 3008.361 (NAVD 88).

UTILITY STATEMENT

EXISTING ABOVE AND BELOW GROUND UTILITIES HAVE BEEN DELINEATED ON THESE PLANS BASED UPON FIELD SURVEY INFORMATION (PERFORMED BY OTHERS) AS WELL AS FROM BLUE STAKE MARKINGS AND UTILITY BASE MAPS (AS MADE AVAILABLE) AND THEREFORE THE ENGINEER MAKES NO GUARANTEE OF THE ACCURACY OR COMPLETENESS OF THE UTILITY LOCATIONS OR OF THE EXISTENCE OR NONEXISTENCE OF ANY UTILITY OR UNDERGROUND STRUCTURES SHOWN. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEANS NECESSARY TO PROTECT ANY UTILITY. THE CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR DAMAGE TO EXISTING ABOVE OR UNDERGROUND UTILITIES, INCLUDING THOSE NOT SHOWN ON THESE PLANS.

LEGEND

DEL	DELINEATOR		EXISTING CHAIN LINK FENCE
IBX	IRRIG. CONTROL BOX		EXISTING BARBED WIRE FENCE
MB	MAIL BOX		EXISTING WOOD FENCE
MON	SURVEY PIN	HCP	HORIZONTAL CONTROL POINT
SIGN	SIGN	305-09-0550	PIMA COUNTY PARCEL NUMBER
TLOC	TELEPHONE LOCATOR		PROPERTY LINE
TPD	TELEPHONE PEDESTAL		PROPOSED WATER LINE AND VALVE
TRAN	TRANSFORMER		PROPOSED MODIFIED DVA
WM	WATER METER		CATHODIC TEST STATION
BSE	BLUESTAKE ELECTRIC	4	SHEET NUMBER
BST	BLUESTAKE TELEPHONE		ROW LINE

1-800-782-5348 1-800-STAKE IT BLUE STAKE, INC.

NO.	DATE	BY	REVISION	APP.	DATE

VAIL WATER COMPANY

16" CAP TRANSMISSION MAIN, PHASE I WATER PLANS

GENERAL NOTES AND PROJECT LAYOUT SHEET

DESIGNED BY: G.C.F.	DRAWN BY: G.C.F.	CHECKED BY: K.D.F.	SHEET
DATE: OCTOBER 22, 2012	PROJECT NO. 226.129-A-8000	SCALE: HORIZ: 1"=100' VERT:	2 OF 5
WESTLAND RESOURCES DRAWING PATH:			

WestLand Resources, Inc. Tucson • Phoenix • Flagstaff

GENERAL WATER SYSTEM NOTES

PRE CONSTRUCTION NOTES (PC)

1. ALL CONSTRUCTION SHALL CONFORM TO "TUCSON WATER STANDARD SPECIFICATIONS AND DETAILS, 2001 EDITION" EXCEPT AS MODIFIED HEREON. SAID STANDARDS SHALL REMAIN ON SITE AT ALL TIMES DURING CONSTRUCTION.
2. CONTRACTOR SHALL NOTIFY VAL WATER COMPANY A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ANY CONSTRUCTION TO SCHEDULE A PRECONSTRUCTION CONFERENCE. WORK SHALL NOT COMMENCE UNTIL A "NOTICE TO PROCEED" HAS BEEN ISSUED BY VAL WATER COMPANY AND THE CERTIFICATIONS OF "APPROVAL TO CONSTRUCT" HAS BEEN RECEIVED BY VAL WATER COMPANY FROM THE PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY. ANY PIPE INSTALLED PRIOR TO THE "NOTICE TO PROCEED" SHALL BE REMOVED BY THE CONTRACTOR AT HIS OWN EXPENSE.
3. THE CONTRACTOR IS REQUIRED TO CONTACT "BLUE STAKE" (1-800-782-5348) FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION TO DETERMINE ACCURATE UTILITY LOCATIONS.
4. WATER MAINS TO BE INSTALLED AFTER SEWER INSTALLATION AND GRADING OF STREETS AND WALK AREAS TO WITHIN 6" OF FINAL GRADE FOR NEW CONSTRUCTION AND BEFORE ANY UTILITIES (ELEC., TEL., ETC.)
5. A REGISTERED ENGINEER OR A REGISTERED LAND SURVEYOR MUST CERTIFY THAT THE GRADE IS WITHIN 6" OF FINAL GRADE AND PROVIDE LAYOUT SHEETS PRIOR TO NOTICE TO PROCEED, FOR NEW CONSTRUCTION.
6. CONTRACTOR TO PROVIDE ALL CUT SHEETS, SHOP DRAWINGS AND EQUIPMENT LISTS AT PRE-CONSTRUCTION MEETING WITH VAL WATER COMPANY. CONSTRUCTION SHALL NOT BEGIN UNTIL ALL CONSTRUCTION MATERIALS ARE APPROVED BY VAL WATER COMPANY STAFF.
7. ALL WATER MAINS WILL BE INSPECTED BEFORE BACKFILL. FINAL ACCEPTANCE WILL NOT BE GRANTED WITHOUT AUTHORIZATION FROM VAL WATER COMPANY SHOWING INSPECTION HAS BEEN PERFORMED.
8. OWNER (DEVELOPER) TO PAY FOR ALL INSPECTIONS AND FEES, ALL FEES TO BE PAID IN FULL BEFORE ACCEPTANCE OF WATER SYSTEM.
9. LINE EXTENSION AGREEMENTS MUST BE SIGNED BEFORE ANY WATER CONSTRUCTION BEGINS.
10. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
11. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING MAINS FOR PROPOSED CONNECTIONS PRIOR TO COMMENCEMENT OF WORK.
12. WATER MAINS TO BE INSTALLED WITH A MINIMUM OF 44" OF COVER FOR ALL MAINS 12" AND SMALLER UNDER PAVEMENT, EXCEPT AS OTHERWISE NOTED ON THESE PLANS. ALL MAINS INSTALLED OUTSIDE PAVEMENT SHALL BE INSTALLED WITH A MINIMUM OF 60 INCHES (60") OF COVER.
13. WHERE WATER MAINS CROSS OVER THE TOP OF EXISTING OR PROPOSED DRAINAGE STRUCTURE;
    1) A MINIMUM 24" VERTICAL SEPARATION IS REQUIRED BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE DRAINAGE STRUCTURE.
    2) A MINIMUM 44" OF COVER TO THE FINISHED GRADE ABOVE THE WATER MAIN.

    IF THESE REQUIRED CONDITIONS DO NOT EXIST, THEN THE WATER MAIN SHALL BE INSTALLED BELOW THE EXISTING OR PROPOSED DRAINAGE STRUCTURE IN ACCORDANCE TO THE "DRAINAGE STRUCTURE/CULVERT CROSSING DETAIL."
14. ALL WATER MAINS TO HAVE A MINIMUM HORIZONTAL SEPARATION FROM SEWER MAINS OF 6" AND A MINIMUM VERTICAL SEPARATION OF 2'. SANITARY SEWER MH'S WHICH CROSS OVER WATER MAINS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 6" AND SHALL BE DIP. SEE DCD STANDARDS FOR FORCE MAINS.
15. WHEN A WATER MAIN CROSSES A SEWER PIPE AT A POINT AT WHICH THE SEWER IS TWO FEET (2') OR MORE BELOW THE WATER PIPE, EXTRA PROTECTION IS NOT REQUIRED. AT ALL OTHER CROSSINGS, THE SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH MECHANICAL JOINTS, OR APPROVED EQUAL, FOR A DISTANCE OF AT LEAST TEN (10') FEET IN EACH DIRECTION MEASURED PERPENDICULAR TO THE OUTSIDE OF EDGE OF THE WATERLINE. REQUIREMENTS PER ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING BULLETIN NO. 10, CHAPTER 7.
16. ELECTRIC LINES SHALL NOT BE INSTALLED WITHIN A HORIZONTAL DISTANCE OF 6" FROM A WATER MAIN UNLESS SHOWN IN A JOINT TRENCH DETAIL ON THE APPROVED PLANS THEN THE MINIMUM HORIZONTAL SEPARATION SHALL BE 3'.
17. NO CONNECTION TO THE EXISTING VAL WATER COMPANY SYSTEM WILL BE PERMITTED UNLESS PRIOR APPROVAL HAS BEEN OBTAINED IN WRITING FROM A VAL WATER COMPANY REPRESENTATIVE.
18. IF NEW CONSTRUCTION REQUIRES THE WATER TO BE SHUT OFF TO MAKE THE TIE-INS TO THE EXISTING SYSTEM, THE CONTRACTOR SHALL PROVIDE TO VAL WATER COMPANY WITH A WRITTEN SCHEDULE OF THE PROPOSED CONNECTIONS AT LEAST 48 HOURS PRIOR TO THE START OF SUCH TIE-INS. HOWEVER, NO WATER WILL BE TURNED OFF UNTIL ALL AFFECTED WATER USERS HAVE BEEN NOTIFIED BY THE CONTRACTOR OF THE SCHEDULE NOT LESS THAN TWENTY-FOUR (24) HOURS BEFORE WATER IS TO BE TURNED OFF.
19. THE CONTRACTOR IS REQUIRED TO NOTIFY ALL VAL WATER CO. OF ANY POSSIBLE SERVICE INTERRUPTION OR INCONVENIENCE DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE A PHONE NUMBER AT WHICH HE/SHE CAN BE REACHED AT ANY TIME.
20. THE CONTRACTOR SHALL NOTIFY VAL WATER COMPANY A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ANY CONSTRUCTION WHICH MAY COME IN CONTACT WITH TRANSITE (AC) PIPE. IF REMOVAL OF AC PIPE IS NECESSARY, A CERTIFIED CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL AC PIPE MATERIAL UNDER ALL CURRENT CODES AND REGULATIONS.
21. VAL WATER COMPANY IS NOT RESPONSIBLE FOR PROVIDING FIRE FLOW.
22. ALL RACK SHOWN ON PLANS WILL HAVE TO BE CONSTRUCTED BY MANUFACTURERS RECOMMENDATIONS FOR DEVELOPER, VAL WATER CO. AND/OR THEIR REPRESENTATIVE. WILL FIELD CHECK IN A CASE BY CASE BASIS WHERE DEFLECTIONS, AND IF CONSIDER NECESSARY WILL REQUEST FITTING(S) INSTALLATION.
23. CONTRACTOR TO PAY ALL RE-TEST FEES TO VAL WATER COMPANY PRIOR TO ANY RE-SCHEDULING.

MATERIALS (MS)

1. ALL PIPE BEDDING AND BACKFILL MATERIAL SHALL BE IMPORTED CLEAN SANDY MATERIAL CONFORMING TO TUCSON WATER STANDARD SPECIFICATION CONSIGN.
2. ALL FIRE HYDRANT RUNS TO BE CONSTRUCTED WITH RESTRAINED JOINT D.I.P. CLASS 350. FIRE HYDRANTS SHALL BE SECURED WITH MUELLER HYDRANT DEFENDERS.
3. ALL WATER MAINS SHALL BE CONSTRUCTED WITH GATE VALVES W/BOX AND COVER IN ACCORDANCE WITH TUCSON WATER STANDARD SPECIFICATIONS. ALL RISERS SHALL BE EQUIPPED WITH DIRT SHIELDS.
4. ALL D.I.P. RUNS WILL BE MECHANICAL JOINTS, WITH D.I.P. MEGA-LUG WRAPPED IN PLASTIC, DIP, TO BE CLASS 350, OR VAL WATER COMPANY APPROVED EQUAL. DURING INSTALLATION OF D.I.P. DRAINAGE CROSSINGS, THE VAL WATER COMPANY RESERVES THE RIGHT TO HAVE THE CONTRACTOR MAKE MODIFICATIONS OF CROSSINGS AS VAL WATER COMPANY DEEMS NECESSARY.
5. VALVE NUT EXTENSIONS, IF REQUIRED, SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. PER TUCSON WATER STANDARD DETAIL NO. 300.
6. ALL MECHANICAL JOINT (M.J.) FITTINGS TO BE OF THE MEGALUG RESTRAINT TYPE DESIGN OR APPROVED EQUAL, AND ALL INSTALLATION FOR THRUST CONTROL ON ALL PIPELINES SHALL PER TUCSON WATER STANDARD 600.
7. SOLID SLEEVE ADAPTERS SHALL BE REQUIRED FOR ALL PIPING TRANSITIONS. ADAPTERS SHALL MAKE M.J. FITTINGS TYLER, 12" MINIMUM LENGTH OR APPROVED EQUAL.

MATERIALS (MS) CONT'D

8. SIZE ON SIZE TAPPING SLEEVES SHALL CONSIST OF MINIMUM TYPE 304 STAINLESS STEEL BODY, FLANGE AND ALL ACCESSORIES.
9. THE ONLY APPROVED PIPING MATERIAL FOR WATER LINES ARE:
   COPPER TYPE K WITH FLAR FITTINGS, PVC CLASS 200 C900 AND DIP CLASS 350. APPROVED MANUFACTURERS OF SAID MATERIALS ARE LISTED IN THE "TUCSON WATER STANDARD SPECIFICATIONS AND DETAILS, 2001 EDITION".
10. SAMPLING STATIONS SHALL BE KOHLER#6 STATION GUARD M.T.
11. CONTRACTOR SHALL USE MUELLER FIRE HYDRANT DEFENDERS ON ALL NEW HYDRANTS, MODEL #H2000000 FOR MUEROKOS HYDRANTS AND MODEL #H2000000 FOR MUELLER HYDRANTS.

BACKFLOW (BF)

1. ALL CONSTRUCTION WATER WILL BE METERED WITH AN APPROPRIATE SIZE WATER METER AND BACKFLOW PREVENTION DEVICE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE WATER METER AND BACKFLOW DEVICE FROM VAL WATER COMPANY.
2. CONTRACTOR SHALL INSTALL REDUCED PRESSURE ASSEMBLY (RPA) PER TUCSON WATER APPROVED STANDARD DETAILS FOR BACKFLOW ASSEMBLIES ON ALL COMMERCIAL AND IRRIGATION SERVICES. SUBMITTALS FOR SAID ASSEMBLIES SHALL BE SUBMITTED TO VAL WATER COMPANY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
3. ALL BACKFLOW PREVENTION DEVICES SERVING ARE TO BE CONSTRUCTED PER U.P.C. STANDARDS.

DETECTOR TAPE AND TRACER WIRE (DT)

1. CONTRACTOR TO INSTALL DETECTOR TAPE ABOVE ALL WATER LINES AND WATER SERVICES. TAPE IS TO BE PLACED 12" BELOW FINAL GRADE. PER TUCSON WATER STD. SPEC. SECTION 0210.
2. THE CONTRACTOR IS REQUIRED TO INSTALL BLUE COLOR #10 UF STANDARD DIRECT BURIAL WIRE ON TOP OF THE PIPE AND TIED DOWN WITH 18" SOURPS WITH 3" LOOPS BROUGHT UP AROUND VALVE RISERS (SEE NOTE ON "TRACER WIRE, MODIFIED DVA AND DVA DETAIL". VALVE RISERS ARE TO BE FIELD SELECTED BY THE VAL WATER COMPANY OR THEIR REPRESENTATIVE. (SEE "TRACER WIRE, MODIFIED DVA AND DVA DETAIL")
3. THE TRACER WIRE IS TO BE CERTIFIED BY A LICENSED ELECTRICAL CONTRACTOR FOR CONTINUITY BEFORE PAVING OPERATIONS. FINAL ACCEPTANCE WILL NOT BE GRANTED UNTIL CERTIFICATION IS RECEIVED BY THE VAL WATER COMPANY. SPLICES WILL BE MADE WITH SILICON SPLICE, TAPED W/ELECTRICAL TAPE AND MUST BE INSPECTED. SIGNAL INDUCED TEST RESULTS WILL NOT BE ACCEPTED.
4. TRACER WIRE TO BE BROUGHT UP ON ALL BLOWOFFS AND IN LINE VALVES, PIPES STUBS, HYDRANTS, SERVICES OR ANY OTHER BURIED WATER APPURTENANCE. PER TUCSON WATER STANDARDS 300, 301, 302, 330 & 331.
5. THE TRACER WIRE IS TO BE CERTIFIED BY A LICENSED ELECTRICAL CONTRACTOR FOR CONTINUITY AFTER PAVING OPERATIONS ARE COMPLETED. FINAL ACCEPTANCE WILL NOT BE GRANTED UNTIL CERTIFICATION IS RECEIVED BY THE VAL WATER COMPANY. SPLICES SHALL BE MADE WITH WIRE-NUT IMPREGNATED WITH SILICON, WRAPPED WITH ELECTRICAL TAPE AND MUST BE INSPECTED. SIGNAL INDUCED TEST RESULTS WILL NOT BE ACCEPTED. VAL WATER COMPANY RECOMMENDS AND ENCOURAGES THE CONTRACTOR TO PRECHECK THE TRACER WIRE PRIOR TO PAVING OPERATIONS TO AVOID RE-PAVING COSTS THAT MAY INCURRED BY THIS PROCEDURE.

WATER SERVICES (WS)

1. THE DEVELOPER/APPLICANT SHALL HAVE ALL CURB STOPS LOCATED AND PROTECTED DURING ALL PHASES OF CONSTRUCTION.
2. INSTALL TOP OF CURB STOPS 18" BEHIND BACK OF CURB OR WALK (AS APPLICABLE) FROM STREET WITH CURBS AND 6" TO 10" BELOW TOP OF CURB OR WALK (SEE DETAIL).
3. FOR STREETS WITHOUT CURBS, INSTALL TOP OF CURB STOPS 6" TO 10" BELOW FINISH GRADE AND A EMBOSSED FOR PROPERTY LINE THAT WILL PLACE THE METER BOX JUST ABANDONED TO SAID PROPERTY LINE.
4. CURB STOPS SHALL NOT BE INSTALLED AT THE SAME LOT CORNERS AS THE ELECTRICAL SERVICE. WHERE THIS CANNOT BE ACCOMPLISHED, CONTACT VAL WATER COMPANY REPRESENTATIVE.
5. METER BOXES AND LIDS TO BE FURNISHED BY CONTRACTOR/DEVELOPER AND INSTALLED TO FINISH GRADE BY CONTRACTOR. ALL METER BOX SIZES SHALL CONFORM TO VAL WATER COMPANY STANDARDS. METER BOX SHALL BE INSTALLED TO 0.1' ABOVE FINISHED GRADE. (SEE NOTE #5 FOR METER BOX REQUIREMENTS).
6. METER BOX REQUIREMENTS:
   DFW PLASTICS MODEL # DFWMHD-12-1A
7. WATER SERVICE TO REMAIN MANNED DURING CONSTRUCTION. ANY RELOCATION OF SERVICES TO BE BY CONTRACTOR, INCLUDING HEIGHT ADJUSTMENTS. NOTIFY VAL WATER COMPANY IN ADVANCE OF ANY RELOCATION OR ADJUSTMENTS.
8. PAVING CONTRACTOR TO MARK CURBS WITH "W" AT ALL SERVICE LOCATIONS.
9. CONTRACTOR TO CONSULT WITH VAL WATER COMPANY STAFF PRIOR TO INSTALLING ANGLE METER STOPS 1" AND LARGER.
10. DEVELOPER OR BUILDER IS REQUIRED TO INSTALL A CUSTOMER CUTOFF BALL VALVE WITH HANDLE INSIDE OF METER BOX IN ACCORDANCE WITH THE VAL WATER COMPANY STANDARDS.
    BALL VALVE ASSEMBLY :
    3/4" METER; FORD # B13-332 W/ABS 3-1/4" LONG HANDLE
    MUELLER # B-24301
    1" METER; FORD # B13-444 W/ABS 3-1/4" LONG HANDLE
    MUELLER # B-24301
11. WATER SERVICES IN CONCRETE DRIVEWAYS, SIDEWALKS OR CURBS ARE NOT ALLOWED WITHOUT PRIOR APPROVAL OF VAL WATER COMPANY. WATER SERVICES OR METERS BOXES AND LIDS INSTALLED WITHIN CONCRETE PAVED DRIVEWAYS, SIDEWALKS OR CURBS MUST BE TRAFFIC RATED AND INCREASED ONE (1) SIZE.
12. VAL WATER COMPANY WILL NOT ALLOW 4 INCH (4") OR SMALLER WATER MAINS.
13. ALL WATER SERVICES TO BE CONTINUOUS (NO REPAIRS) FROM WATER MAIN TAP TO ANGLE METER STOP.
14. METERS SHALL BE PLACED 3 FEET FROM THE PROPERTY LINE AND 6 FEET FROM AN ELECTRICAL PEDESTAL OR TRANSFORMER. METERS SHALL NOT BE PLACED IN DRIVEWAYS. IF THIS CANNOT BE ACCOMPLISHED, VAL WATER COMPANY WILL REVIEW THE METER LOCATIONS ON AN INDIVIDUAL BASIS.
15. ALL RESIDENTIAL WATER SERVICES SHALL BE 1" SINGLE SERVICES WITH A BA63362-NO FORD CURB STOP OR MUELLER B-24260 CURB STOP UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL COORDINATE WITH VAL WATER COMPANY ABOUT THE APPROVALED SIZE OF THE WATER METERS FOR THE PROJECT TO DETERMINE THE PROPER SIZE OF THE ANGLE METER STOP PRIOR TO INSTALLATION.

AIR RELEASES (AR)

1. THE LOCATION OF AIR RELEASE VALVE ASSEMBLIES SHOWN IN THESE PLANS IS FOR INFORMATION ONLY. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF HIGH POINTS IN THE WATER MAIN, THESE LOCATIONS MUST BE APPROVED BY VAL WATER REPRESENTATIVE, OR OWNER'S INSPECTOR. AIR RELEASE VALVE ASSEMBLIES SHALL NOT BE INSTALLED IN STREETS, DRIVEWAYS, OR SIDEWALKS. INSTALLATION SHALL BE PER COMBINATION AIR RELEASE VALVE DETAIL THIS PAGE.

AIR RELEASES (AR) CONT'D

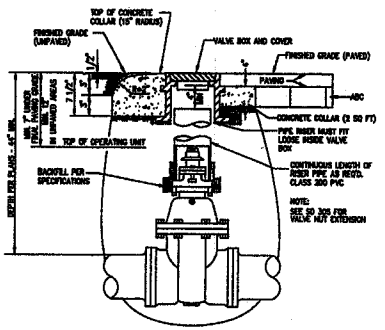
2. ALL AIR RELEASE VALVES SHALL BE ARMSTRONG AR21 FOR 3/4" SIZE AND CRISPIN UL TYPE FOR 1" TO 2" SIZES (COMBINATION AIR RELEASE AND VACUUM). ALL AIR RELEASE VALVES SHALL HAVE STAINLESS STEEL OR BRASS FITTING INSTALLED WITH STAINLESS STEEL HOSE CLAMP IN ELBOW.
3. AIR RELEASE VALVES SHALL BE ENCLOSED IN DFW GUARDSHACK MODEL NO. GS-2, MOUNTED AND SECURED TO DEPI ENCPAD MODEL NO. EP-2 PER MANUFACTURER'S SPECIFICATIONS. COLOR OF GUARDSHACK TO BE TAN.

FLUSHING OUTLET (FO)

1. ALL FLUSHING OUTLETS ASSEMBLIES SHALL HAVE CONCRETE COLLARS AND SHALL MEET VAL WATER COMPANY SPECS (SEE DETAIL) AND HAVE VAL WATER CO. APPROVED AND ACCEPTED BOXES AND LIDS.
2. ALL FLUSHING OUTLET ASSEMBLIES LOCATIONS TO BE PER VAL WATER COMPANY.
3. METER BOX REQUIREMENTS:
   FLUSHING VALVE ASSEMBLY____MO-STATES MODEL # MSBC 1730-18
   COVER FOR ABOVE_____MODEL # MSCBC 1730

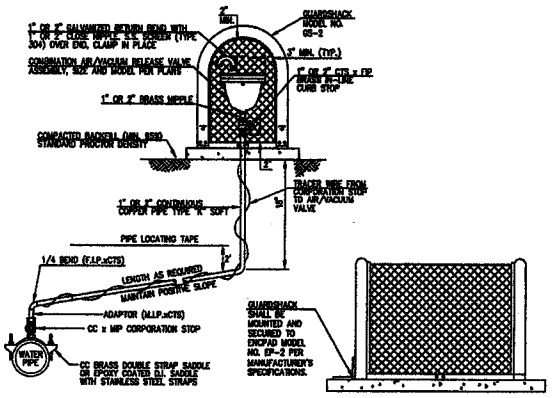
FINAL CONSTRUCTION NOTES (FCN)

1. THE CONTRACTOR SHALL SUBMIT A "PRELIMINARY FLUSHING SEQUENCE" TO VAL WATER COMPANY FOR APPROVAL PRIOR TO FLUSHING. THE SUBMITTAL SHALL BE PER TUCSON WATER'S OFFICE PROCEDURE NO. 8, "PRELIMINARY FLUSHING SEQUENCE."
2. EXISTING DEAD-END MAINS SHALL BE THOROUGHLY FLUSHED BEFORE TIE-INS ARE MADE TO NEW LINES BEING INSTALLED BY THIS PROJECT.
4. THE CONTRACTOR SHALL NOTIFY VAL WATER COMPANY FOUR (4) WORKING DAYS IN ADVANCE FOR SCHEDULING WATER MAIN PRESSURE TESTING AND BACTERIAL TESTING. VAL WATER COMPANY REP WILL NOTIFY P.C.D.E.Q. AND COORDINATE WITH CONTRACTOR.
5. NO TIE-INS TO EXISTING WATER MAINS UNTIL BACTERIOLOGICAL TESTING RESULTS ARE REPORTED NEGATIVE.
6. "AS BUILT" PLANS AND AN ENGINEERS CERTIFICATE OF COMPLETION PER P.C.D.E.Q. REQUIREMENTS STAMPED BY A PROFESSIONAL ENGINEER TO BE PROVIDED BEFORE ACCEPTANCE BY VAL WATER COMPANY (ORIGINAL AND FOUR (4) 1-SIDED PRINTS AND PDF FILE).
7. THE DEVELOPER/APPLICANT SHALL HAVE ALL WATER VALVES IDENTIFIED AND LOCATED PRIOR TO PAVING AND SHALL HAVE ALL VALVE BOXES SET TO FINAL GRADE AFTER PAVING, OR FINAL GRADING IF NOT IN PAVED AREAS.
8. AFTER THE PAVING, CURBS, AND SIDEWALKS HAVE BEEN INSTALLED, A VAL WATER COMPANY UTILITY REPRESENTATIVE WILL CHECK ALL VALVE RISERS, SERVICE METER BOXES, AND FIRE HYDRANTS FOR OPERATION AND FIELD ADJUSTMENT PRIOR TO FINAL APPROVAL.
9. FINAL ACCEPTANCE WILL NOT BE GRANTED UNTIL THE PIPE CERTIFICATION, BACKFILL CERTIFICATION WITH TESTING RESULTS, VALVE CERTIFICATION, AND THE PAVING MONUMENTATION, TEST AND P.C.D.E.Q. CERTIFICATION OF "APPROVAL OF CONSTRUCTION" HAVE BEEN RECEIVED BY VAL WATER COMPANY REPRESENTATIVE.



VALVE AND VALVE BOX INSTALLATION
N.T.S.

SD 300 AND SD 305 REFERS TO STANDARD DETAIL NUMBERS FROM "TUCSON WATER COMPANY'S STANDARD SPECIFICATIONS AND DETAILS", LATEST EDITION.

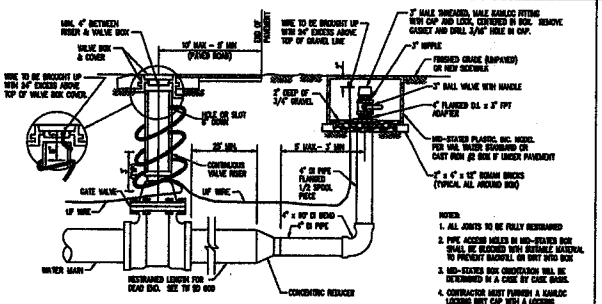


GUARDSHACK SIDE VIEW

NOTES:

1. ASSEMBLIES SHALL BE PROTECTED WITH A MINIMUM OF THREE (3) POST BARRICADES PER PC/COT STANDARD DETAIL 108, TYPE B. VAL WATER COMPANY WILL DETERMINE LOCATION OF POST BARRICADES BASED ON EXISTING CONDITIONS.
2. ITEMS INDICATED MAY BE SUBSTITUTED BY AN APPROVED EQUAL.
3. IF ANY VARIANCE TO THE ENCLOSURE IS TO BE MADE, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE COMBINATION AIR RELEASE/AIR VACUUM VALVE ENCLOSURE PRIOR TO CONSTRUCTION.
4. BENDS MAY VARY TO LOCATE ARV OUTSIDE TRAVELED WAY. MAINTAIN POSITIVE SLOPE FOR DRAINAGE.
5. RESTRAIN JOINTS 3" AND LARGER.

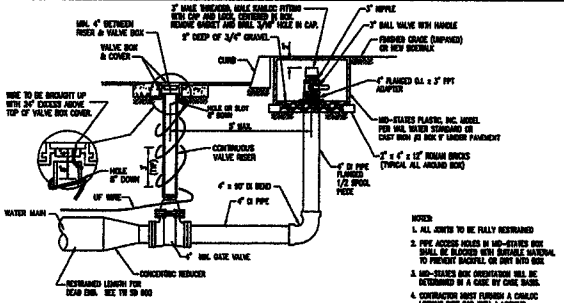
COMBINATION AIR RELEASE VALVE DETAIL (2" AND SMALLER)
N.T.S.



MODIFIED FLUSHING OUTLET
N.T.S.

NOTES:

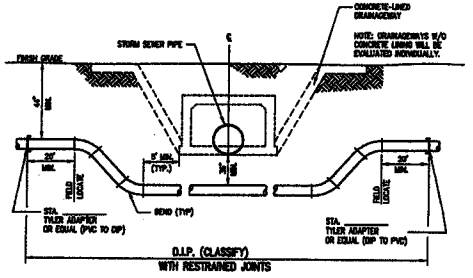
1. ALL JOINTS TO BE FULLY RESTRAINED
2. PIPE ACCESS HOLES IN MO-STATES BOX SHALL BE BLOCKED WITH SUITABLE MATERIAL TO PREVENT BACKFILL ON DIRT INTO BOX
3. MO-STATES BOX ORIENTATION WILL BE DETERMINED IN A CASE BY CASE BASIS.
4. CONTRACTOR MUST FURNISH A CAULIC LOCKING DIRT CAP WITH A LOCKING DEVICE FOR EACH FLUSHING OUTLET



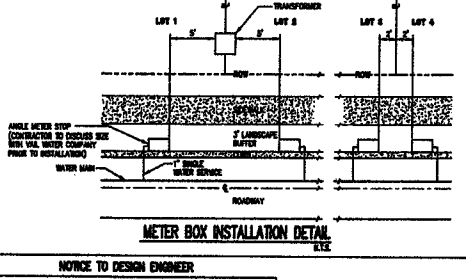
FLUSHING OUTLET
N.T.S.

NOTES:

1. ALL JOINTS TO BE FULLY RESTRAINED
2. PIPE ACCESS HOLES IN MO-STATES BOX SHALL BE BLOCKED WITH SUITABLE MATERIAL TO PREVENT BACKFILL ON DIRT INTO BOX
3. MO-STATES BOX ORIENTATION WILL BE DETERMINED IN A CASE BY CASE BASIS.
4. CONTRACTOR MUST FURNISH A CAULIC LOCKING DIRT CAP WITH A LOCKING DEVICE FOR EACH FLUSHING OUTLET



DRAINAGE STRUCTURE/CULVERT CROSSING DETAIL
FOR 6" TO 12" WATER MAINS
N.T.S.



METER BOX INSTALLATION DETAIL
N.T.S.

NOTICE TO DESIGN ENGINEER

THE GENERAL NOTES AND STANDARD DETAILS AS SHOWN ON THIS DRAWING ARE FOR REFERENCE ONLY. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO VERIFY THE APPLICABILITY OF EACH STANDARD NOTE AND DETAIL FOR THE PROJECT. ALL MODIFICATIONS TO SAID DETAILS SHALL HAVE PRIOR APPROVAL FROM VAL WATER COMPANY AND ITS ENGINEERS.

VAIL WATER COMPANY

REVISION DATE 4-5-2012

VAIL WATER COMPANY

GENERAL NOTES AND STANDARD DETAILS

APPROVAL

VAIL WATER COMPANY — DATE 4/19/12

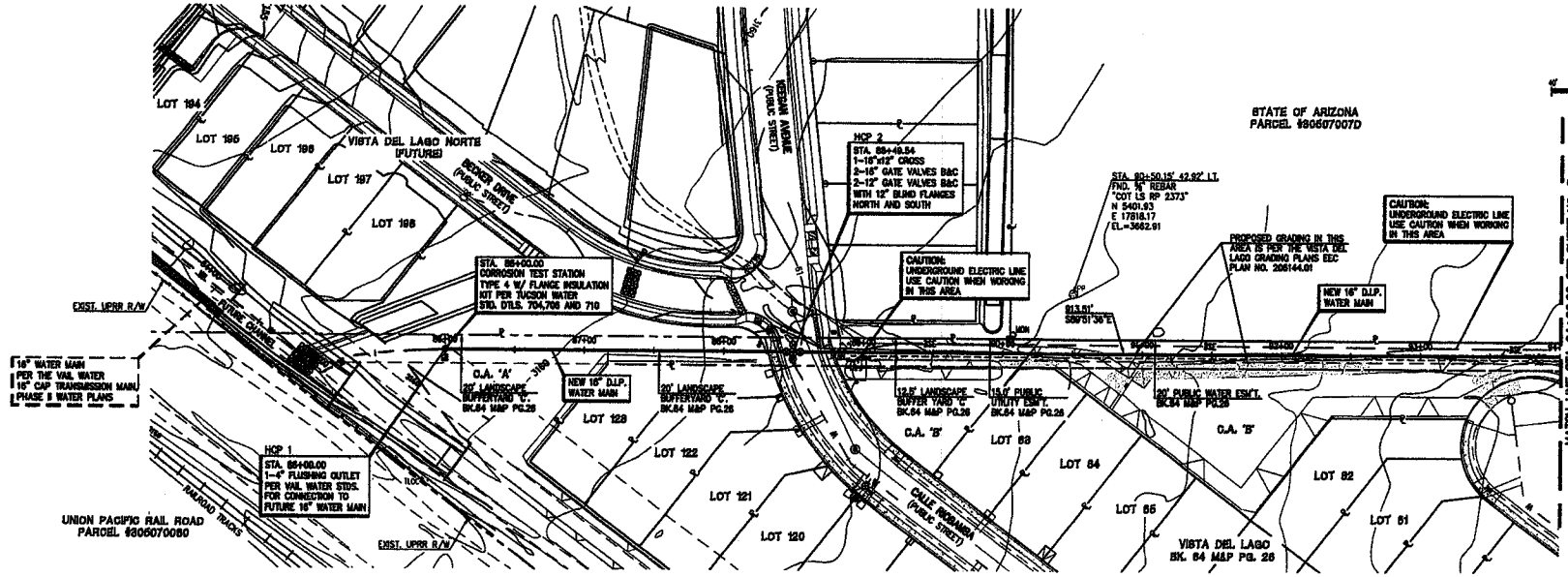
DATE	PROJECT NO.	SCALE:
MARCH, 2012		HORIZ: N/A
		VERT: N/A

SHEET 3 OF 5

M:\VAIL_DESIGN\VAIL_BIDS\2012\BID 2012\BID

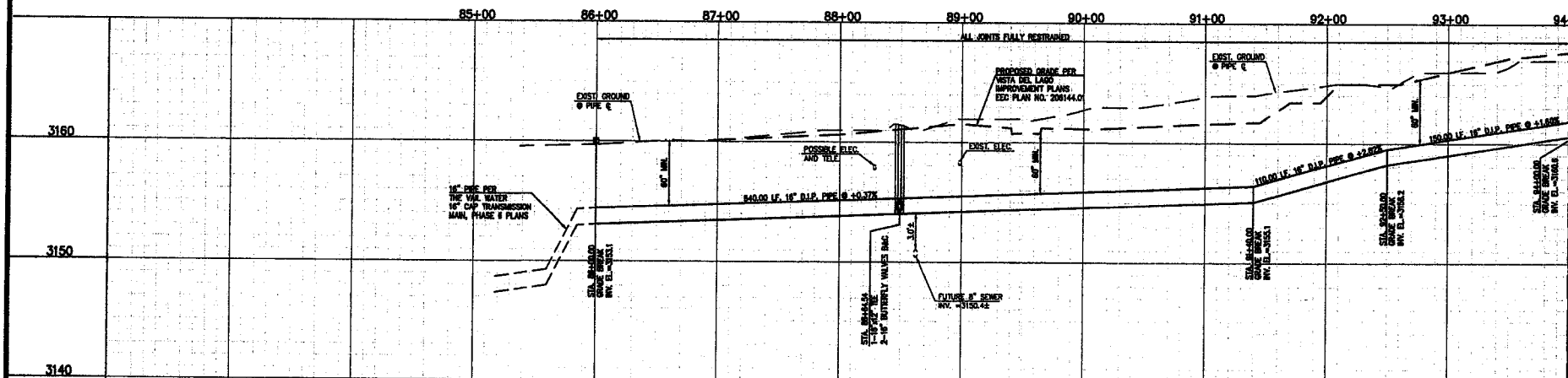
HCP TABLE

NO.	NORTHING	EASTING
1	5360.11	17367.91
2	5359.50	17817.45



NOTE:

1. ALL STATIONING IS ALONG CENTERLINE OF WATER MAIN.



WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
4001 E. Paradise Falls Drive
Tucson, Arizona 85712 (520) 299-9091

NO.	DATE	BY	REVISION	APP.	DATE

EXPIRES 3/31/2014

VAIL WATER COMPANY

16" CAP TRANSMISSION MAIN, PHASE I WATER PLANS

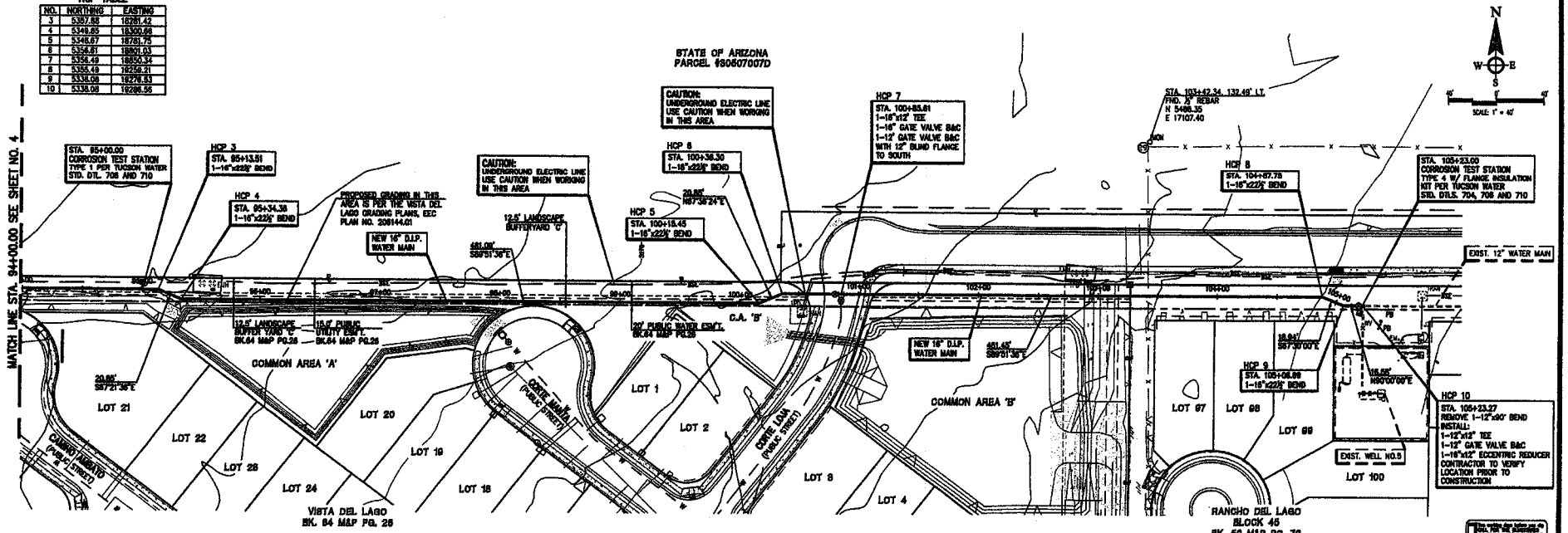
PLAN AND PROFILE SHEET

DESIGNED BY	DRAWN BY	CHECKED BY	SHEET
O.G.F.	O.G.F.	K.D.F.	4 of 5
DATE OCTOBER 22, 2012	PROJECT NO. 228.139-A-8000	SCALE: HORIZ: 1"=40' VERT: 1"=4'	

WESTLAND RESOURCES DRAWING PATH

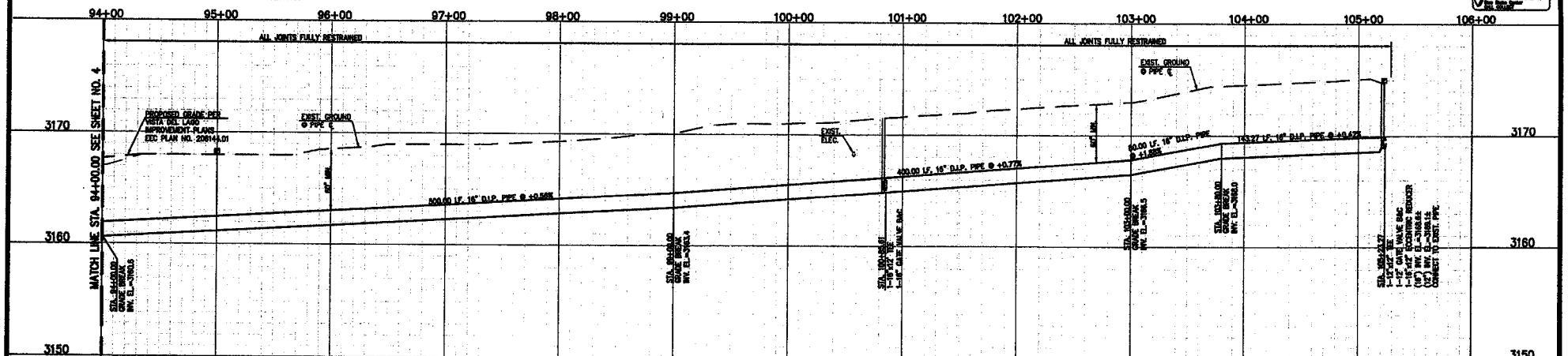
HCP TABLE

NO.	NORTHING	EASTING
3	5357.88	18281.42
4	5349.85	18300.56
5	5345.67	18781.75
6	5356.81	18801.03
7	5356.49	18850.34
8	5355.49	18258.21
9	5338.08	18276.53
10	5338.08	19298.56



NOTE:

1. ALL STATIONING IS ALONG CENTERLINE OF WATER MAIN.



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NO.	DATE	BY	REVISION	APP.	DATE

VAIL WATER COMPANY

16" TRANSMISSION MAIN, PHASE I WATER PLANS

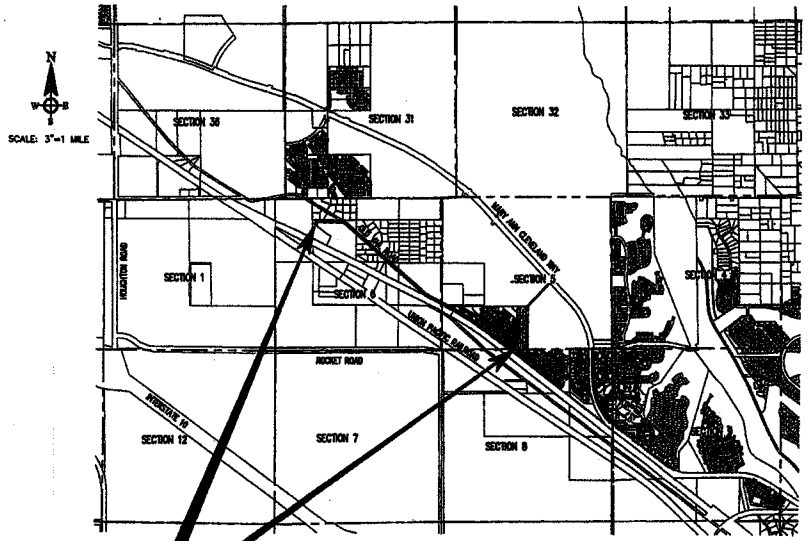
PLAN AND PROFILE SHEET

DESIGNED BY	DRAWN BY	CHECKED BY	SHEET
G.G.F.	G.G.F.	K.D.F.	5
DATE	PROJECT NO.	SCALE	OF
OCTOBER 22, 2012	228.125-A-8000	HORIZ: 1"=40'	5
WESTLAND RESOURCES DRAWING PATH		VERT: 1"=6'	

Oct 23, 2012 - 2:53pm gerlds

VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN
PHASE II WATER PLANS

VAIL WATER COMPANY



LOCATION MAP
A PORTION OF SECTION 5,6 & 8
T-16-S R-16-E, G&SRM
PIMA COUNTY, ARIZONA

OWNER/DEVELOPER
VAIL WATER COMPANY
14155 E. VIA RANCHO DEL LAGO BLVD.
BUILDING "B"
VAIL, ARIZONA 85641
PHONE: (520) 647-3679
FAX: (520) 647-3825
CONTACT: MANNY OROS

ACCEPTED:

VAIL WATER COMPANY — DATE 1/28/2013

PIMA COUNTY DEPARTMENT OF TRANSPORTATION — DATE
(FOR LOCATION IN RIGHT-OF-WAY)

SHEET INDEX

SHEET 1 .....COVER SHEET
SHEET 2 .....GENERAL NOTES AND PROJECT LAYOUT SHEET
SHEET 3 .....GENERAL NOTE AND STANDARD DETAIL SHEET
SHEET 4 .....PIPELINE PLAN AND PROFILE SHEET
SHEET 5 .....PIPELINE PLAN AND PROFILE SHEET
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SHEET 9 .....PIPELINE PLAN AND PROFILE SHEET
SHEET 10 .....PIPELINE PLAN AND PROFILE SHEET
SHEET 11 .....DETAIL SHEET

1-800-782-5348
1-800-STAKE IT

NO.	DATE	BY	REVISION	APP.	DATE

EXPIRES 12/31/2014

VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN,
PHASE II WATER PLANS
COVER SHEET

DESIGNED BY: G.O.F.	DRAWN BY: G.O.F.	CHECKED BY: K.D.F.	SHEET 1 OF 11
DATE: JANUARY 25, 2013	PROJECT NO. 228.102-A-8000	SCALE:	
WESTLAND RESOURCES DRAWING FILE:		HORIZ:	
		VERT:	

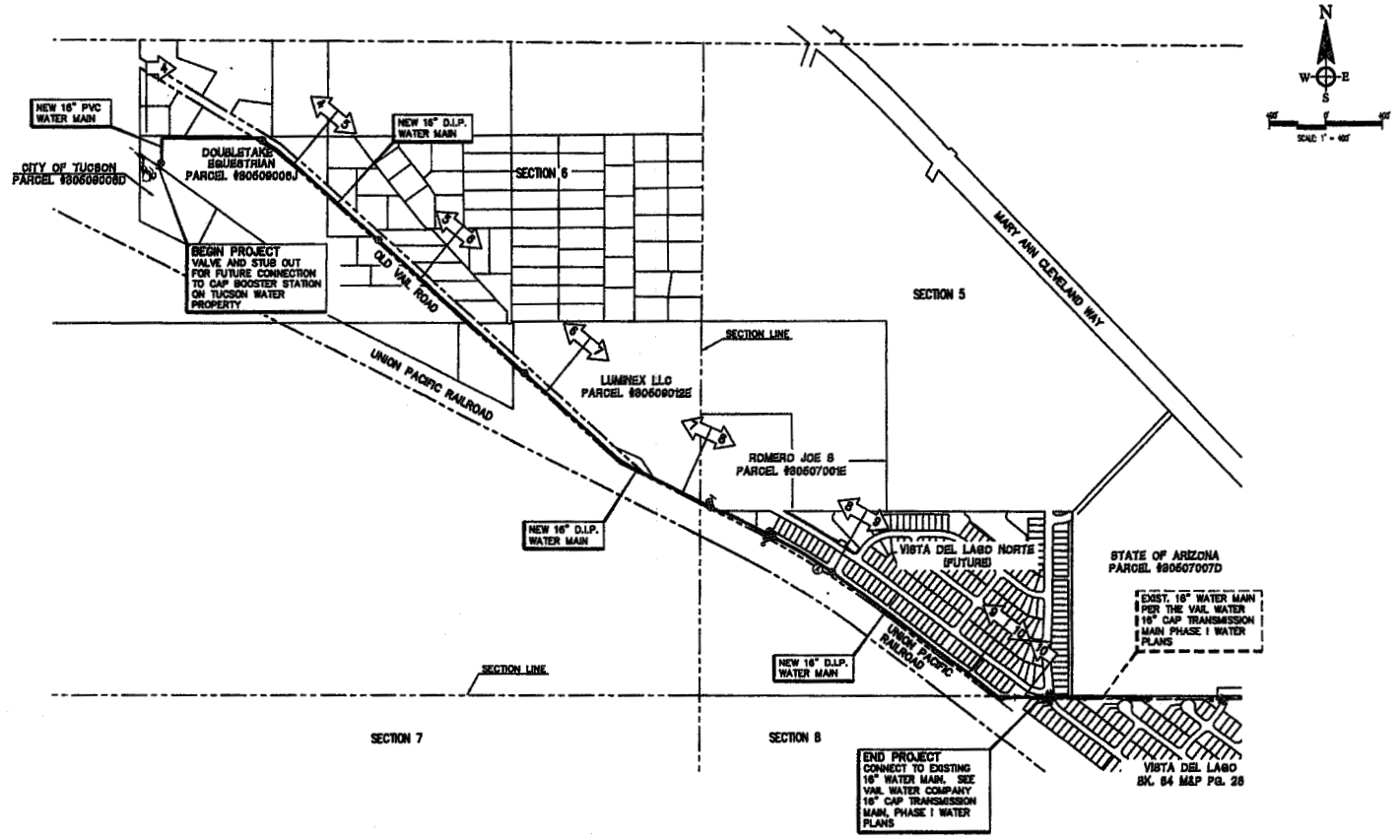
WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF STANDARD SPECIFICATIONS FOR CONSTRUCTION FOR VAIL WATER COMPANY, THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY BULLETIN NO. 10, AND PIMA COUNTY.
2. ALL CONSTRUCTION SHALL CONFORM TO VAIL WATER COMPANY STANDARDS. SEE GENERAL NOTES AND STANDARD DETAIL SHEET.
3. THE CONTRACTOR SHALL SUPPLY ALL STAKES SET FOR THE LINES, LEVELS OR MEASUREMENTS OF THE WORK IN THEIR PROPER PLACES AND IT SHALL BE CERTIFIED BY A "REGISTERED LAND SURVEYOR". ANY EXPENSE INCURRED IN REPLACING ANY STAKES WHICH THE CONTRACTOR OR HIS SUBORDINATES MAY HAVE FAILED TO PRESERVE SHALL BE THE CONTRACTORS RESPONSIBILITY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CARE, MAINTENANCE, REPAIR OR REPLACEMENT OF EXISTING IMPROVEMENTS IN THE WORK AREA WHICH HAVE BEEN REMOVED OR DAMAGED DURING THE COURSE OF CONSTRUCTION. ALL REPAIR, REPLACEMENT, OR CLEANUP SHALL BE DONE TO THE SATISFACTION OF THE OWNER.
5. THE CONTRACTOR IS REQUIRED TO CONTACT "BLUE STAKE" (1-800-782-5348) 48 HOURS PRIOR TO ANY EXCAVATION TO DETERMINE ACCURATE UTILITY LOCATIONS.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FURNISH, HAUL AND APPLY ALL WATER REQUIRED FOR COMPACTION AND THE CONTROL OF DUST FROM CONSTRUCTION ACTIVITY. THE COST THEREOF IS TO BE INCLUDED IN THE PIPE INSTALLATION PRICE. UNIT PRICES FOR IMPORTED FILL SHALL BE FOR FILL COMPACTED IN PLACE.
7. THE CONTRACTOR SHALL EMPLOY A GEOTECHNICAL ENGINEER TO OBSERVE, INSPECT AND TEST ALL GRADING OPERATIONS. THE SAID ENGINEER SHALL CERTIFY THAT ALL GRADING OPERATIONS WERE PERFORMED IN ACCORDANCE WITH APPLICABLE PLANS.
8. VAIL WATER COMPANY AND THEIR ENGINEER SHALL REVIEW ALL SHOP DRAWINGS AND EQUIPMENT SUBMITTALS FOR COMPLIANCE WITH PLANS AND SPECIFICATIONS.
9. DISINFECTION TO BE PERFORMED IN ACCORDANCE WITH A.D.H.S. ENGINEERING BULLETIN NO. 8.
10. ALL GRADING SHALL BE IN CONFORMANCE WITH THE PIMA COUNTY GRADING ORDINANCE, LATEST EDITION.
11. ALL DUCTILE IRON PIPE SHALL BE CLASS 250
    ALL PVC PIPE SHALL BE C905 DR18 CLASS 235 PSI.
12. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE CEMENT-MORTAR LINED IN ACCORDANCE WITH AWWA C-104. ALL UNDERGROUND DUCTILE IRON PIPE SHALL BE WRAPPED PER AWWA C-105.
13. ALL BUTTERFLY VALVES, SHALL CONFORM TO AWWA C-504. GATE VALVES SHALL CONFORM TO AWWA C-509. ALL VALVES SHALL BE SUPPLIED WITH HYDRASHEILD V-LOCK VALVE LOCKS.
14. ALL TRANSITIONS BETWEEN DUCTILE IRON AND STEEL PIPING SHALL BE MADE USING APPROVED ADAPTORS AND FLANGE INSULATION KIT PER TUCSON WATER STANDARD DETAIL 704. (SUBMITTAL REQUIRED).
15. ALL BELOW GROUND PIPING TO BE MECHANICAL JOINT RESTRAINED FITTINGS. (TR FLEX OR EQUAL).
16. UNLESS OTHERWISE NOTED, ALL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
17. ALL FOREIGN MATERIALS ENCOUNTERED AS A RESULT OF CONSTRUCTING THIS PROJECT INCLUDING BUT NOT LIMITED TO ROCK, ORGANIC DEBRIS AND EXISTING MATERIALS OR CONCRETE SHALL BE REMOVED AND LAWFULLY DISPOSED OF AT THE CONTRACTORS EXPENSE.
18. UPON COMMENCEMENT OF WORK, TRAFFIC CONTROL DEVICES SHALL BE POSTED AND MAINTAINED BY THE CONTRACTOR UNTIL SUCH TIME AS THE WORK IS COMPLETED. ALL WARNING SIGNS, BARRICADES ETC. SHALL BE IN ACCORDANCE THE MANUAL FOR UNIFORM TRAFFIC CONTROL.
19. A QUALIFIED REGISTERED ENGINEER OR LAND SURVEYOR MUST CERTIFY THAT THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS PRIOR TO REQUESTING FINAL INSPECTION.
20. CONTRACTOR TO COORDINATE AND PAY ALL INSPECTIONS, TESTING AND RE-TESTING FEES REQUIRED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY PRIOR TO REQUESTING "APPROVAL OF CONSTRUCTION".
21. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OCCUPATION SAFETY AND HEALTH ADMINISTRATION REGULATIONS.
22. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY GOVERNMENTAL AGENCIES.
23. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWING NOTES AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
24. A COPY OF THIS PLAN SHALL BE KEPT IN AN EASILY ACCESSIBLE LOCATION ON THE SITE AT ALL TIMES DURING CONSTRUCTION.
25. CONTRACTOR SHALL REMOVE ALL EXCESS EXCAVATED MATERIALS, CONSTRUCTION DEBRIS, AND GRUBBED VEGETATION FROM SITE AND LEGALLY DISPOSE OF THESE MATERIALS OFF SITE.
26. THE CONTRACTOR SHALL GRADE ALL AREAS DISTURBED BY THE PIPELINE INSTALLATION TO MATCH THE SURROUNDING CONTOURS.
27. ALL EXISTING DRAINAGEWAYS SHALL BE RESTORED TO EXISTING CONDITIONS AFTER CONSTRUCTION.
28. THE ENTIRE DISTURBED AREA OF PIPELINE ALIGNMENT SHALL BE HYDROSEEDED USING NATIVE SEED MIX APPROVED BY THE OWNER.
29. CONTRACTOR TO PROVIDE EROSION CONTROL AND STORM WATER POLLUTION PREVENTION PLAN AND INSTALL AND MAINTAIN REQUIRED SWPP FEATURES DURING CONSTRUCTION. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACTORS UNIT PRICES FOR THE PROJECT.

CORROSION REQUIREMENTS

1. ALL MATERIALS, WORK, AND TESTING PER TUCSON WATER SD-700.
2. ELECTRICAL CONTINUITY JOINT BONDS AT ALL NON-ISOLATED JOINTS. USE 2 EACH #2 HMWPE JOINT BONDS PER JOINT PER TUCSON WATER STANDARDS DETAILS 700 AND 702.
3. CTS (CORROSION TEST STATION) AS SHOWN WITH ABOVE GROUND "BIG FINK" OR EQUAL.



BASIS OF BEARING:

DIRECTION BETWEEN FOUND MONUMENTS AT THE NORTHWEST CORNER OF THAT PARCEL DESCRIBED IN DOCKET 9565, PAGE 1683, AND THE INTERSECTION OF THE WEST LINE OF SAID PARCEL WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF THE UNION PACIFIC RAILROAD, ALL AS SHOWN ON RECORD OF SURVEY BOOK 38, PAGE 74 – S00°01'51"W.

BASIS OF ELEVATION:

THE BASIS OF ELEVATION IS A C.O.T. BENCHMARK 1310, FIELD BOOK 1969-G-1, PAGE 20 LEFT ("X" ON NORTH CORNER OF WEST HEADWALL BY 2ND UTILITY POLE NORTH OF OLD VAIL ROAD) – ELEVATION 3008.361 (NAVD 88).

UTILITY STATEMENT

EXISTING ABOVE AND BELOW GROUND UTILITIES HAVE BEEN DELINEATED ON THESE PLANS BASED UPON FIELD SURVEY INFORMATION (PERFORMED BY OTHERS) AS WELL AS FROM BLUE STAKE MARKINGS AND UTILITY BASE MAPS (AS MADE AVAILABLE) AND THEREFORE THE ENGINEER MAKES NO GUARANTEE OF THE ACCURACY OR COMPLETENESS OF THE UTILITY LOCATIONS OR OF THE EXISTENCE OR NONEXISTENCE OF ANY UTILITY OR UNDERGROUND STRUCTURES SHOWN. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEANS NECESSARY TO PROTECT ANY UTILITY. THE CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR DAMAGE TO EXISTING ABOVE OR UNDERGROUND UTILITIES, INCLUDING THOSE NOT SHOWN ON THESE PLANS.

LEGEND

DEL	DELINEATOR		EXISTING CHAIN LINK FENCE
IRX	IRRIG. CONTROL BOX		EXISTING BARBED WIRE FENCE
MB	MAIL BOX		EXISTING WOOD FENCE
SPIN	SURVEY PIN	HCP	HORIZONTAL CONTROL POINT
SGN	SIGN	305-09-0560	PIMA COUNTY PARCEL NUMBER
TLOC	TELEPHONE LOCATOR		PROPERTY LINE
TPD	TELEPHONE PEDESTAL		PROPOSED WATER LINE AND VALVE
TRNFR	TRANSFORMER		PROPOSED MODIFIED DVA
WM	WATER METER		CORROSION TEST STATION
BSE	BLUESTAKE ELECTRIC	4	SHEET NUMBER
BST	BLUESTAKE TELEPHONE		ROW LINE

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NO.	DATE	BY	REVISION	APP.	DATE

VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN PHASE II WATER PLANS
GENERAL NOTES AND PROJECT LAYOUT SHEET

DESIGNED BY: G.O.F.	DRAWN BY: G.O.F.	CHECKED BY: K.D.F.	SHEET
DATE: JANUARY 25, 2013	PROJECT NO. 228.162-A-8000	SCALE:	2 OF 11
WESTLAND RESOURCES DRAWING PATH: M:\Projects\228.162\Civil\CAP-TRANS-GP2.dwg		HORIZ: 1"=400' VERT:	

GENERAL WATER SYSTEM NOTES

PRE CONSTRUCTION NOTES (PC)

1. ALL CONSTRUCTION SHALL CONFORM TO "TUCSON WATER STANDARD SPECIFICATIONS AND DETAILS, 2001 EDITION" EXCEPT AS MODIFIED HEREON. SAID STANDARDS SHALL REMAIN ON SITE AT ALL TIMES DURING CONSTRUCTION.
2. CONTRACTOR SHALL NOTIFY VAL WATER COMPANY A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ANY CONSTRUCTION TO SCHEDULE A PRECONSTRUCTION CONFERENCE. WORK SHALL NOT COMMENCE UNTIL A "NOTICE TO PROCEED" HAS BEEN ISSUED BY VAL WATER COMPANY AND THE CERTIFICATION OF "APPROVAL TO CONSTRUCT" HAS BEEN RECEIVED BY VAL WATER COMPANY FROM THE PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY. ANY PIPE INSTALLED PRIOR TO THE "NOTICE TO PROCEED" SHALL BE REMOVED BY THE CONTRACTOR AT HIS OWN EXPENSE.
3. THE CONTRACTOR IS REQUIRED TO CONTACT "BLUE STAKE" (1-800-782-5348) FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION TO DETERMINE ACCURATE UTILITY LOCATIONS.
4. WATER MAINS TO BE INSTALLED AFTER SEWER INSTALLATION AND GRADING OF STREETS AND WALK AREAS TO WITHIN 6" OF FINAL GRADE FOR NEW CONSTRUCTION AND BEFORE DRY UTILITIES (ELEC., TEL., ETC.)
5. A REGISTERED ENGINEER OR A REGISTERED LAND SURVEYOR MUST CERTIFY THAT THE GRADE IS WITHIN 6" OF FINAL GRADE AND PROVIDE LAYOUT SHEETS PRIOR TO NOTICE TO PROCEED, FOR NEW CONSTRUCTION.
6. CONTRACTOR TO PROVIDE ALL CUT SHEETS, SHOP DRAWINGS AND EQUIPMENT LISTS AT PRE-CONSTRUCTION MEETING WITH VAL WATER COMPANY. CONSTRUCTION SHALL NOT BEGIN UNTIL ALL CONSTRUCTION MATERIALS ARE APPROVED BY VAL WATER COMPANY STAFF.
7. ALL WATER MAINS WILL BE INSPECTED BEFORE BACKFILL. FINAL ACCEPTANCE WILL NOT BE GRANTED WITHOUT AUTHORIZATION FROM VAL WATER COMPANY SHOWING INSPECTION HAS BEEN PERFORMED.
8. OWNER (DEVELOPER) TO PAY FOR ALL INSPECTIONS AND FEES, ALL FEES TO BE PAID IN FULL BEFORE ACCEPTANCE OF WATER SYSTEM.
9. LINE EXTENSION AGREEMENTS MUST BE SIGNED BEFORE ANY WATER CONSTRUCTION BEGINS.
10. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
11. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING MAINS FOR PROPOSED CONNECTIONS PRIOR TO COMMENCEMENT OF WORK.
12. WATER MAINS TO BE INSTALLED WITH A MINIMUM OF 44" OF COVER FOR ALL MAINS 12" AND SMALLER UNDER PAVEMENT, EXCEPT AS OTHERWISE NOTED ON THESE PLANS. ALL MAINS INSTALLED OUTSIDE PAVEMENT SHALL BE INSTALLED WITH A MINIMUM OF 60 INCHES (60") OF COVER.
13. WHERE WATER MAINS CROSS OVER THE TOP OF EXISTING OR PROPOSED DRAINAGE STRUCTURE:
    1) A MINIMUM 24" VERTICAL SEPARATION IS REQUIRED BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE DRAINAGE STRUCTURE.
    2) A MINIMUM 44" OF COVER TO THE FINISHED GRADE ABOVE THE WATER MAIN.

    IF THESE REQUIRED CONDITIONS DO NOT EXIST, THEN THE WATER MAIN SHALL BE INSTALLED BELOW THE EXISTING OR PROPOSED DRAINAGE STRUCTURE IN ACCORDANCE TO THE "DRAINAGE STRUCTURE/CULVERT CROSSING DETAIL."
14. ALL WATER MAINS TO HAVE A MINIMUM HORIZONTAL SEPARATION FROM SEWER MAINS OF 6' AND A MINIMUM VERTICAL SEPARATION OF 2'. SANITARY SEWER MCS'S WHICH CROSS OVER WATER MAINS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 6" AND SHALL BE DIP. SEE DCS STANDARDS FOR FORCE MAINS.
15. WHEN A WATER MAIN CROSSES A SEWER PIPE AT A POINT AT WHICH THE SEWER IS TEN FEET (9') OR MORE BELOW THE WATER PIPE, EXTRA PROTECTION IS NOT REQUIRED. AT ALL OTHER CROSSINGS, THE SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH MECHANICAL JOINTS, OR APPROVED EQUAL, FOR A DISTANCE OF AT LEAST TEN (10') FEET IN EACH DIRECTION MEASURED PERPENDICULAR TO THE OUTSIDE OF EDGE OF THE WATERLINE. REQUIREMENTS PER ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING BULLETIN NO. 10, CHAPTER 7.
16. ELECTRIC LINES SHALL NOT BE INSTALLED WITHIN A HORIZONTAL DISTANCE OF 6' FROM A WATER MAIN UNLESS SHOWN IN A JOINT TRENCH DETAIL ON THE APPROVED PLANS THEN THE MINIMUM HORIZONTAL SEPARATION SHALL BE 3'.
17. NO CONNECTION TO THE EXISTING VAL WATER COMPANY SYSTEM WILL BE PERMITTED UNLESS PRIOR APPROVAL HAS BEEN OBTAINED IN WRITING FROM A VAL WATER COMPANY REPRESENTATIVE.
18. IF NEW CONSTRUCTION REQUIRES THE WATER TO BE SHUT OFF TO MAKE THE TIE-INS TO THE EXISTING SYSTEM, THE CONTRACTOR SHALL PROVIDE TO VAL WATER COMPANY WITH A WRITTEN SCHEDULE OF THE PROPOSED CONNECTIONS AT LEAST 48 HOURS PRIOR TO THE START OF SUCH TIE-INS. HOWEVER, NO WATER WILL BE TURNED OFF UNTIL ALL AFFECTED WATER USERS HAVE BEEN NOTIFIED BY THE CONTRACTOR OF THE SCHEDULE NOT LESS THAN TWENTY-FOUR (24) HOURS BEFORE WATER IS TO BE TURNED OFF.
19. THE CONTRACTOR IS REQUIRED TO NOTIFY ALL VAL WATER CO. OF ANY POSSIBLE SERVICE INTERRUPTION OR INCONVENIENCE DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE A PHONE NUMBER AT WHICH HE/SHE CAN BE REACHED AT ANY TIME.
20. THE CONTRACTOR SHALL NOTIFY VAL WATER COMPANY A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ANY CONSTRUCTION WHICH MAY COME IN CONTACT WITH TRANSITE (AC) PIPE. IF REMOVAL OF AC PIPE IS NECESSARY, A CERTIFIED CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL AC PIPE MATERIAL UNDER ALL CURRENT CODES AND REGULATIONS.
21. VAL WATER COMPANY IS NOT RESPONSIBLE FOR PROVIDING FIRE FLOW.
22. ALL RACK SHOWN ON PLANS WILL HAVE TO BE CONSTRUCTED BY MANUFACTURERS RECOMMENDATIONS FOR DEFLECTION. VAL WATER CO. AND/OR THEIR REPRESENTATIVE WILL FIELD CHECK IN A CASE BY CASE BASIS THESE DEFLECTIONS, AND IF CONSIDER NECESSARY WILL REQUEST FITTING(S) INSTALLATION.
23. CONTRACTOR TO PAY ALL RE-TEST FEES TO VAL WATER COMPANY PRIOR TO ANY RE-SCHEDULING.

MATERIALS (MS)

1. ALL PIPE BEDDING AND BACKING MATERIAL SHALL BE IMPORTED CLEAN SANDY MATERIAL CONFORMING TO TUCSON WATER STANDARD SPECIFICATION 10101.
2. ALL FIRE HYDRANT RUNS TO BE CONSTRUCTED WITH RESTRAINED JOINT D.I.P. CLASS 350. FIRE HYDRANTS MUST BE SECURED WITH MUELLER HYDRANT DEFENDERS.
3. ALL WATER MAINS SHALL BE CONSTRUCTED WITH GATE VALVES W/BOX AND COVER IN ACCORDANCE WITH TUCSON WATER STANDARD SPECIFICATIONS. ALL BOXES SHALL BE STAMPED WITH DIRT SHIELDS.
4. ALL D.I.P. RUNS WILL BE MECHANICAL JOINTS, WITH D.I.P. MEGA-LUG WRAPPED IN PLASTIC, D.I.P. TO BE CLASS 350, OR VAL WATER COMPANY APPROVED EQUAL. DURING INSTALLATION OF D.I.P. DRAINAGE CROSSINGS, THE VAL WATER COMPANY RESERVES THE RIGHT TO HAVE THE CONTRACTOR MAKE MODIFICATIONS OF CROSSINGS AS VAL WATER COMPANY DEEMS NECESSARY.
5. VALVE NUT EXTENSIONS, IF REQUIRED, SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. PER TUCSON WATER STANDARD DETAIL NO. 309.
6. ALL MECHANICAL JOINT (M.J.) FITTINGS TO BE OF THE MEGALUG RESTRAINT TYPE DESIGN OR APPROVED EQUAL, AND ALL INSTALLATION FOR THRUST CONTROL ON ALL PIPELINES SHALL PER TUCSON WATER STANDARD 800.
7. SOLID SLEEVE ADAPTERS SHALL BE REQUIRED FOR ALL PIPING TRANSITIONS. ADAPTERS SHALL HAVE M.J. FITTINGS TYLER, 12" MINIMUM LENGTH OR APPROVED EQUAL.

MATERIALS (MS) CONT'D

8. SIZE ON SIZE TAPPING SLEEVES SHALL CONSIST OF MINIMUM TYPE 304 STAINLESS STEEL BODY, FLANGE AND ALL ACCESSORIES.
9. THE ONLY APPROVED PIPING MATERIAL FOR WATER LINES ARE: COPPER TYPE K WITH FLARE FITTINGS, PVC CLASS 200 C900 AND DIP CLASS 350. APPROVED MANUFACTURERS OF SAID MATERIALS ARE LISTED IN THE "TUCSON WATER STANDARD SPECIFICATIONS AND DETAILS, 2001 EDITION".
10. SAMPLING STATIONS SHALL BE HERALEEN STATION GUARD XLT.
11. CONTRACTOR SHALL USE MUELLER FIRE HYDRANT DEFENDERS ON ALL NEW HYDRANTS, MODEL (#S200000 FOR WATEROUS HYDRANTS AND MODEL (#S200100 FOR MUELLER HYDRANTS.

BACKFLOW (BF)

1. ALL CONSTRUCTION WATER WILL BE METERED WITH AN APPROPRIATE SIZE WATER METER AND BACKFLOW PREVENTION DEVICE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE WATER METER AND BACKFLOW DEVICE FROM VAL WATER COMPANY.
2. CONTRACTOR SHALL INSTALL REDUCED PRESSURE ASSEMBLY (RPA) PER TUCSON WATER APPROVED STANDARD DETAILS FOR BACKFLOW ASSEMBLIES ON ALL COMMERCIAL AND IRRIGATION SERVICES. SUBMITTALS FOR SAID ASSEMBLIES SHALL BE SUBMITTED TO VAL WATER COMPANY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
3. ALL BACKFLOW PREVENTION DEVICES SERVING ARE TO BE CONSTRUCTED PER U.P.C. STANDARDS.

DETECTOR TAPE AND TRACER WIRE (DT)

1. CONTRACTOR TO INSTALL DETECTOR TAPE ABOVE ALL WATER LINES AND WATER SERVICES. TAPE IS TO BE PLACED 18" BELOW FINAL GRADE, PER TUCSON WATER STD. SPEC. SECTION 0218.
2. THE CONTRACTOR IS REQUIRED TO INSTALL BLUE COLOR #10 UF STANDARD DIRECT BURIAL WIRE ON TOP OF THE PIPE AND TIED DOWN WITH TIE STRAPS WITH 3' LOOPS BROUGHT UP AROUND VALVE RISERS (SEE NOTE ON "TRACER WIRE, MODIFIED DWA AND DWA DETAIL". VALVE RISERS ARE TO BE FIELD SELECTED BY THE VAL WATER COMPANY OR THEIR REPRESENTATIVE. (SEE "TRACER WIRE, MODIFIED DWA AND DWA DETAIL")
3. THE TRACER WIRE IS TO BE CERTIFIED BY A LICENSED ELECTRICAL CONTRACTOR FOR CONTINUITY BEFORE PAVING OPERATIONS. FINAL ACCEPTANCE WILL NOT BE GRANTED UNTIL CERTIFICATION IS RECEIVED BY THE VAL WATER COMPANY. SPLICES SHALL BE MADE WITH WIRE-NUT APPROVALED WITH SILICON, WRAPPED WITH ELECTRICAL TAPE AND MUST BE INSPECTED. SIGNAL INDUCED TEST RESULTS WILL NOT BE ACCEPTED.
4. TRACER WIRE TO BE BROUGHT UP ON ALL BLOWOFFS AND IN LINE VALVES, PIPES STUBS, HYDRANTS, SERVICES OR ANY OTHER BURIED WATER APPURTENANCE. PER TUCSON WATER STANDARDS 308, 344, 372, 338 & 328.
5. THE TRACER WIRE IS TO BE CERTIFIED BY A LICENSED ELECTRICAL CONTRACTOR FOR CONTINUITY AFTER PAVING OPERATIONS ARE COMPLETED. FINAL ACCEPTANCE WILL NOT BE GRANTED UNTIL CERTIFICATION IS RECEIVED BY THE VAL WATER COMPANY. SPLICES SHALL BE MADE WITH WIRE-NUT APPROVALED WITH SILICON, WRAPPED WITH ELECTRICAL TAPE AND MUST BE INSPECTED. SIGNAL INDUCED TEST RESULTS WILL NOT BE ACCEPTED. VAL WATER COMPANY RECOMMENDS AND ENCOURAGES THE CONTRACTOR TO PROTECT THE TRACER WIRE PRIOR TO PAVING OPERATIONS TO AVOID RE-PAVING COSTS THAT MAY INCURRED BY THIS PROCEDURE.

WATER SERVICES (WS)

1. THE DEVELOPER/APPLICANT SHALL HAVE ALL CURB STOPS LOCATED AND PROTECTED DURING ALL PHASES OF CONSTRUCTION.
2. INSTALL TOP OF CURB STOPS 18" BEHIND BACK OF CURB OR WALK (AS APPLICABLE) FROM STREET WITH CURBS AND 6" TO 10" BELOW TOP OF CURB OR WALK (SEE DETAIL).
3. FOR STREETS WITHOUT CURBS, INSTALL TOP OF CURB STOPS 8" TO 10" BELOW FINISH GRADE AND A DIMENSION FROM PROPERTY LINE THAT WILL PLACE THE METER BOX JUST ADJACENT TO SAID PROPERTY LINE.
4. CURB STOPS SHALL NOT BE INSTALLED AT THE SAME LOT CORNERS AS THE ELECTRICAL SERVICE. WHERE THIS CANNOT BE ACCOMPLISHED, CONTACT VAL WATER COMPANY REPRESENTATIVE.
5. METER BOXES AND LIDS TO BE FURNISHED BY CONTRACTOR/DEVELOPER AND INSTALLED TO FINISH GRADE BY CONTRACTOR. ALL METER BOX SIZES SHALL CONFORM TO VAL WATER COMPANY STANDARDS. METER BOX SHALL BE INSTALLED TO 0.1' ABOVE FINISHED GRADE. (SEE NOTE #15 ON METER BOX REQUIREMENTS).
6. METER BOX REQUIREMENTS:
   DFW PLASTICS MODEL # DFW1640-12-1A
7. WATER SERVICE TO REMAIN MARKED DURING CONSTRUCTION. ANY RELOCATION OF SERVICES TO BE BY CONTRACTOR, INCLUDING HEIGHT ADJUSTMENTS. NOTIFY VAL WATER COMPANY IN ADVANCE OF ANY RELOCATION OR ADJUSTMENTS.
8. PAVING CONTRACTOR TO MARK CURBS WITH "W" AT ALL SERVICE LOCATIONS.
9. CONTRACTOR TO CONSULT WITH VAL WATER COMPANY STAFF PRIOR TO INSTALLING ANGLE METER STOPS 1" AND LARGER.
10. DEVELOPER OR BUILDER IS REQUIRED TO INSTALL A CUSTOMER CUTOFF BALL VALVE WITH HANDLE INSIDE OF METER BOX IN ACCORDANCE WITH THE VAL WATER COMPANY STANDARDS.
    BALL VALVE ASSEMBLY :
    3/4" METER: FORD # B43-332 W/ONE 3-1/4" LONG HANDLE
    MUELLER # B-24301
    1" METER: FORD # B43-444 W/ONE 3-1/4" LONG HANDLE
    MUELLER # B-24321
11. WATER SERVICES IN CONCRETE DRIVEWAYS, SIDEWALKS OR CURBS ARE NOT ALLOWED WITHOUT PRIOR APPROVAL OF VAL WATER COMPANY. WATER SERVICES OR METERS BOXES AND LIDS INSTALLED WITHIN CONCRETE PAVED DRIVEWAYS, SIDEWALKS OR CURBS MUST BE TRAFFIC RATED AND INCREASED ONE (1) SIZE.
12. VAL WATER COMPANY WILL NOT ALLOW 4 INCH (4") OR SMALLER WATER MAINS.
13. ALL WATER SERVICES TO BE CONTINUOUS (NO REPAIRS) FROM WATER MAIN TAP TO ANGLE METER STOP.
14. METERS SHALL BE PLACED 2 FEET FROM THE PROPERTY LINE AND 5 FEET FROM AN ELECTRICAL PEDESTAL OR TRANSFORMER. METERS SHALL NOT BE PLACED IN DRIVEWAYS. IF THIS CANNOT BE ACCOMPLISHED, VAL WATER COMPANY WILL REVIEW THE METER LOCATIONS ON AN INDIVIDUAL BASIS.
15. ALL RESIDENTIAL WATER SERVICES SHALL BE 1" SINGLE SERVICES WITH A BA43343-NS FORD CURB STOP OR MUELLER B-24258 CURB STOP UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL COORDINATE WITH VAL WATER COMPANY ABOUT THE ANTICIPATED SIZE OF THE WATER METERS FOR THE PROJECT TO DETERMINE THE PROPER SIZE OF THE ANGLE METER STOP PRIOR TO INSTALLATION.

AIR RELEASES (AR)

1. THE LOCATION OF AIR RELEASE VALVE ASSEMBLIES SHOWN IN THESE PLANS IS FOR INFORMATION ONLY. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF HIGH POINTS IN THE WATER MAIN, THESE LOCATIONS MUST BE APPROVED BY VAL WATER REPRESENTATIVE OR ENGINEER'S INSPECTOR. AIR RELEASE VALVE ASSEMBLIES SHALL NOT BE INSTALLED IN STREETS, DRIVEWAYS, OR SIDEWALKS. INSTALLATION SHALL BE PER COMMANDER AIR RELEASE VALVE DETAIL THIS PAGE.

AIR RELEASES (AR) CONT'D

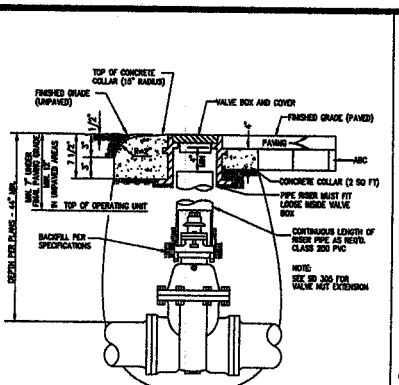
2. ALL AIR RELEASE VALVES SHALL BE ARMSTRONG AR21 FOR 3/4" SIZE AND CRISPIN UL TYPE FOR 1" TO 2" SIZES (COMBINATION AIR RELEASE AND VACUUM). ALL AIR RELEASE VALVES SHALL HAVE STAINLESS STEEL OR BRASS RETAINS INSTALLED WITH STAINLESS STEEL HOSE CLAMP ON ELBOW.
3. AIR RELEASE VALVES SHALL BE ENCLOSED IN BPCO GUARDSHACK MODEL NO. GS-2, MOUNTED AND SECURED TO BEPI ENCPAD MODEL NO. EP-2 PER MANUFACTURER'S SPECIFICATIONS. COLOR OF GUARDSHACK TO BE TAN.

FLUSHING OUTLET (FO)

1. ALL FLUSHING OUTLETS ASSEMBLIES SHALL HAVE CONCRETE COLLARS AND SHALL MEET VAL WATER COMPANY SPECS (SEE DETAIL) AND HAVE VAL WATER CO. APPROVED AND ACCEPTED BOXES AND LIDS.
2. ALL FLUSHING OUTLET ASSEMBLIES LOCATIONS TO BE PER VAL WATER COMPANY. WATER SERVICES WILL NOT BE ALLOWED PAST THE MAIN VALVE.
3. METER BOX REQUIREMENTS:
   FLUSHING VALVE ASSEMBLY.....MO-STATES MODEL # MSBC 1730-10
   COVER FOR ABOVE.....MODEL # MSCBC 1730

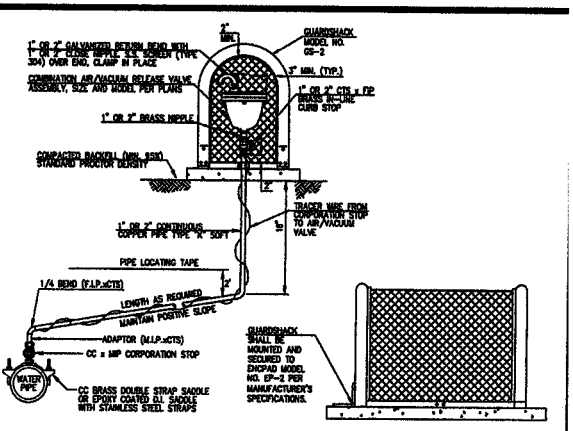
FINAL CONSTRUCTION NOTES (FCN)

1. THE CONTRACTOR SHALL SUBMIT A "PRELIMINARY FLUSHING SEQUENCE" TO VAL WATER COMPANY FOR APPROVAL PRIOR TO FLUSHING. THE SUBMITTAL SHALL BE PER TUCSON WATER'S OFFICE PROCEDURE NO. 6, "PRELIMINARY FLUSHING SEQUENCE."
2. EXISTING DEAD-END MAINS SHALL BE THOROUGHLY FLUSHED BEFORE TIE-INS ARE MADE TO NEW LINES BEING INSTALLED BY THIS PROJECT.
4. THE CONTRACTOR SHALL NOTIFY VAL WATER COMPANY FOUR (4) WORKING DAYS IN ADVANCE FOR SCHEDULING WATER MAIN PRESSURE TESTING AND BACTERIAL TESTING. VAL WATER COMPANY REP WILL NOTIFY P.C.D.E.Q. AND COORDINATE WITH CONTRACTOR.
5. NO TIE-INS TO EXISTING WATER MAINS UNTIL BACTERIOLOGICAL TESTING RESULTS ARE REPORTED NEGATIVE.
6. "AS BUILT" PLANS AND AN ENGINEERS CERTIFICATE OF COMPLETION PER P.C.D.E.Q. REQUIREMENTS STAMPED BY A PROFESSIONAL ENGINEER TO BE PROVIDED BEFORE ACCEPTANCE BY VAL WATER COMPANY (MYLAR AND FOUR (4) T-BOND PRINTS AND PDF FILE).
7. THE DEVELOPER/APPLICANT SHALL MAKE ALL WATER VALVES IDENTIFIED AND LOCATED PRIOR TO PAVING AND SHALL MAKE ALL VALVE BOXES SET TO FINAL GRADE AFTER PAVING, OR FINAL GRADING IF NOT IN PAVED AREAS.
8. AFTER THE PAVING, CURBS, AND SIDEWALKS HAVE BEEN INSTALLED, A VAL WATER COMPANY UTILITY REPRESENTATIVE WILL CHECK ALL VALVE RISERS, SERVICE METER BOXES, AND FIRE HYDRANTS FOR OPERATION AND FIELD ADJUSTMENT PRIOR TO FINAL APPROVAL.
9. FINAL ACCEPTANCE WILL NOT BE GRANTED UNTIL THE PIPE CERTIFICATION, BACKFILL CERTIFICATION WITH TESTING RESULTS, VALVE CERTIFICATION, AND THE PAVING MORGOLOGICAL TEST AND P.C.D.E.Q. CERTIFICATION OF "APPROVAL OF CONSTRUCTION" HAVE BEEN RECEIVED BY VAL WATER COMPANY REPRESENTATIVE.



VALVE AND VALVE BOX INSTALLATION
N.T.S.

SD 300 AND SD 305 REFERS TO STANDARD DETAIL NUMBERS FROM "TUCSON WATER COMPANY'S STANDARD SPECIFICATIONS AND DETAILS", LATEST EDITION.

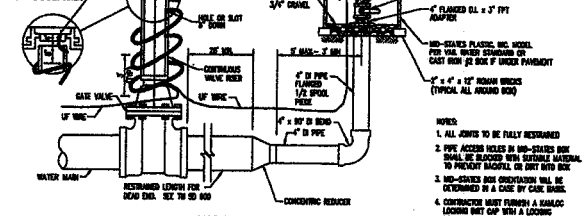


GUARDSHACK SIDE VIEW

NOTES:

1. ASSEMBLIES SHALL BE PROTECTED WITH A MINIMUM OF THREE (3) POST BARRICADES PER PC/COT STANDARD DETAIL 104, TYPE B. VAL WATER COMPANY WILL DETERMINE LOCATION OF POST BARRICADES BASED ON EXISTING CONDITIONS.
2. ITEMS INDICATED MAY BE SUBSTITUTED BY AN APPROVED EQUAL.
3. IF ANY VARIANCE TO THE ENCLOSURE IS TO BE MADE, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE COMBINATION AIR RELEASE/AIR VACUUM VALVE ENCLOSURE PRIOR TO CONSTRUCTION.
4. BENDS MAY VARY TO LOCATE ARV OUTSIDE TRAVELED WAY. MAINTAIN POSITIVE SLOPE FOR DRAINAGE.
5. RESTRAIN JOINTS 3" AND LARGER.

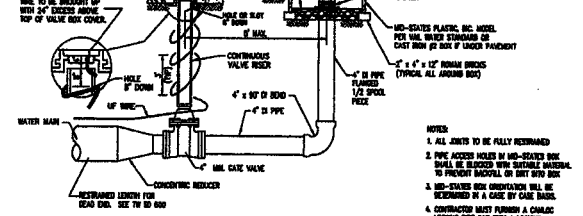
COMBINATION AIR RELEASE VALVE DETAIL (2" AND SMALLER)
N.T.S.



NOTES:

1. ALL JOINTS TO BE FULLY RESTRAINED
2. PIPE ACCESS HOLES IN MO-STATES BOX SHALL BE BLOCKED WITH SUITABLE MATERIAL TO PREVENT BACKFILL OR DIRT INTO BOX
3. MO-STATES BOX ORIENTATION WILL BE DETERMINED IN A CASE BY CASE BASIS.
4. CONTRACTOR MUST FURNISH A KAMLOC LOCKING DIRT CAP WITH A LOCKING DEVICE FOR EACH FLUSHING OUTLET

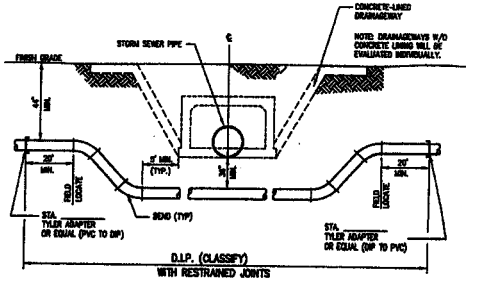
MODIFIED FLUSHING OUTLET
N.T.S.



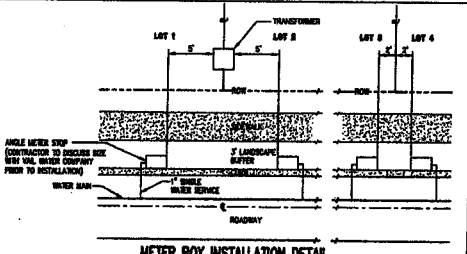
NOTES:

1. ALL JOINTS TO BE FULLY RESTRAINED
2. PIPE ACCESS HOLES IN MO-STATES BOX SHALL BE BLOCKED WITH SUITABLE MATERIAL TO PREVENT BACKFILL OR DIRT INTO BOX
3. MO-STATES BOX ORIENTATION WILL BE DETERMINED IN A CASE BY CASE BASIS.
4. CONTRACTOR MUST FURNISH A KAMLOC LOCKING DIRT CAP WITH A LOCKING DEVICE FOR EACH FLUSHING OUTLET

FLUSHING OUTLET
N.T.S.



DRAINAGE STRUCTURE/CULVERT CROSSING DETAIL
FOR 6" TO 12" WATER MAINS
N.T.S.



METER BOX INSTALLATION DETAIL
N.T.S.

REVISION DATE 4-5-2012

VAIL WATER COMPANY

GENERAL NOTES AND STANDARD DETAILS

NOTICE TO DESIGN ENGINEER

THE GENERAL NOTES AND STANDARD DETAILS AS SHOWN ON THIS DRAWING ARE FOR REFERENCE ONLY. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO VERIFY THE APPLICABILITY OF EACH STANDARD NOTE AND DETAIL FOR THE PROJECT. ALL MODIFICATIONS TO SAID DETAILS SHALL HAVE PRIOR APPROVAL FROM VAIL WATER COMPANY AND ITS ENGINEERS.

VAIL WATER COMPANY

APPROVAL		
VAIL WATER COMPANY	DATE 4/19/12	SHEET 3 OF 11
DATE MARCH, 2012	PROJECT NO.	SCALE: HORIZ: N/A VERT: N/A
M:\VWC_DCS\VWC_NOET\2007 vwc.dwg		

ANGEL FRANK G
PARCEL #805090860

DANIEL PATRICK D
PARCEL #805090880

RAMEREZ BOTERO & ROSIE C
PARCEL #805090870

TORRES LORRAINE M
PARCEL #805090085

CITY OF TUCSON
PARCEL #805090050

DOUBLETAKE EQUESTRIAN
PARCEL #805090051

HCP 4
STA. 12+16.52
1-16"x45° BEND

HCP 3
STA. 12+02.40
1-16"x45° BEND

HCP 2
STA. 10+73.29
1-16"x11¼° BEND

HCP 1
STA. 10+00.00
1-16" GATE VALVE B&C
1-16" BLIND FLANGE
TO SOUTH

HCP 5
STA. 18+92.17
1-16"x22½° BEND
1-16"x11¼° BEND
1-16" GATE VALVE B&C

HCP 6
STA. 19+85.87
PIPE DEFLECTION POINT
2°29'13" LT.

HCP 7
STA. 20+44.20
1-16"x11¼° BEND

STA. 11+10.00
CORROSION TEST STATION
TYPE 1 PER TUCSON WATER
STD. DTL. 706 AND 710
PVC TO D.I.P. ADAPTOR

STA. 10+00.00
DIRECTLY ATTACH (THERMITE WELD)
1 EA. 32-LB. PREPACKAGED
HIGH POTENTIAL MAGNESIUM
ANODES AT VALVE

NEW 16" PVC
WATER MAIN

NEW 16" DIP
WATER MAIN

NEW 35' PUBLIC WATER ESM'T
SEQ. NO.20123460084

NEW 15' TEMP. CONSTRUCTION ESM'T
SEQ. NO.20123460084

NEW 25' PUBLIC WATER ESM'T
SEQ. NO.20123460084

NEW 15' TEMP. CONSTRUCTION ESM'T
SEQ. NO.20123460084

CAUTION
UNDERGROUND EL PASO GAS
MAINS. CONTRACTOR TO USE
EXTREME CAUTION WHEN
WORKING IN THIS AREA.
SEE NOTE NO.2 THIS SHEET

CAUTION
POSSIBLE UNDERGROUND
TELEPHONE. CONTRACTOR TO
USE EXTREME CAUTION WHEN
WORKING IN THIS AREA.

CAUTION
UNDERGROUND ELECTRIC.
CONTRACTOR TO USE EXTREME
CAUTION WHEN WORKING IN
THIS AREA.

STA. 18+50.00
CORROSION TEST STATION
TYPE 1 PER TUCSON WATER
STD. DTL. 706 AND 710

STA. 19+35.96, 44.71' LT.
FND. ½" REBAR
TAGGED "LS 8024"
N 9320.45
E 12093.25
EL.=3108.23

STA. 18+73.72, 6.84' RT.
FND. ½" REBAR
TAGGED "PLS 26932"
N 9300.90
E 12013.50
EL.=3107.21

OLD VAIL ROAD

EXIST. R/W

MATCH LINE STA 22+00.00 SEE SHEET NO. 5

SCALE: 1" = 40'

NOTES:

1. ALL STATIONING IS ALONG CENTERLINE OF WATER MAIN.
2. AN EL PASO NATURAL GAS TECH. WILL NEED TO BE PRESENT AT THE INSTALLATION AND DURING ANY GROUND DISTURBANCE IN OUR EASEMENT AREA. CONTRACTOR SHOULD CALL R.C. CARREON AT 520-591-5923 AT LEAST 48 HOURS IN ADVANCE OF ANY GROUND DISTURBANCE

HCP TABLE

NO.	NORTHING	EASTING
1	9097.65	11332.42
2	9169.76	11346.58
3	9236.87	11346.34
4	9306.85	11356.32
5	9307.71	12031.97
6	9265.64	12109.63
7	9225.18	12159.61

CALL TUCSON AREA BEFORE YOU DIG
CALL 1-800-STAKE IT
1-800-782-5348

ALL JOINTS FULLY RESTRAINED

EXIST. 10" GAS MAINS (COVER MEASURED AT 30")

EXIST. GROUND @ PIPE ℄

EXIST. ELEC.

EXIST. TELE. (POSSIBLE)

110.00 L.F. 16" PVC PIPE @ +0.45%

590.00 LF. 16" D.I.P. PIPE @ +1.27%

110.00 LF. 16" D.I.P. PIPE @ +2.27%

130.00 LF. 16" D.I.P. PIPE @ +0.23%

300.00 LF. 16" D.I.P. PIPE @ +0.97%

STA. 10+00.00 3-16" GATE VALVE STUB FOR FUTURE CONNECTION INV. EL.=3088.5

STA. 11+10.00 GRADE BREAK INV. EL.=3089.0

PVC TO D.I.P. ADAPTER

STA. 17+00.00 GRADE BREAK INV. EL.=3090.5

STA. 18+10.00 GRADE BREAK INV. EL.=3090.0

STA. 18+92.17 1-16" GATE VALVE

STA. 19+50.00 GRADE BREAK INV. EL.=3089.3

MATCH LINE STA 22+00.00 SEE SHEET NO. 5

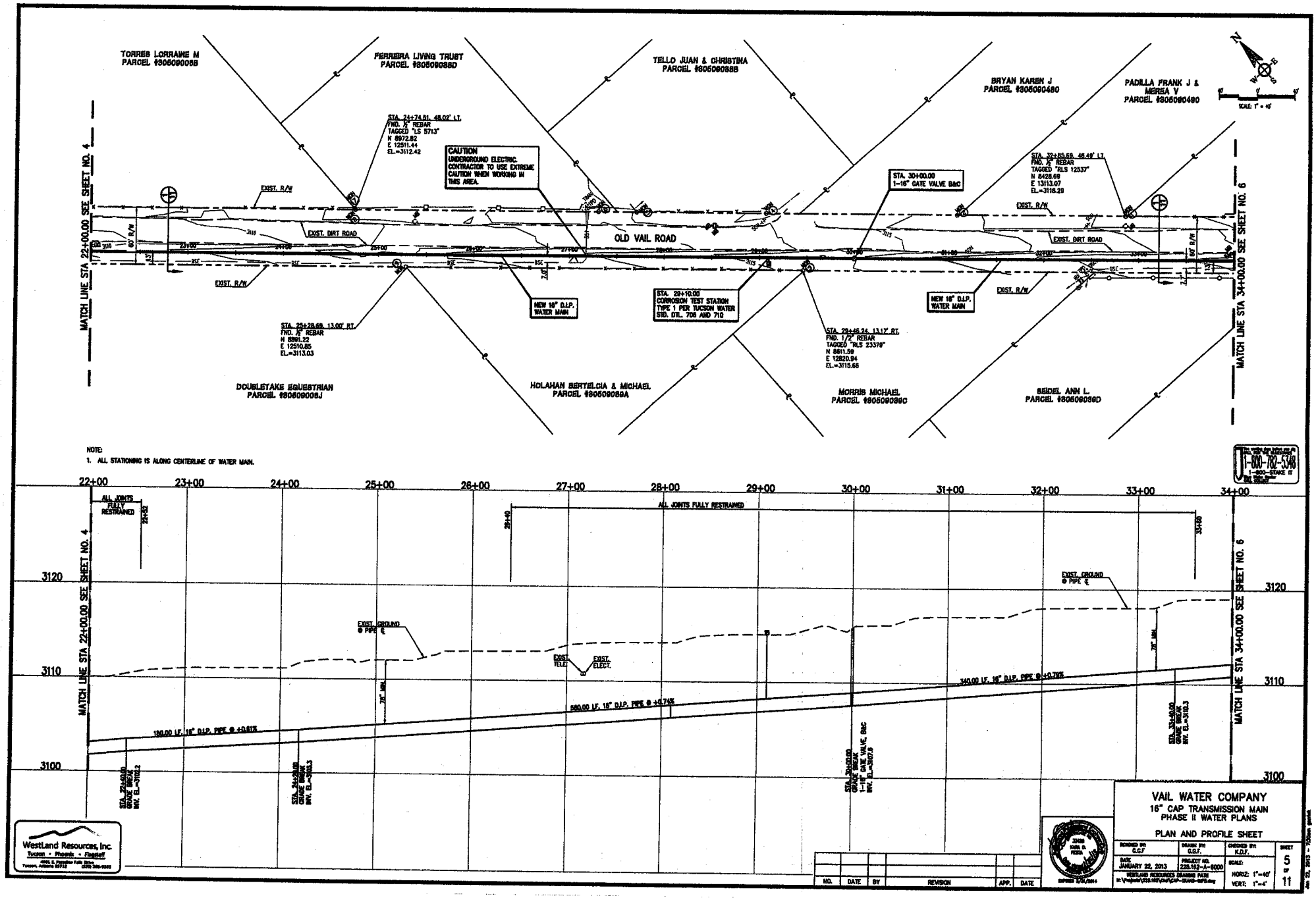
WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
4001 E. Pontatoc Foth Drive
Tucson, Arizona 85712 (520) 290-9688

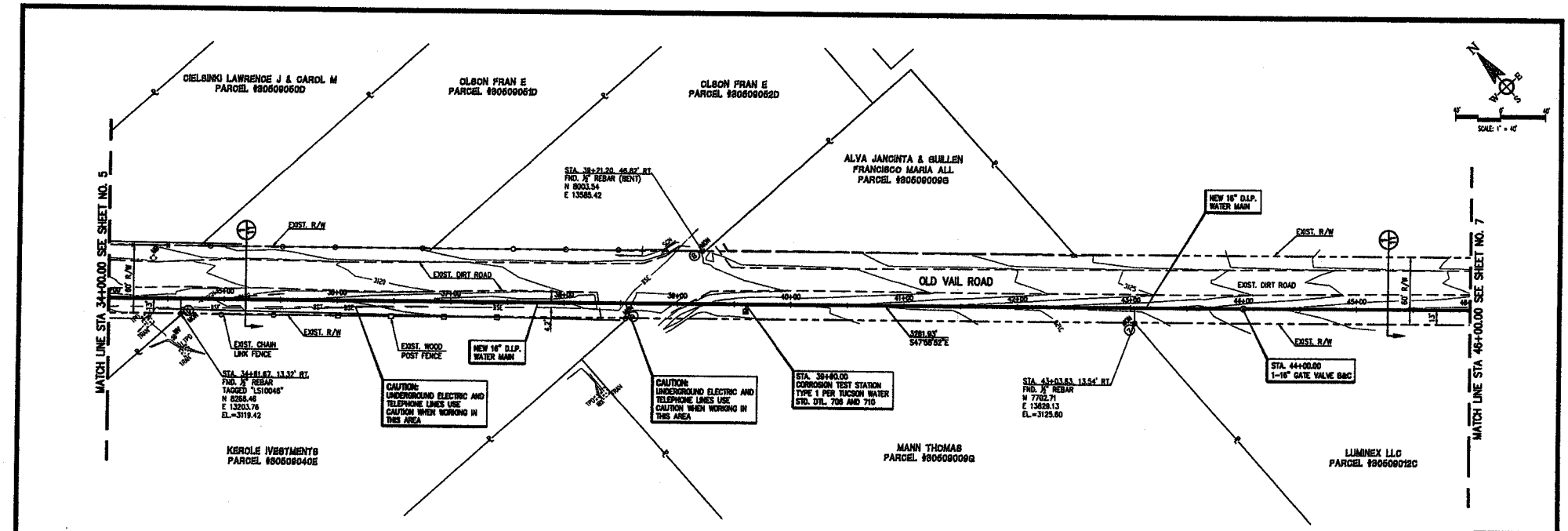
NO.	DATE	BY	REVISION	APP.	DATE

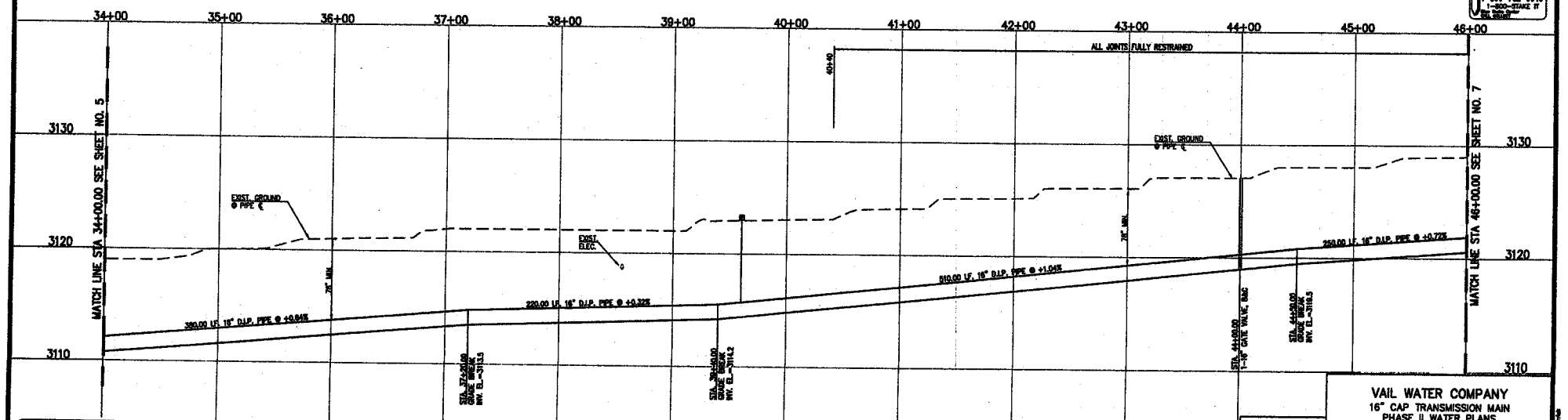
VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN
PHASE II WATER PLANS

PLAN AND PROFILE SHEET

DESIGNED BY: G.G.F.	DRAWN BY: G.G.F.	CHECKED BY: K.D.F.	SHEET 4 OF 11
DATE: JANUARY 22, 2013	PROJECT NO. 228.102-A-8000	SCALE: HORIZ: 1"=40' VERT: 1"=4'	
WESTLAND RESOURCES DRAWING PATH			


TORRES LORRAINE M
PARCEL #305090088
FERREIRA LIVING TRUST
PARCEL #305090080
TELLO JUAN & CHRISTINA
PARCEL #305090088
BRYAN KAREN J
PARCEL #305090490
PADILLA FRANK J & MEREA V
PARCEL #305090490
SCALE: 1" = 40'
MATCH LINE STA 22+00.00 SEE SHEET NO. 4
MATCH LINE STA 34+00.00 SEE SHEET NO. 6
STA. 24+74.51, 48.02' LT.
FND. 1/2" REBAR
TAGGED "LS 5713"
N 8972.82
E 12511.44
EL.=3112.42
CAUTION
UNDERGROUND ELECTRIC.
CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING IN THIS AREA.
STA. 30+00.00
1-16" GATE VALVE B&C
STA. 32+85.69, 46.49' LT.
FND. 1/2" REBAR
TAGGED "RLS 12537"
N 8428.69
E 13113.07
EL.=3118.29
EXIST. R/W
EXIST. DIRT ROAD
OLD VAIL ROAD
60' R/W
NEW 16" D.I.P. WATER MAIN
STA. 29+10.00
CORROSION TEST STATION
TYPE 1 PER TUCSON WATER STD. DTL. 708 AND 710
STA. 25+28.69, 13.00' RT.
FND. 1/2" REBAR
N 8991.22
E 12510.85
EL.=3113.03
STA. 29+46.24, 13.17' RT.
FND. 1/2" REBAR
TAGGED "RLS 23379"
N 8811.59
E 12820.94
EL.=3115.68
DOUBLESTAKE EQUESTRIAN
PARCEL #305090081
HOLAHAN BERTELCIA & MICHAEL
PARCEL #305090088A
MORRIS MICHAEL
PARCEL #305090390
SEIDEL ANN L.
PARCEL #305090390
NOTE:
1. ALL STATIONING IS ALONG CENTERLINE OF WATER MAIN.
1-800-782-5348
1-800-STAKE IT
22+00
23+00
24+00
25+00
26+00
27+00
28+00
29+00
30+00
31+00
32+00
33+00
34+00
ALL JOINTS FULLY RESTRAINED
22+52
29+40
33+80
3120
3110
3100
EXIST. GROUND @ PIPE ℄
EXIST. TELE.
EXIST. ELECT.
7'6" MIN.
340.00 LF. 16" D.I.P. PIPE @ +0.79%
560.00 LF. 16" D.I.P. PIPE @ +0.74%
180.00 LF. 16" D.I.P. PIPE @ +0.61%
STA. 22+00.00
GRADE BREAK
INV. EL.=3102.2
STA. 24+00.00
GRADE BREAK
INV. EL.=3103.3
STA. 30+00.00
GRADE BREAK
1-16" GATE VALVE B&C
INV. EL.=3107.8
STA. 33+80.00
GRADE BREAK
INV. EL.=3110.3
WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
4850 E. Broadway Fall Drive
Tucson, Arizona 85712
(520) 290-9393
NO. | DATE | BY | REVISION | APP. | DATE
EXPIRES 6/30/2014
VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN
PHASE II WATER PLANS
PLAN AND PROFILE SHEET
DESIGNED BY: G.C.F.
DRAWN BY: G.C.F.
CHECKED BY: K.D.F.
DATE: JANUARY 22, 2013
PROJECT NO. 229.152-A-8000
SCALE:
HORIZ: 1"=40'
VERT: 1"=4'
SHEET 5 of 11
WESTLAND RESOURCES DRAWING PATH
Jan 22, 2013 - 7:20am gcaff





Westland Resources, Inc.
Tucson • Phoenix • Flagstaff
3031 N. Campbell Ave. Drive
Tucson, Arizona 85712 (520) 299-9085

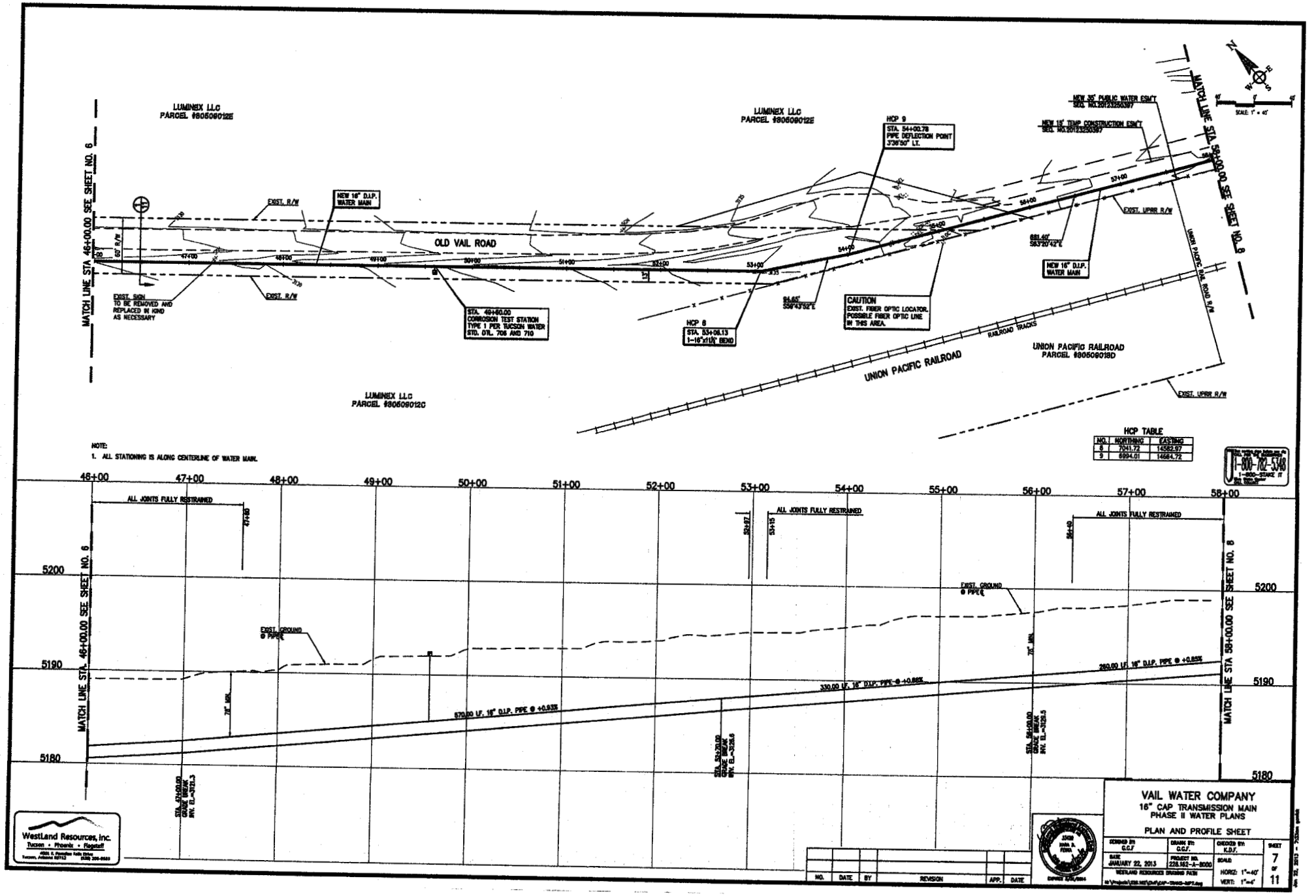
NO.	DATE	BY	REVISION	APP.	DATE

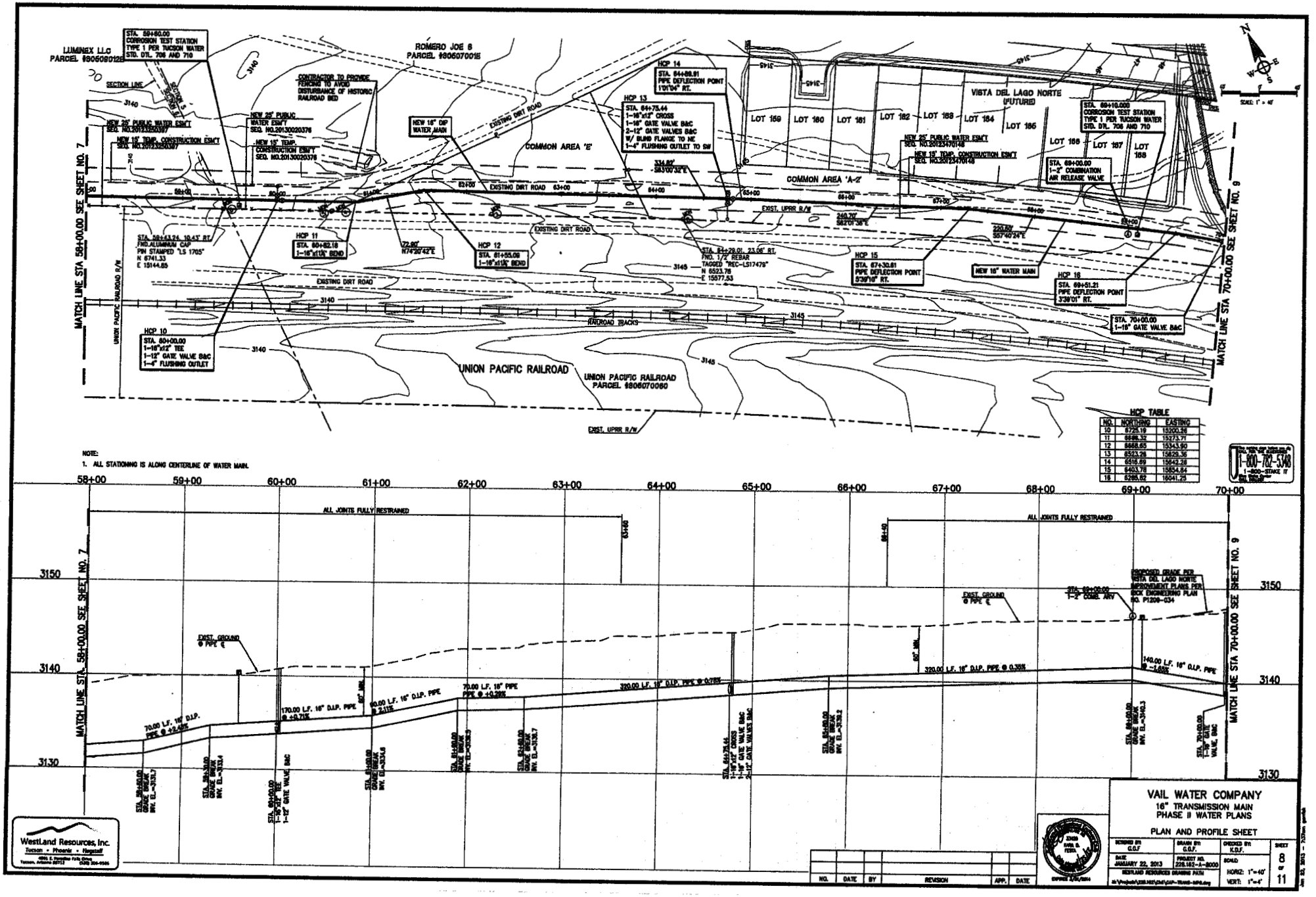
EXPIRES 3/31/2014

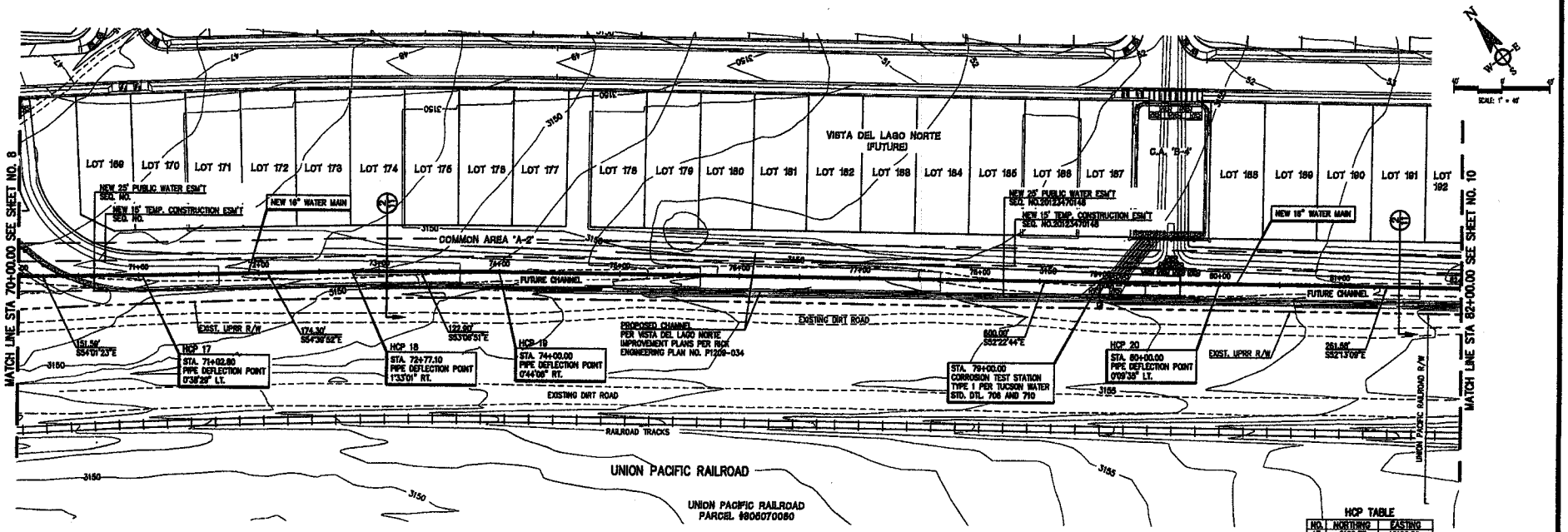
VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN
PHASE II WATER PLANS
PLAN AND PROFILE SHEET

DESIGNED BY: G.D.F.	DRAWN BY: G.D.F.	CHECKED BY: K.D.F.	SHEET 6 OF 11
DATE: JANUARY 22, 2013	PROJECT NO. 228.162-A-8000	SCALE: HORIZ: 1"=40' VERT: 1"=4'	

WESTLAND RESOURCES DRAWING PATH
H:\Projects\228.162\Civil\CAP-TRANS-MP1.dwg


LUMINEX LLC
PARCEL #80509012E
LUMINEX LLC
PARCEL #80509012E
LUMINEX LLC
PARCEL #80509012C
MATCH LINE STA 46+00.00 SEE SHEET NO. 6
MATCH LINE STA 58+00.00 SEE SHEET NO. 8
OLD VAIL ROAD
EXIST. R/W
NEW 16" D.I.P. WATER MAIN
EXIST. SIGN TO BE REMOVED AND REPLACED IN KIND AS NECESSARY
STA. 49+60.00 CORROSION TEST STATION TYPE 1 PER TUCSON WATER STD. DTL. 706 AND 710
HCP 8
STA. 53+06.13
1-16"x10½° BEND
HCP 9
STA. 54+02.78
PIPE DEFLECTION POINT
3°36'50" LT.
CAUTION
EXIST. FIBER OPTIC LOCATOR. POSSIBLE FIBER OPTIC LINE IN THIS AREA.
NEW 35' PUBLIC WATER ESM'T
NEW 15' TEMP CONSTRUCTION ESM'T
NEW 16" D.I.P. WATER MAIN
EXIST. UPRR R/W
UNION PACIFIC RAILROAD
RAILROAD TRACKS
UNION PACIFIC RAILROAD
PARCEL #80509019D
SCALE: 1" = 40'
ALL JOINTS FULLY RESTRAINED
EXIST. GROUND @ PIPE℄
570.00 LF. 16" D.I.P. PIPE @ +0.93%
330.00 LF. 16" D.I.P. PIPE @ +0.86%
260.00 LF. 16" D.I.P. PIPE @ +0.85%
STA. 47+00.00 GRADE BREAK INV. EL.=3721.3
STA. 52+70.00 GRADE BREAK INV. EL.=3726.5
STA. 56+00.00 GRADE BREAK INV. EL.=3728.5
7'6" MIN.
5200
5190
5180
46+00
47+00
48+00
49+00
50+00
51+00
52+00
53+00
54+00
55+00
56+00
57+00
58+00
NOTE:
1. ALL STATIONING IS ALONG CENTERLINE OF WATER MAIN.
HCP TABLE
NO. | NORTHING | EASTING
8 | 7041.72 | 14562.97
9 | 6994.01 | 14664.72
1-800-782-5348
WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN
PHASE II WATER PLANS
PLAN AND PROFILE SHEET
DESIGNED BY G.C.F.
DRAWN BY G.C.F.
CHECKED BY K.D.F.
DATE JANUARY 22, 2013
PROJECT NO. 228.162-A-8000
SCALE HORZ: 1"=40' VERT: 1"=4'
SHEET 7 OF 11
NO. DATE BY REVISION APP. DATE

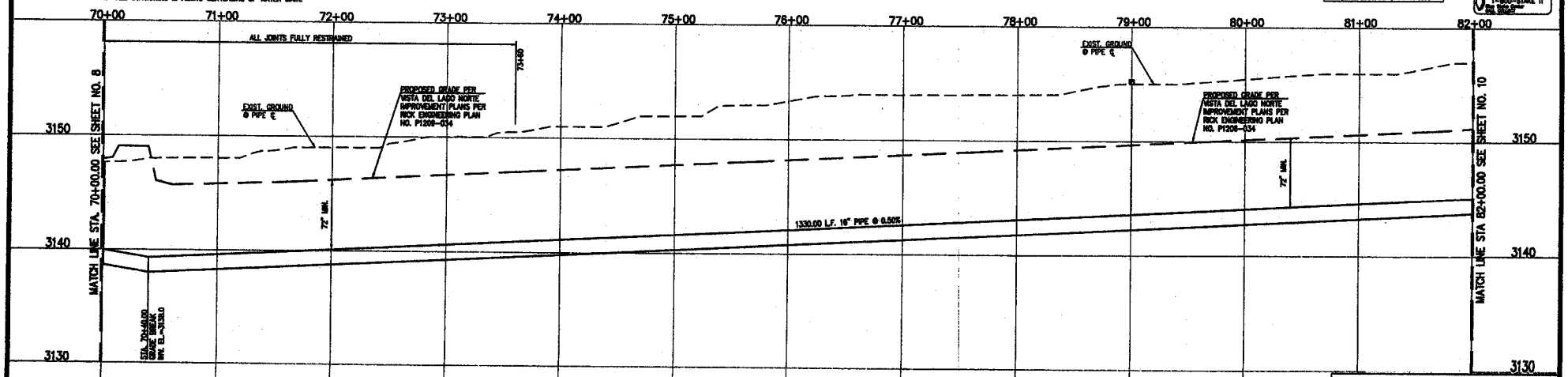

LUMINEX LLC
PARCEL #806090125
STA. 59+60.00
CORROSION TEST STATION
TYPE 1 PER TUCSON WATER
STD. DTL. 706 AND 710
ROMERO JOE 8
PARCEL #806070015
SECTION LINE
CONTRACTOR TO PROVIDE FENCING TO AVOID DISTURBANCE OF HISTORIC RAILROAD BED
NEW 25' PUBLIC WATER ESM'T
SEQ. NO.20130020376
NEW 15' TEMP. CONSTRUCTION ESM'T
SEQ. NO.20130020376
NEW 16" DIP WATER MAIN
EXISTING DIRT ROAD
COMMON AREA 'E'
HCP 14
STA. 64+89.91
PIPE DEFLECTION POINT
1°01'04" RT.
HCP 13
STA. 64+75.44
1-16"x12" CROSS
1-16" GATE VALVE B&C
2-12" GATE VALVES B&C
W/ BLIND FLANGE TO NE
1-4" FLUSHING OUTLET TO SW
334.80'
S83°00'32"E
LOT 159
LOT 160
LOT 161
LOT 162
LOT 163
LOT 164
LOT 165
LOT 166
LOT 167
LOT 168
VISTA DEL LAGO NORTE
(FUTURE)
NEW 25' PUBLIC WATER ESM'T
SEQ. NO.20123470148
NEW 15' TEMP. CONSTRUCTION ESM'T
SEQ. NO.20123470148
STA. 69+10.00
CORROSION TEST STATION
TYPE 1 PER TUCSON WATER
STD. DTL. 706 AND 710
STA. 69+00.00
1-2" COMBINATION
AIR RELEASE VALVE
COMMON AREA 'A-2'
EXIST. UPRR R/W
240.70'
S82°07'38"E
220.80'
S57°40'24"E
NEW 16" WATER MAIN
HCP 16
STA. 69+51.21
PIPE DEFLECTION POINT
3°39'01" RT.
STA. 70+00.00
1-16" GATE VALVE B&C
MATCH LINE STA. 58+00.00 SEE SHEET NO. 7
MATCH LINE STA 70+00.00 SEE SHEET NO. 9
UNION PACIFIC RAILROAD R/W
STA. 58+43.24, 10.43' RT.
FND. ALUMINUM CAP
PIN STAMPED "LS 1705"
N 6741.33
E 15144.65
HCP 11
STA. 60+82.16
1-16"x11¼" BEND
72.80'
N74°20'42"E
HCP 12
STA. 61+55.09
1-16"x11¼" BEND
STA. 64+29.01, 23.06' RT.
FND. 1/2" REBAR
TAGGED "REC-LS17479"
N 6523.78
E 15077.53
HCP 15
STA. 67+30.61
PIPE DEFLECTION POINT
5°39'10" RT.
RAILROAD TRACKS
HCP 10
STA. 60+00.00
1-16"x12" TEE
1-12" GATE VALVE B&C
1-4" FLUSHING OUTLET
UNION PACIFIC RAILROAD
UNION PACIFIC RAILROAD
PARCEL #806070060
EXIST. UPRR R/W
SCALE: 1" = 40'
NOTE:
1. ALL STATIONING IS ALONG CENTERLINE OF WATER MAIN.
HCP TABLE
NO. NORTHING EASTING
10 6725.19 15200.26
11 6586.32 15273.71
12 6468.85 15343.90
13 6523.26 15829.36
14 6516.69 15842.26
15 6403.78 15854.84
16 6285.82 16041.25
1-800-782-5348
1-800-STAKE IT
58+00
59+00
60+00
61+00
62+00
63+00
64+00
65+00
66+00
67+00
68+00
69+00
70+00
3150
3140
3130
ALL JOINTS FULLY RESTRAINED
63+60
66+40
EXIST. GROUND @ PIPE ℄
PROPOSED GRADE PER VISTA DEL LAGO NORTE IMPROVEMENT PLANS PER SICK ENGINEERING PLAN NO. P1209-034
STA. 69+00.00
1-2" COMB. ARV
60" MIN.
140.00 L.F. 16" D.I.P. PIPE @ -1.65%
320.00 L.F. 16" D.I.P. PIPE @ 0.35%
70.00 L.F. 16" D.I.P. PIPE @ +1.40%
170.00 L.F. 16" D.I.P. PIPE @ +0.71%
60.00 L.F. 16" D.I.P. PIPE @ 2.11%
70.00 L.F. 16" PIPE PIPE @ +0.28%
320.00 L.F. 16" D.I.P. PIPE @ 0.78%
STA. 58+60.00 GRADE BREAK INV. EL.=3131.7
STA. 59+30.00 GRADE BREAK INV. EL.=3131.4
STA. 60+00.00 1-16"x12" TEE 1-12" GATE VALVE B&C
STA. 60+60.00 GRADE BREAK INV. EL.=3131.6
STA. 61+60.00 GRADE BREAK INV. EL.=3128.3
STA. 62+60.00 GRADE BREAK INV. EL.=3128.7
STA. 64+75.44 1-16"x12" CROSS 1-16" GATE VALVE B&C 2-12" GATE VALVES B&C
STA. 65+60.00 GRADE BREAK INV. EL.=3128.2
STA. 68+60.00 GRADE BREAK INV. EL.=3140.3
STA. 70+00.00 1-16" GATE VALVE B&C
WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
4343 E. Broadway Tucson, Arizona 85711 (520) 294-9585
NO. DATE BY REVISION APP. DATE
EXPIRES 6/30/2014
VAIL WATER COMPANY
16" TRANSMISSION MAIN
PHASE II WATER PLANS
PLAN AND PROFILE SHEET
DESIGNED BY: G.D.F.
DRAWN BY: G.D.F.
CHECKED BY: K.D.F.
DATE: JANUARY 22, 2013
PROJECT NO. 228.162-1-8000
SCALE: HORIZ: 1"=40' VERT: 1"=4'
SHEET 8 OF 11
WESTLAND RESOURCES DRAWING PATH
Jan 22, 2013 - 2:33pm gordon



NOTE:
1. ALL STATIONING IS ALONG CENTERLINE OF WATER MAIN.

HCP TABLE

NO.	NORTHING	EASTING
17	6196.77	16103.92
18	6095.96	16306.11
19	6022.19	16404.41
20	5855.83	16679.65



WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
4001 E. Paradise Falls Drive
Tucson, Arizona 85712 (520) 296-2675

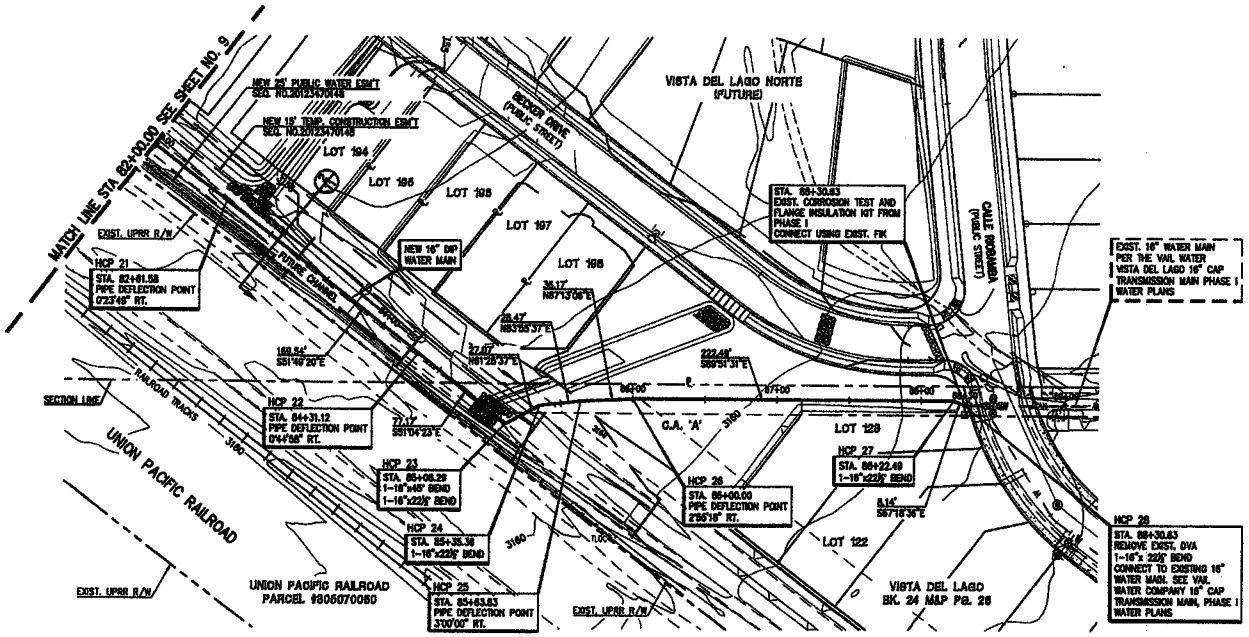
NO.	DATE	BY	REVISION	APP.	DATE

VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN
PHASE II WATER PLANS
PLAN AND PROFILE SHEET

DESIGNED BY: G.D.F.	DRAWN BY: G.D.F.	CHECKED BY: K.D.F.	SHEET 9 OF 11
DATE: JANUARY 22, 2013	PROJECT NO. 228.152-1-8000		SCALE: HORIZ: 1"=40' VERT: 1"=4'

WESTLAND RESOURCES DRAWING PATH: s:\7+\jobs\228.152\Civil\CAP-TRANS-MPS.dwg

1-800-782-5348 1-800-STAKE IT



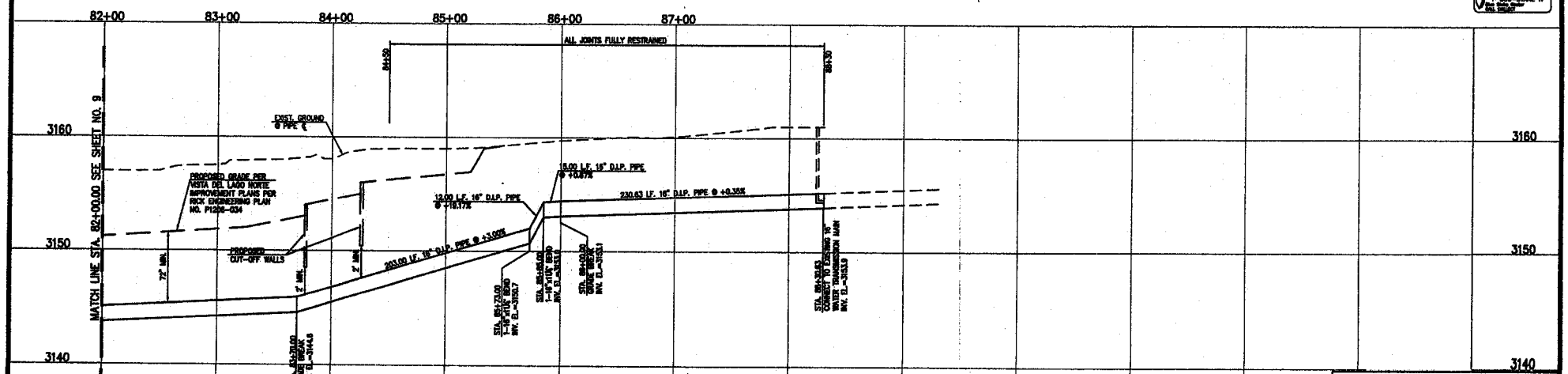
NOTE:

1. ALL STATIONING IS ALONG CENTERLINE OF WATER MAIN.

HCP TABLE

NO.	NORTHING	EASTING
21	5495.67	17066.39
22	5390.88	17219.87
23	5342.39	17279.70
24	5355.34	17303.47
25	5356.35	17351.75
26	5360.11	17367.91
27	5356.56	17590.40
28	5356.42	17597.91

1-800-782-5348
1-800-STAKE IT



WestLand Resources, Inc.
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2550 E. Grassland Drive
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NO.	DATE	BY	REVISION	APP.	DATE

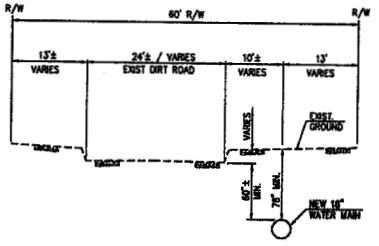
EXPIRES 3/31/2014

VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN
PHASE II WATER PLANS

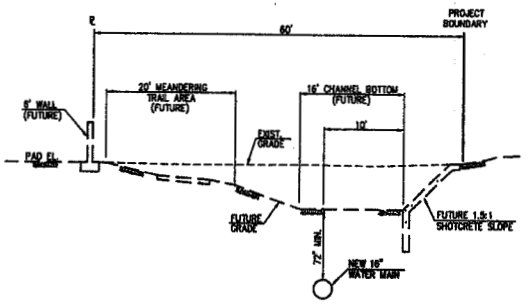
PLAN AND PROFILE SHEET

DESIGNED BY: C.G.F.	DRAWN BY: C.G.F.	CHECKED BY: K.D.F.	SHEET 10 OF 11
DATE: JANUARY 25, 2013	PROJECT NO. 228.162-1-8000	SCALE: HORIZ: 1"=40' VERT: 1"=4'	

WESTLAND RESOURCES DRAWING NAME: J:\Projects\228.162\Civil\Vail-Trans-MP10.dwg



1/11 OLD VAIL ROAD TYPICAL SECTION
NTS



2/11 VISTA DEL LAGO NORTE CHANNEL SECTION
(FUTURE BY OTHERS)
NTS

Westland Resources, Inc.
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4001 E. Paradise Falls Drive
Tucson, Arizona 85712 (520) 296-2675

NO.	DATE	BY	REVISION	APP.	DATE

EXPIRES 3/31/2014

VAIL WATER COMPANY
16" CAP TRANSMISSION MAIN
PHASE II WATER PLANS

DETAIL SHEET

DESIGNED BY: G.O.F.	DRAWN BY: G.O.F.	CHECKED BY: K.O.F.	SHEET
DATE: JANUARY 22, 2013	PROJECT NO. 228.162-A-8000	SCALE:	11
WESTLAND RESOURCES DRAWING PATH		HORIZ:	OF
		VERT:	11