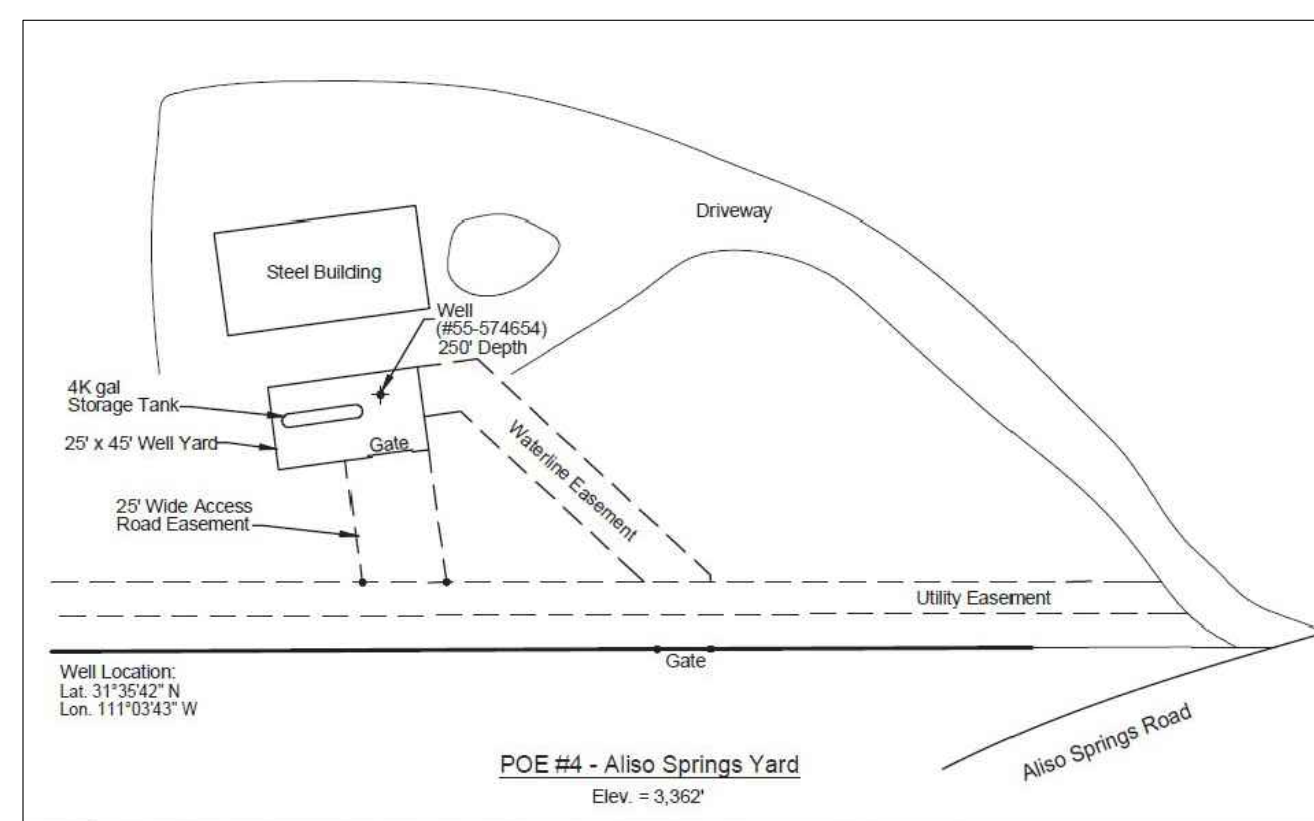


TRUJILLO TRAIL DWID WATER SYSTEM #12040 TRANSMISSION LINE AND TRANSFER PUMP SYSTEM

REVISED SET FOR PHASE ONE INSTALLATION



LOCATION MAP



SITE MAP

The basis of bearings is US State Plane NAD83 AZ Central Coordinate System, tied to the Santa Cruz control points

OWNER:

TRUJILLO TRAIL DOMESTIC WATER IMPROVEMENT DISTRICT
PO BOX 5111
TUBAC, AZ 85646
42 ALISO SPRINGS ROAD
T21S R12E S13
425-466-7409 ED STUBBS
% JACKSON JENKINS
520-419-4208
JACKSON.JENKINS@PIMA.GOV

ENGINEER:
TEAMCONVERSE LLC
ENGINEERING DIVISION
JERRY D. MORROW PE
4666 E. DONATO DR
GILBERT, AZ 85298
480-634-1533
ALLAN@TEAMCONVERSE.NET

AS-BUILT CERTIFICATION:

I HEREBY CERTIFY THAT THE "AS-BUILT" INFORMATION AS SHOWN OR NOTED HEREON WERE MADE BY MYSELF OR UNDER MY SUPERVISION AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Jerry D. Morrow PE
TeamConverse LLC

DATE

DATE

SHEET INDEX

1. COVER
2. PROJECT SITE
3. GENERAL NOTES
4. STORAGE TANK AND PUMPS DETAILS
5. WELL LOG - SPECIFICATIONS
6. WELL DETAILS
7. DETAILS
8. DETAILS
- 9-21 WATER LINE PLAN AND PROFILE

QUANTITIES

QTY.	DESCRIPTION FOR TRANSMISSION LINE
6,337'	3,565' OF 4" C-900 200 PVC PIPE+ 2,772' OF C-900 PVC PIPE
40'	4" DUCTILE IRON PIPE (GAS CROSSING)
6	3/4" AIR RELIEF VALVES IN CONCRETE VAULT
2	4" INLINE CHECK VALVES IN CONCRETE VAULT
2	4" BUTTERFLY ISOLATION VALVES
20	45 DEGREE BENDS
40'	2" GALVANIZED IRON PIPE TOP FILL LINES
2	2" BALL VALVES
40 YD	ASPHALT REPLACEMENT AT CROSSINGS

SEE SHEET 4 FOR WELL YARD QUANTITIES

NOTE: ADDITIONAL ROAD EDGE REPAIRS MAY BE NECESSARY

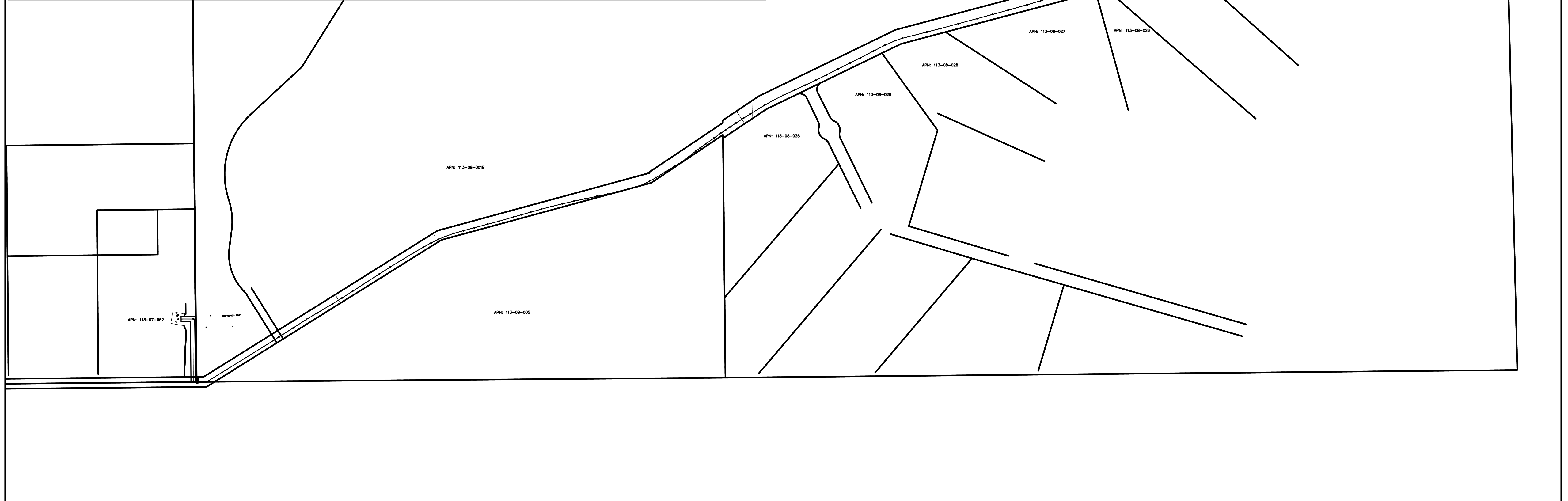
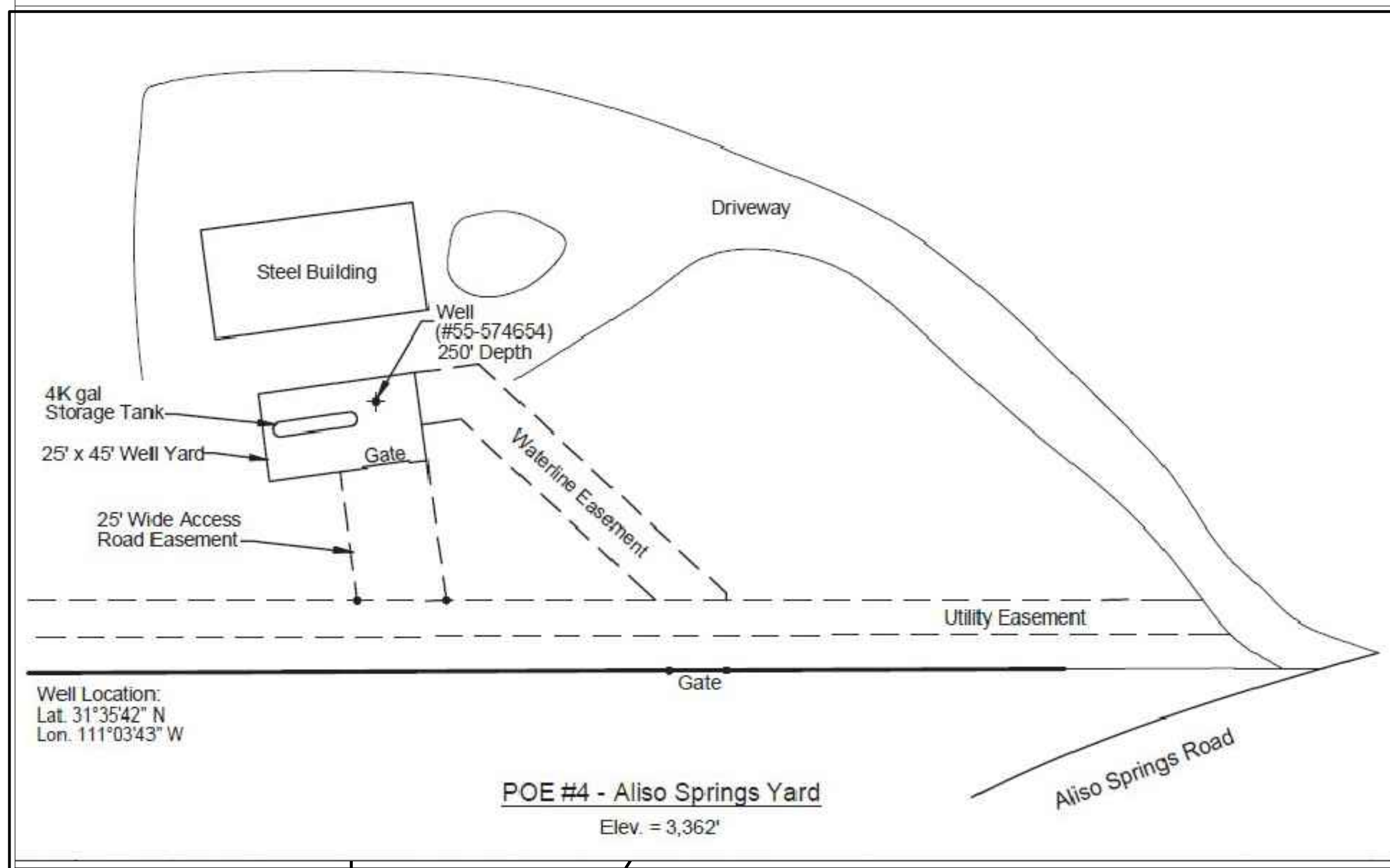
NO.	DATE	BY	REVISION

TRUJILLO TRAIL DWID
42 ALISO SPRINGS ROAD TUBAC, AZ 85646
COVER SHEET

TeamConverse L.L.C.
Engineering Construction
Financing
4666 East Donato Drive
Gilbert, Arizona 85298
Direct: 480-634-1533
Mobile: 902-339-1154
E-mail: allan@teamconverse.net
Web: www.teamconverse.net



SECTION:	
TOWNSHIP:	
RANGE:	
DATE:	8/7/2023
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SHEET:	1 OF 21



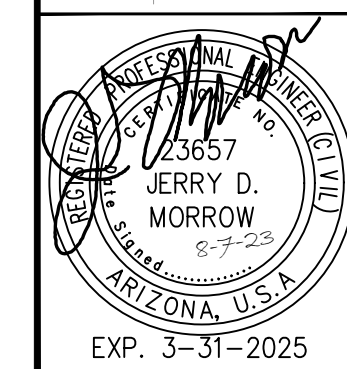
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NO	DATE	BY	REVISION

TRUJILLO TRAIL DWD
 PO BOX 5111 TUBAC, AZ 85646
 PROJECT SITE

TeamConverse L.L.C.
 Engineering Construction
 Financing
 4666 East Domingo Drive
 Gilbert, Arizona 85298
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 E-mail: info@TeamConverse.net
 Web: www.TeamConverse.net



SECTION:	
TOWNSHIP:	
RANGE:	
DATE:	8/7/2023
PROJECT:	PROJECT SITE
SHEET:	2 OF 21

SCOPE OF WORK

THE TRUJILLO TRAILS DOMESTIC WATER IMPROVEMENT DISTRICT (TTDWD) ACQUIRED AN EXISTING WELL AND WATER STORAGE TANK LOCATED AT 42 ALISO SPRINGS ROAD TO SUPPLEMENT THE WATER SUPPLY FOR THE WATER SYSTEM. THE WELL AND WATER STORAGE TANK WILL BE CONNECTED TO A NEW TRANSFER PUMP SYSTEM AND TRANSMISSION LINE TO DELIVER WATER TO THE TRUJILLO TRAILS WATER STORAGE TANKS. THE WELL AND WATER STORAGE TANK WILL BE UPGRADED TO MEET ADEQ STANDARDS AND WILL BE PERMITTED FOR USE AS WATER SUPPLY SYSTEM COMPONENTS. THE PROJECT WILL BE CONSTRUCTED IN PHASES. PHASE ONE COMPONENTS ARE SHOWN IN THIS SET WITH PHASE TWO COMPONENTS SHOWN IN PREVIOUSLY APPROVED SET.

THE WATER INFRASTRUCTURE FINANCE AUTHORITY (WIFA) IS PROVIDING FUNDING FOR THE TRANSFER PUMP AND TRANSMISSION PIPELINE. THE PERMITTING AND IMPROVEMENTS TO THE WELL AND WATER STORAGE TANK WILL BE FUNDED SEPARATELY.

AS SHOWN IN THESE DRAWINGS, THE CONTRACTOR WILL SUPPLY AND CONSTRUCT A NEW 30-55 GPM TRANSFER PUMP SYSTEM AND APPROXIMATELY 3,565 FEET OF 4" C-900 200 PVC WATER TRANSMISSION LINE AND APPROXIMATELY 2,772 FEET OF 4" C-900 PVC WATER TRANSMISSION LINE. THE MAXIMUM OPERATING PRESSURE WILL BE 165 PSI, WITH PRESSURE DROPPING AS THE WATER LINE ELEVATION INCREASES. THE WATER TRANSMISSION LINE WILL NOT HAVE SERVICE CONNECTIONS. AN UNDER CROSSING OF THE EL PASO NATURAL GAS LINE WILL BE REQUIRED. THE ELECTRICAL SUPPLY TO THE TRANSFER PUMP SYSTEM WILL BE CONSTRUCTED INCLUDING THE VFD COMPONENTS TO ALLOW THE USE OF THREE PHASE MOTORS WITH THE SINGLE PHASE POWER SUPPLY. A CONTROL SYSTEM WILL BE INSTALLED TO CONTROL THE WELL AND TRANSFER PUMPS.

ALL CONSTRUCTION AND TESTING PROCEDURES MUST COMPLY WITH FEDERAL AND STATE AND LOCAL REGULATIONS FOR CONSTRUCTION OF NEW DRINKING WATER SYSTEM COMPONENTS. COMPLIANCE WITH THESE REGULATIONS, INCLUDING TESTING AND REPORTING, IS THE CONTRACTOR'S RESPONSIBILITY.

PROJECT SPECIFICATIONS

THE INFORMATION IN THESE PLANS IS PROVIDED SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS THAT MAY BE ENCOUNTERED DURING THE COURSE OF WORK. PRIOR TO BIDDING, THE CONTRACTOR IS ADVISED TO CONDUCT WHATEVER INVESTIGATIONS HE MAY DEEM NECESSARY TO ARRIVE AT HIS OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH HIS BID WILL BE BASED.

ALL WORK SHALL BE PERFORMED TO MOST RECENT MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) STANDARDS AND SPECIFICATIONS.

IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO NOTIFY THE ENGINEER AT LEAST 48-HOURS IN ADVANCE OF INSPECTIONS AND TESTS REQUIRED IN THE DRAWINGS OR SPECIFICATIONS TO DEMONSTRATE AS-BUILT CONDITIONS.

AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL HAVE AN APPROVED SET OF CONSTRUCTION DRAWINGS ON SITE.

THE WORD OWNER OR BASE SHALL BE REFERRED TO INTERCHANGEABLY WITHIN THE DRAWINGS, NOTES AND PROJECT SPECIFICATIONS. EACH WORD IN TEXT SHALL REFER TO TTDWD.

THE CONTRACTOR'S CONSTRUCTION SUPERINTENDENT SHALL BE ON-SITE AT ALL TIMES THAT CONSTRUCTION ACTIVITIES ARE PROCEEDING. THE FOREMAN SHALL HAVE A MOBILE PHONE ON HIS OR HER PERSON SUCH THAT COMMUNICATION IS READILY AVAILABLE BETWEEN THE OWNER, ENGINEER AND CONTRACTOR.

THE CONTRACTOR IS EXPECTED TO STAKE THE WORK PRIOR TO CONSTRUCTION AND IMMEDIATELY ADVISE THE ENGINEER OF ANY CONFLICTS BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS AT THE TIME OF THE STAKING.

LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN AS APPROXIMATE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME OF PREPARATION OF THESE PLANS.

IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY THE PRESENCE AND LOCATION OF ANY AND ALL EXISTING OVERHEAD AND/OR UNDERGROUND UTILITIES THAT MAY INTERFERE WITH THIS CONSTRUCTION - WHETHER OR NOT SAID UTILITIES ARE SHOWN ON THE CONSTRUCTION PLANS FOR THIS PROJECT. CONTRACTOR SHALL ADEQUATELY PROTECT AND MAINTAIN SUCH UTILITIES.

DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A NEAT, ACCURATE, LEGIBLE AS-BUILT (RECORD) DRAWING SET THAT SHALL BE SUBMITTED TO THE ENGINEER UPON COMPLETION OF THE WORK.

UNLESS OTHERWISE NOTED IN THESE DRAWINGS, THE CONTRACTOR WILL REPLACE ALL EXISTING PAVING, CURB AND GUTTERS, SIGNS, GENERAL LANDSCAPING, STORMWATER CONTROLS, OR OTHER IMPROVEMENTS WITH THE SAME TYPE OF MATERIAL AND CONFIGURATION THAT WAS REMOVED OR DAMAGED DURING CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ARIZONA 811 (FORMERLY ARIZONA BLUE-STAKE) AND ANY NON-PARTICIPATING UTILITY COMPANIES TO VERIFY UTILITY LOCATIONS PRIOR TO ANY EXCAVATION.

THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED BETWEEN ANY OF THE PROVIDED DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND SCHEDULING ALL REQUIRED INSPECTIONS.

ALL SIGNS, BARRELS, DRUMS, LIGHTS, BARRICADES, AND OTHER ITEMS NECESSARY FOR TRAFFIC CONTROL SHALL BE PROVIDED BY THE CONTRACTOR AND MAINTAINED IN GOOD WORKING CONDITION AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN A CLEAN AND SECURE STAGING AREA AT ALL TIME DURING THE PROJECT.

THE CONTRACTOR SHALL NEATLY REMOVE FENCE, MAILBOXES, ASPHALT, CONCRETE, CURB AND GUTTER, RIP-RAP, STORM DRAINS, LANDSCAPING, AND ASSOCIATED APPURTENANCES REQUIRED FOR EXECUTION OF THE WORK. ALL REMOVED OR DAMAGED ITEMS SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION, OR BETTER, AS SOON AS POSSIBLE BASED ON THE PROGRESS OF THE WORK. ALL PAVEMENT, SIDEWALK, CURB, AND OTHER HARDCAPE DEMOLITION SHALL BE ACCOMPLISHED BY NEATLY SAWCUTTING PRIOR TO REMOVAL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL NECESSARY APPURTENANCES REQUIRED TO CONSTRUCT THE PROPOSED WATER MAIN. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, FITTINGS, THRUST BLOCKS, ANCHOR COUPLINGS, RESTRAINED JOINTS, AND OTHER COMPONENTS.

ADEQ'S REQUIRED MINIMUM SEPARATION BETWEEN WATER AND SEWER LINES SHALL BE MAINTAINED AT ALL POINTS ALONG THE PROJECT ROUTE. SOME DEVIATION OF THE PROPOSED PIPELINE ALIGNMENT MAY BE NECESSARY DEPENDING ON THE ACTUAL LOCATIONS OF EXISTING WATER, SEWER AND OTHER UTILITY LINES. MAINTAINING THE ADEQ REQUIRED SEPARATION SHALL TAKE PRECEDENCE OVER OTHER DIMENSIONS AND SEPARATION DISTANCES SHOWN.

IN CASES WHERE THE ADEQ REQUIRED MINIMUM VERTICAL AND HORIZONTAL SEPARATION CAN NOT BE MAINTAINED IN ACCORDANCE R18-5-502.C, THE CONTRACTOR SHALL PROVIDE EXTRA PROTECTION IN ACCORDANCE WITH THE DETAILS PROVIDED ON THESE DRAWINGS AND ADEQ'S REQUIREMENTS. THE CONTRACTOR IS BOUND BY ALL REQUIREMENTS SPECIFIED IN ENGINEERING BULLETIN #10.

ALL FILL UNDER PROPOSED PAVEMENT SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY (AT +2% OF OPTIMUM MOISTURE CONTENT) AS DETERMINED BY STANDARD PROCTOR TEST, ASTM D-698. FILL AND BACKFILL OUTSIDE OF PAVED AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY AT +2% OF OPTIMUM MOISTURE CONTENT. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A TESTING LABORATORY LICENSED IN THE STATE OF ARIZONA TO PROVIDE SOIL TESTING.

ALL EXISTING AND PROPOSED STRUCTURES WITHIN THE PROJECT AREA, SUCH AS MANHOLES, VALVE BOXES, HYDRANTS, AND VALVE VAULTS, SHALL BE ADJUSTED TO MATCH THE FINAL SURFACE ELEVATION WITH POSITIVE DRAINAGE AWAY FROM THE STRUCTURE.

CONTRACTOR SHALL PHOTOGRAPH THE PRE-CONSTRUCTION CONDITIONS OF THE ENTIRE PROJECT LIMITS. A COPY SHALL BE PROVIDED TO THE ENGINEER, CLEARLY LABELED WITH THE DATE THE PHOTOGRAPHING WAS PERFORMED, THE PROJECT NAME, AND THE PROJECT NUMBER. THE PHOTOGRAPHS SHALL BE PROVIDED TO DEMA PRIOR TO COMMENCING ANY IMPROVEMENTS.

THE QUANTITIES SHOWN ON THESE PLANS ARE ESTIMATES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL QUANTITIES PRIOR TO BID.

SHOULD CONFLICTS OCCUR IN OR BETWEEN DRAWINGS AND SPECIFICATIONS, CONTRACTOR IS DEEMED TO HAVE ESTIMATED THE MORE EXPENSIVE OF THE TWO UNLESS HE HAS ASKED FOR AND OBTAINED A WRITTEN DECISION BEFORE SUBMISSION OF HIS BID AS TO WHICH METHOD OR MATERIALS WILL BE REQUIRED.

PRECEDENCE OF DOCUMENTS: IN GENERAL, BUT SUBJECT TO INTERPRETATION OF ARCHITECT, DOCUMENTS TAKE PRECEDENCE IN FOLLOWING DESCENDING ORDER: APPLICABLE REGULATIONS, ORDINANCES, ARS, PROPOSAL, BONDS, OWNER-CONTRACTOR AGREEMENT, TECHNICAL SPECIFICATIONS, PLANS (DRAWINGS), AND CALL FOR BIDS. SHOP DRAWINGS AND SIMILAR SUBMITTALS ARE NON-CONTRACTUAL UNLESS INCORPORATED BY APPROPRIATELY EXECUTED CONTRACT MODIFICATIONS. THEREFORE, IMMEDIATE REQUEST FOR INTERPRETATION SHOULD BE MADE WHEN OCCASION ARISES.

HEALTH AND SAFETY NOTES

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH THE OSHA EXCAVATION SAFETY STANDARDS AND ABIDE BY THEM AT ALL ITEMS DURING CONSTRUCTION.

CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFE AND HEALTHFUL PERFORMANCE OF WORK BY EACH OF THEIR EMPLOYEES, SUBCONTRACTORS, OR SUPPORT PERSONNEL WHO MAY ENTER THE SITE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE SECURITY FOR ITS PERSONNEL, SUBCONTRACTORS, AND ALL RELATED EQUIPMENT AND PROJECT MATERIAL. TEMPORARY SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE FROM BEGINNING TO COMPLETION OF CONSTRUCTION.

CONTRACTOR SHALL SUBMIT A SITE-SPECIFIC HEALTH AND SAFETY PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO START OF ANY ONSITE ACTIVITIES.

IF REQUIRED, CONTRACTOR SHALL SUBMIT A SITE-SPECIFIC STORMWATER POLLUTION PREVENTION PLAN AND A NOTICE OF INTENT (NOI) TO DISCHARGE STORMWATER UNDER THE PROVISIONS OF ADEQ'S GENERAL PERMIT TO APPROPRIATE REGULATORY AGENCIES.

SITE PRACTICES AND SCHEDULING

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A PROJECT SCHEDULE WITH DATES AND ITEMS THAT CONTRACTOR WILL BE IN SITE. DESCRIPTION OF WORK TO BE PERFORMED, AND SCHEDULED OF TESTS THAT WILL BE CONDUCTED BY THE CONTRACTOR OR ANY SUB-CONTRACTORS.

THE CONTRACTOR WILL SUBMIT WEEKLY SCHEDULE UPDATES TO THE OWNER AND ENGINEER.

SITE ACCESS WILL BE COORDINATED DIRECTLY WITH ENGINEER AND TTDWD.

PRIOR TO CONSTRUCTION, THE CONTRACTORS SHALL SUBMIT TO THE ENGINEER A TRAFFIC CONTROL PLAN APPROVED BY ENGINEER.

ALL SITE WORK WILL BE PERFORMED ON A BUSINESS WEEK (MONDAY THROUGH FRIDAY) BETWEEN 7:00AM AND 5:00PM UNLESS OTHERWISE APPROVED BY THE OWNER.

BACKFILLING AND COMPACTION

COMPACTED BACKFILL MATERIAL MUST BE TESTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO PLACING SURFACE COURSE. ANY COMPACTION RE-TESTING REQUIRED TO FAILED RESULTS WILL BE DONE AT THE SOLE EXPENSE OF THE CONTRACTOR.

JETTING, WATER SETTLING, OR SIMILAR COMPACTION METHODS ARE NOT ALLOWED. COMPACTION WILL ONLY BE ALLOWED BY MECHANICAL MEANS (VIBRATORY OR JUMPING JACK) USING EQUIPMENT SPECIFICALLY DESIGNED FOR COMPACTION. COMPACTION METHOD MUST BE APPROVED BY ENGINEER PRIOR TO CONSTRUCTION.

MATERIALS AND TESTING

ALL IMPORTED BACKFILL MUST BE TESTED FOR CORROSIIVITY IN ACCORDANCE WITH DIPRA'S 10-POINT SYSTEM OF "SOIL EVALUATION FOR DUCTILE IRON."

ALL TRENCHES WILL BE BACKFILLED IN LIFTS NOT TO EXCEED 12-INCHES THICK. EACH LIFT WILL BE COMPACTED TO 95% STANDARD PROCTOR IN ACCORDANCE WITH ASTM D698.

COMPACTED BASE MATERIAL MUST BE TESTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO PLACING CONCRETE.

CONSTRUCTION NOTES

ALL WATER LINES, FITTINGS, AND VALVES SHALL HAVE AWWA APPROVAL.

ALL MATERIALS AND PRODUCTS USED IN THE DRINKING WATER SYSTEM SHALL CONFORM TO NSF STANDARD 60, 61 AND 372. CONSTRUCTION MATERIALS USED IN THE WATER SYSTEM SHALL BE LEAD FREE AS DEFINED AT R18-5-504 AND R18-4-101.

WATER LINES SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA C605 STANDARD.

WATER LINES SHALL BE DISINFECTED BY CHLORINATION IN ACCORDANCE WITH AWWA C601 STANDARD OR ADEQ BULLETIN NO. 8.

MINIMUM DEPTH OF COVER OVER WATER LINES SHALL BE 36 INCHES.

WATER/SEWER LINES SEPARATION SHALL BE IN ACCORDANCE WITH A.A.C. R18-5-502.C. WELL SEPARATION SHALL MEET THE REQUIREMENTS OF R18-5-50.2D

CONTRACTOR SHALL SUBMIT A PERMIT APPLICATION TO SANTA CRUZ COUNTY FOR APPROVAL OF DUST GENERATION AND DUST CONTROL METHODS PRIOR TO START OF ANY SITE CONSTRUCTION ACTIVITIES.

WATER TRANSMISSION MAIN PIPE

ALL WATER TRANSMISSION MAIN PIPE WILL BE CLASS 4" C-900 200 PVC PIPE WITH INSTALLATION IN COMPLIANCE WITH MAG SPECIFICATIONS.

TRANSMISSION MAIN PIPE WILL BE INSTALLED WITH AWWA C110 STANDARD APPROVED PUSH-ON OR MECHANICAL JOINTS WHERE APPLICABLE.

FLANGED JOINTS ARE ALLOWED FOR ABOVE GROUND INSTALLATIONS ONLY.

RESTRAINED PUSH-ON OR MECHANICAL JOINTS WILL BE REQUIRED PER SPECIFICATIONS. USE ONLY EBAA IRON MEGA-LUG OR APPROVED EQUAL FOR JOINT RESTRAINTS.

CONCRETE THRUST BLOCKS MAY BE USED TO RESTRAIN JOINTS.

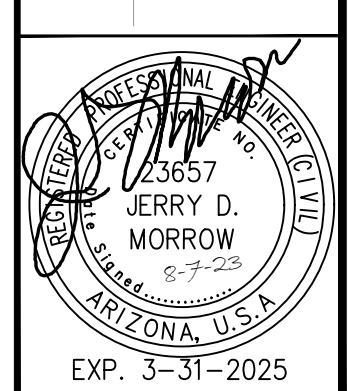
EACH SEGMENT OF WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH MAG SPECIFICATIONS AND PIPE MANUFACTURER RECOMMENDATIONS.

ALL IRON AND STEEL MUST MEET EPA AIS REQUIREMENTS OR OBTAIN WAIVERS FROM EPA. AIS WAIVER REQUEST CHECKLIST AND SAMPLE AVAILABLE FROM ENGINEER.

NO.	DATE	BY	REVISION

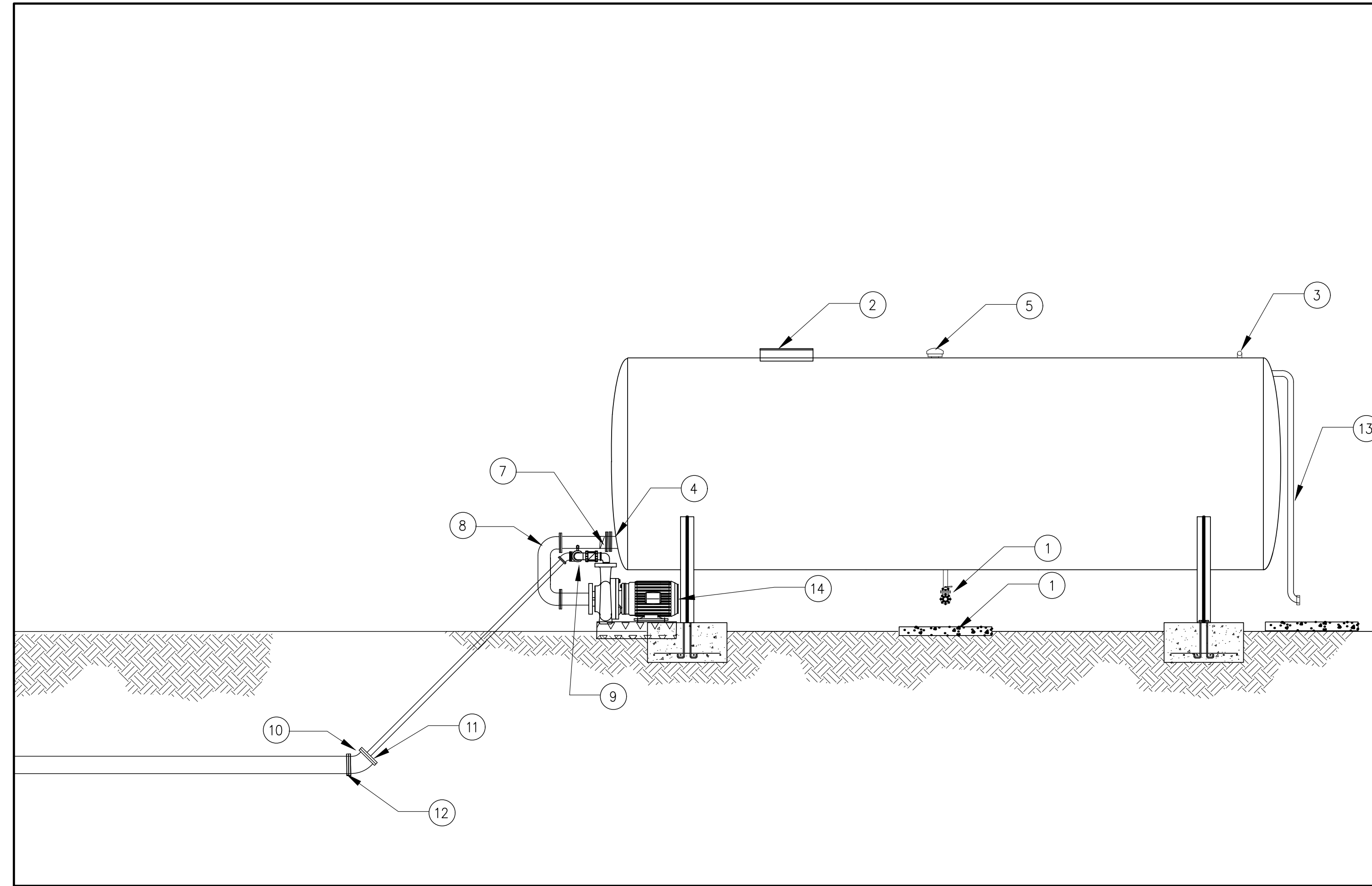
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GENERAL NOTES

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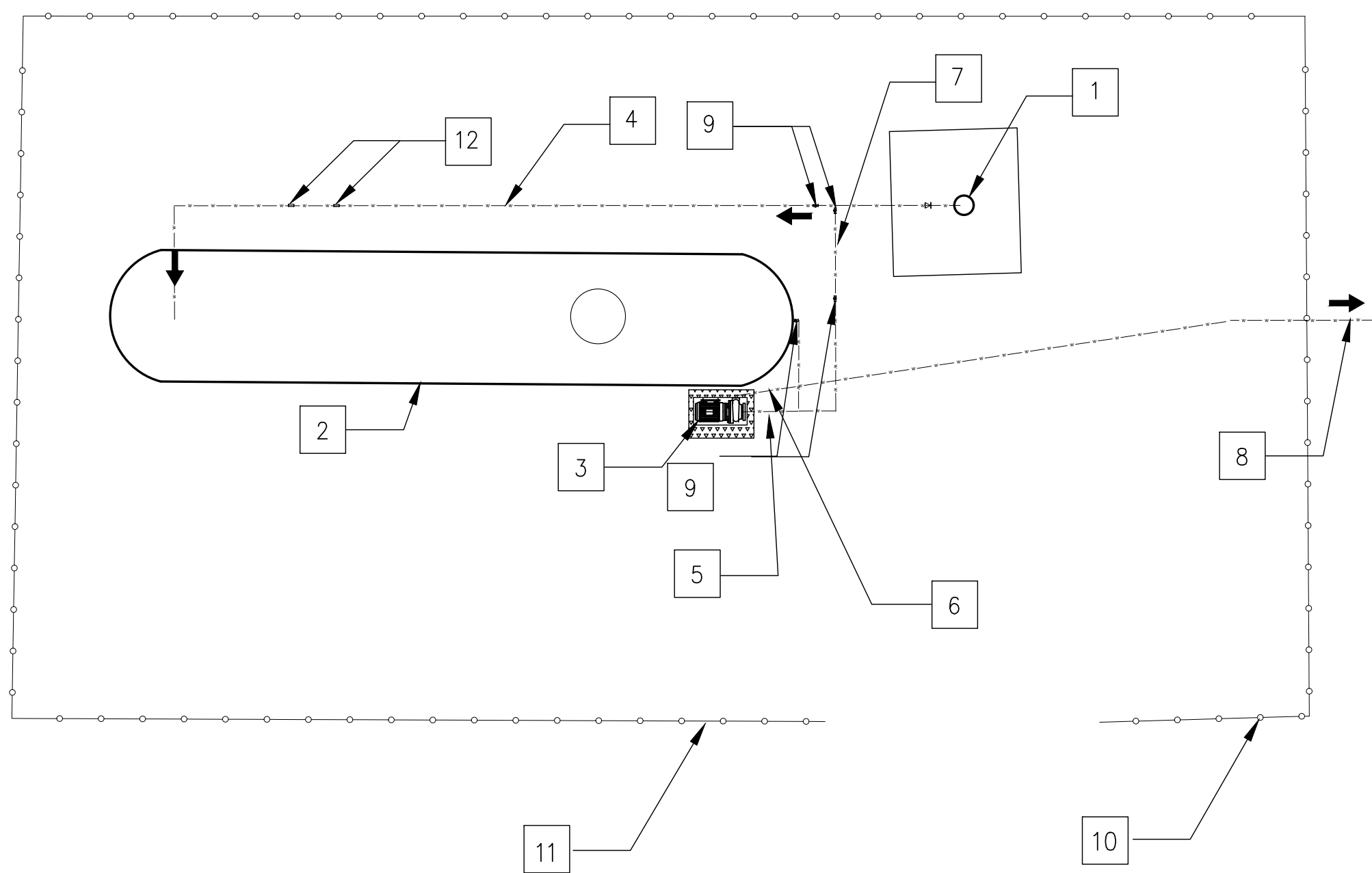


SECTION:	
TOWNSHIP:	
RANGE:	
DATE:	8/7/2023
PROJECT:	
GEN NOTES	
SHEET	3 OF 21





PROFILE VIEW



SCHEMATIC VIEW

- 1 EXISTING WELL
- 2 EXISTING 4,000 GALLON STEEL STORAGE TANK
- 3 INSTALL NEW SINGLE TRANSFER PUMP SIZED PER DESIGN REPORT SPECIFICATIONS WITH ISOLATION AND CHECK VALVES ON 4"X2'X3' CONCRETE PAD
- 4 INSTALL NEW 36 LF OF 2" GALVANIZED STEEL LINE FROM WELL TO TOP INLET OF EXISTING STORAGE TANK
- 5 INSTALL NEW 2" GALVANIZED STEEL LINE WITH FITTINGS FROM STORAGE TANK TO TRANSFER PUMP INLET
- 6 INSTALL 2" TEE, 2" BALL VALVE, AND CAM LOCK FOR MOBILE WATER TANK CONNECTION
- 7 INSTALL NEW 12 LF OF 2" GALVANIZED STEEL BYPASS LINE FROM WELL TO TRANSFER PUMP INLET
- 8 INSTALL NEW 4" C-900 (200 OR 100 PVC AS INDICATED ON SHEETS 9-21) WATER LINE TO TRUJILLO YARD STORAGE TANKS
- 9 INSTALL 2" BALL VALVES
- 10 EXISTING 6' STEEL FENCE WITH LOCKED GATE
- 11 WATER SYSTEM SIGN PER ADEQ BULLETIN #10
- 12 INSTALL 2" UNIONS FOR FUTURE ARSENIC TREATMENT SYSTEM CONNECTION WHEN REQUIRED

WATER STORAGE TANK AND TRANSFER PUMP REQUIREMENTS:

- 1 INSTALL 2" TANK DRAIN WITH VALVE, #16 SCREEN, AND 4" CONCRETE SPLASH PAD
- 2 MODIFY EXISTING ACCESS HATCH WITH SEAL AND LOCK
- 3 MODIFY AND INSTALL TANK INLET TO MATCH LINE FROM WELL
- 4 MODIFY AND INSTALL TANK OUTLET TO MATCH LINE TO TRANSFER PUMP
- 5 INSTALL 6" DIAMETER VENT WITH #16 MESH SCREEN
- 6 WELL CONTROL TO BE MANUAL
- 7 INSTALL 2" BALL VALVE
- 8 INSTALL 2" PUMP INLET AND OUTLET PIPING W FITTINGS
- 9 INSTALL 2" TEE, VALVE, AND CAM LOCK FOR MOBILE WATER TANK CONNECTION
- 10 INSTALL 4" 45 DEGREE ELBOW
- 11 INSTALL 4" X 2" REDUCER AS REQUIRED
- 12 TRANSITION FROM 2" GALVANIZED PIPE TO 4" PVC PIPE
- 13 INSTALL 4" OVERFLOW PIPE W/FLAP VALVE AND CONCRETE SPLASH PAD
- 14 INSTALL SINGLE TRANSFER PUMP SYSTEM CAPABLE OF 30 GPM@165PSI INCLUDING 2" ISOLATION BALL AND 2" WAFER SPRING CHECK VALVES, PUMP MOUNTED ON A 4" THICK CONCRETE PAD WITH CONTROL PANEL

NOTES:

PIPE LENGTHS CUT TO FIT

ABOVE GROUND FITTINGS THREADED GALVANIZED STEEL

ALL MATERIALS TO MEET NSF 60 AND 61 STANDARDS.

ALL COMPONENTS TO BE DISINFECTED PER ADEQ BULLETIN #8.

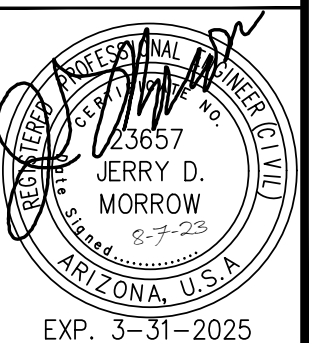
TRUJILLO TRAIL DWD

P.O. BOX 5111 TUBAC, AZ 85646

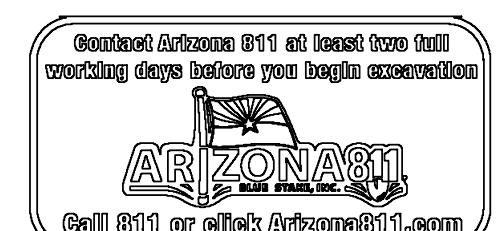
STORAGE TANK AND TRANSFER PUMPS

TeamConverse LLC.
Engineering Construction
Financing

466 East Donato Drive
Tubac, Arizona 85636
Direct: 480-634-1533
E-mail: alia@teamconverse.net
Web: www.teamconverse.net



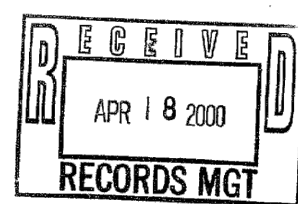
SECTION:
TOWNSHIP:
RANGE:
DATE: 8/7/2023
PROJECT:
STOR/PUMP
SHEET 4 OF 21



NO DATE BY REVISION

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004
WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.



1. L.B. DRILLING
P.O. BOX 4166
HUACHUCA CITY, AZ 85616-0166
 2. Owner Name: John L. Trevaire
Address: P.O. Box 79 Tubac, AZ 85646
City: _____ State: _____ Zip: _____
 3. Location: 21 N8 12 R1W 13 S4 SW 1/4 SE 1/4 SE
Township Range Section 10-acre 40-acre 160-acre
 4. Well Registration No. 55-574654 (Required)
 5. Permit No. _____ (If issued)
- DESCRIPTION OF WELL
6. Total depth of hole: 250 ft.
 7. Type of casing: 2" gal. PVC
 8. Diameter and length of casing: 2" gal. PVC in from 0 to 20 feet in from 10 to 250
 9. Method of sealing at reduction points: grout
 10. Perforated from 10 to 20 from _____ to _____ to _____
 11. Size of cuts: 2" Number of cuts per foot three
 12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
 13. Method of construction: drilled air
(drilled, dug, driven, bored, jetted, etc)
 14. Date started: March 22 2000
Month Day Year
 15. Date completed: March 23 2000
Month Day Year
 16. Depth to water: 154 ft. (If flowing well, so state)
 17. Describe point from which depth measurements were made, and give sea-level elevation if available: ground level
 18. If flowing well, state method of flow regulation: NA
 19. Remarks: blew 50 gpm.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-574654
File No. D(21-12) 13 DDC
Received By _____
Entered By _____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	3	rocks some clay
3	118	grey with reddish tint clay gravelly cobbles
118	250	scattered boulders cemented grey sand gravel scattered mbs 118-180 - 1st water

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: L.B. DRILLING
P.O. BOX 4166
Street
HUACHUCA CITY, AZ 85616-0166 504-456-1657
City State Zip Phone No.
Tubac AZ 85646 504-456-1657
Signature of Driller [Signature] Date 3/24/2000

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION
500 North Third Street
Phoenix, Arizona 85004-2903

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO: 55-574654
AUTHORIZED DRILLER: L.B. DRILLING LICENSE NO: 344
NOTICE OF INTENTION TO DRILL AN EXEMPT WELL HAS BEEN FILED WITH THE DEPARTMENT BY:

WELL OWNER: JOHN L. TREVAIRE PO BOX 79 TUBAC, AZ 85646
The well(s) here to be located in the:
SW 1/4 of the SE 1/4 of the SE 1/4 Section 13 Township 21 SOUTH Range 12 EAST
No. of wells in this project: 1
THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 28TH DAY OF APRIL, 2000.

[Signature]
CHIEF, GROUNDWATER MANAGEMENT SUPPORT

THE DRILLER MUST FILE A LOG OF THE WELL WITHIN 30 DAYS OF COMPLETION OF DRILLING

MATERIALS SPECIFICATIONS:

TRANSFER PIPE: 4" C-900 200 OR 100 PVC PIPE IN LOCATIONS AS SHOWN ON SHEETS 9 TO 21 SHALL MEET AWWA C605-21 STANDARDS FOR INSTALLATION

VALVES:

4" CI BUTTERFLY 250 PSI RESILIENT SEAT DEZURIK OR ENGINEER APPROVED EQUAL FLANGED

4" CI CHECK VALVE APCO AWWA STANDARD C508 250 PSI W CLASS 250-300 PSI RATED FLANGES AIR CUSHIONED CYLINDER, LEVER & SPRING AND LEVER & WEIGHT

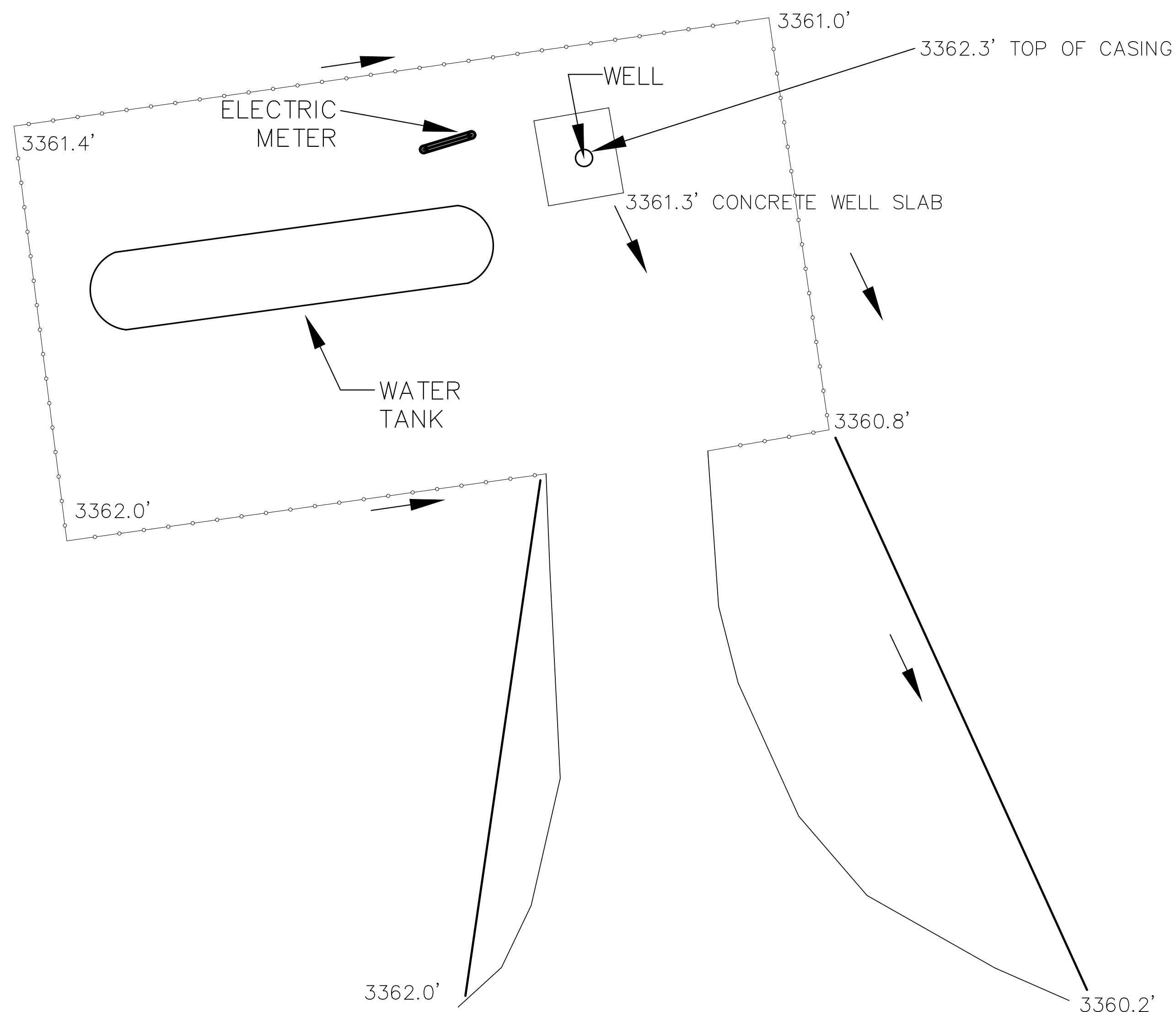
4" CI AIR RELEASE VALVE PRESSURE RATED FOR 250 PSI BODY STYLE 200A 1" MEET AWWA STANDARD C512

FITTINGS AND VALVE TO BE RATED 150 PSI ON C900-100 PIPELINE

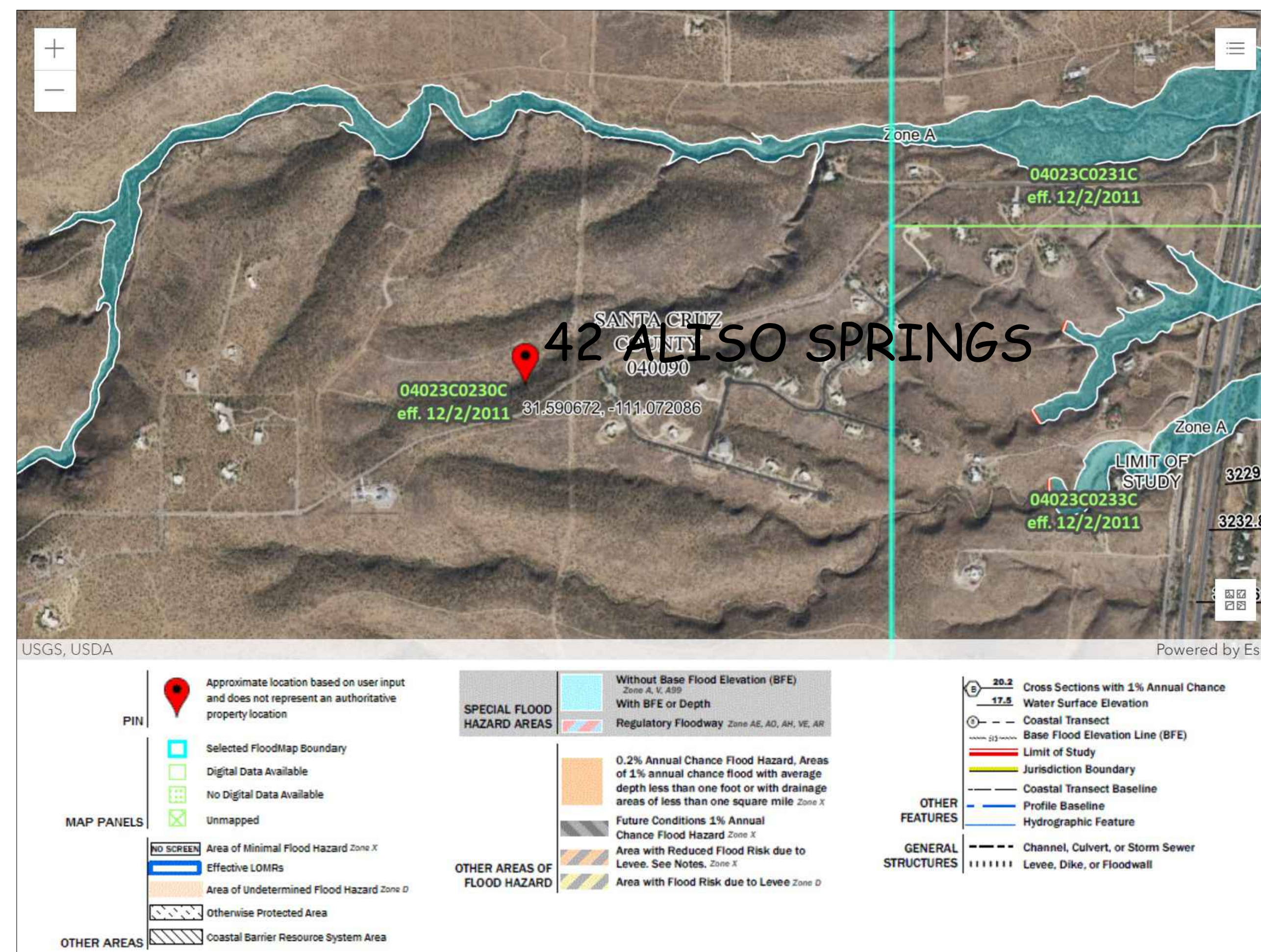
WATER METER: 2" PICOMAG METER WITH 10-LINK OUTPUT

CONTRACTOR TO INSTALL FREEZE PROTECTION FOR THE WELL APPURTENANCES, LOCAL PRESSURIZATION SYSTEM, AND TRANSFER PUMP SYSTEM - TO BE SUBMITTED AND APPROVED BY ENGINEER AND OWNER

ALL IRON AND STEEL PRODUCTS MUST MEET THE FEDERAL MADE IN AMERICA REQUIREMENTS UNLESS A WAIVER IS OBTAIN FROM EPA - WAIVER FORMS AVAILABLE UPON REQUEST

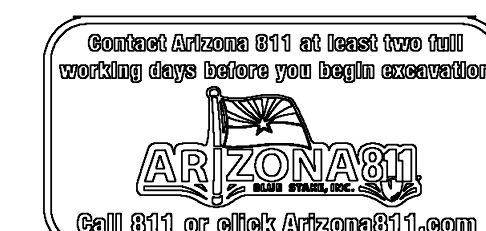


WELL SITE GRADING



THE WELL SITE IS APPROXIMATELY 6,600' FROM THE NEAREST DESIGNATED FLOOD PLAIN

FEMA FLOOD MAP



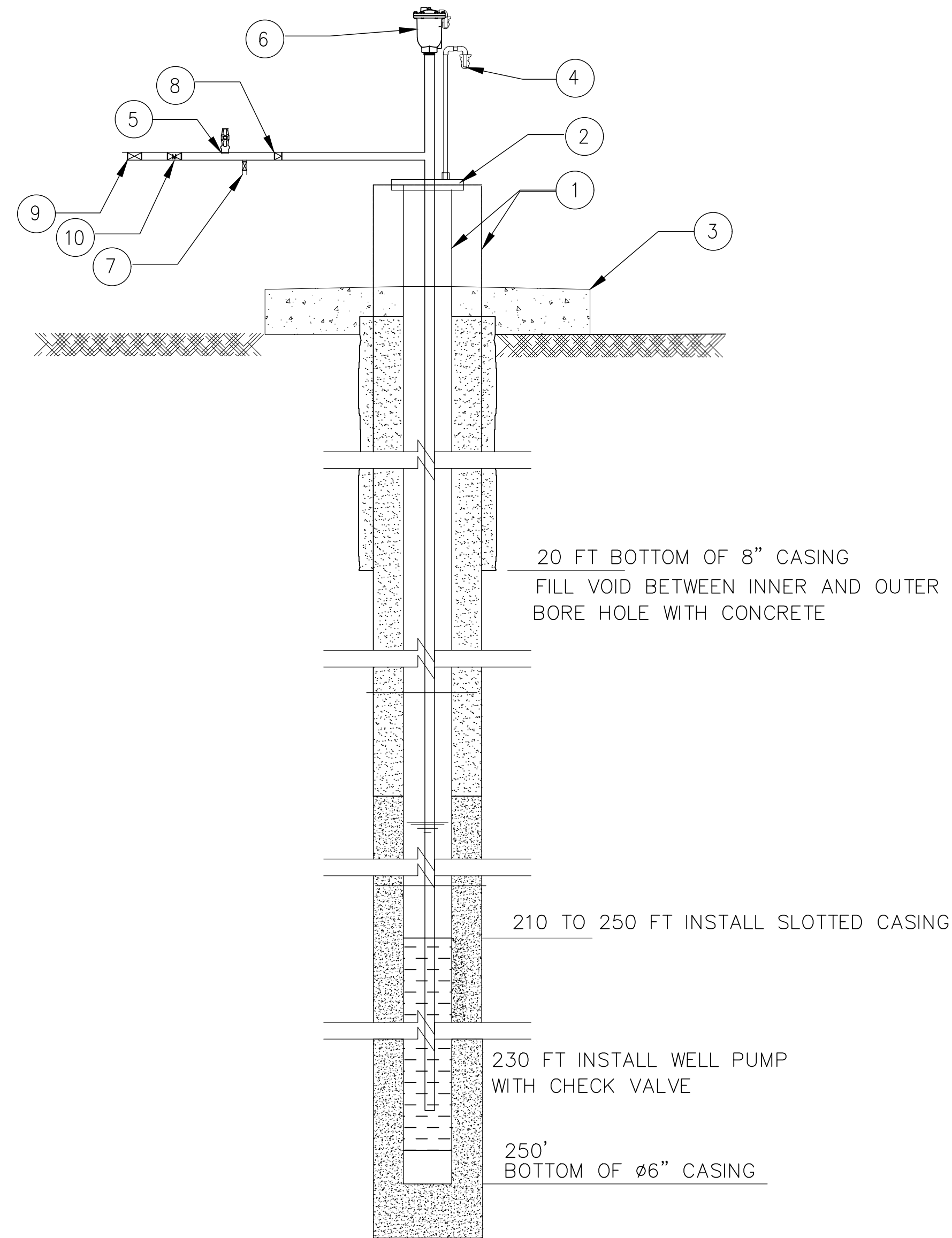
TRUJILLO TRAIL DWD
PO BOX 5111 TUBAC, AZ 85646
WELL DATA/SPECIFICATIONS

TeamConverse L.L.C.
Engineering Construction Financing
466 East Donata Drive
Chandler, Arizona 85226
Direct: 480-634-1533
Email: allan@teamconverse.net
Web: www.teamconverse.net

JERRY D. MORROW
8-7-23
EXP. 3-31-2025

SECTION:
TOWNSHIP:
RANGE:
DATE: 8/7/2023
PROJECT:
WELL/SPEC
SHEET 5 OF 21

WELL PROFILE



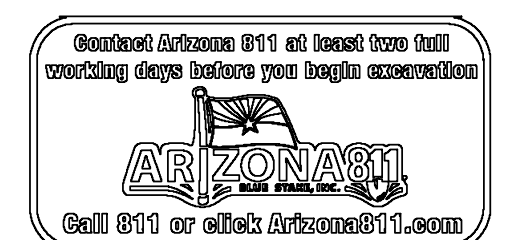
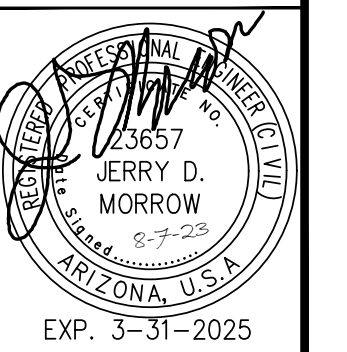
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WELL AND APPURTENANCES:

- ① EXISTING 8" STEEL CASING 20' AND 250' OF 6" PVC WELL CASING WITH $\frac{1}{8}$ " SLOTS BOTTOM 40'
- ② EXISTING WELL SEAL - TOP OF CASING 1' ABOVE WELL SLAB
- ③ EXISTING 6'x6' - 6" THICK WELL SLAB $\frac{1}{4}$ " PER FOOT SLOPE TO EDGE. GRADE SOIL TO DRAIN AWAY FROM THE WELL PER ADEQ EB#10
- ④ INSTALL $\frac{3}{4}$ " SCREENED VENT WITH SCREEN PER ADEQ EB#10 WITH OUTLET MINIMUM OF 2' ABOVE WELL SLAB
- ⑤ INSTALL SMOOTH NO THREAD SAMPLE TAP PER ADEQ EB#10
- ⑥ INSTALL 1" AIR RELIEF VALVE PER ADEQ EB#10
- ⑦ INSTALL 2" TEE AND 2" BALL VALVE WITH LINE TO DRAIN FOR FLUSHING WELL WATER
- ⑧ INSTALL 2" WAFER SPRING CHECK VALVE
- ⑨ INSTALL 2" ISOLATION BALL VALVE
- ⑩ INSTALL 2" PICOMAG DN 50 FLOW AND TOTALIZER METER WITH OUTPUT TO IO-LINK

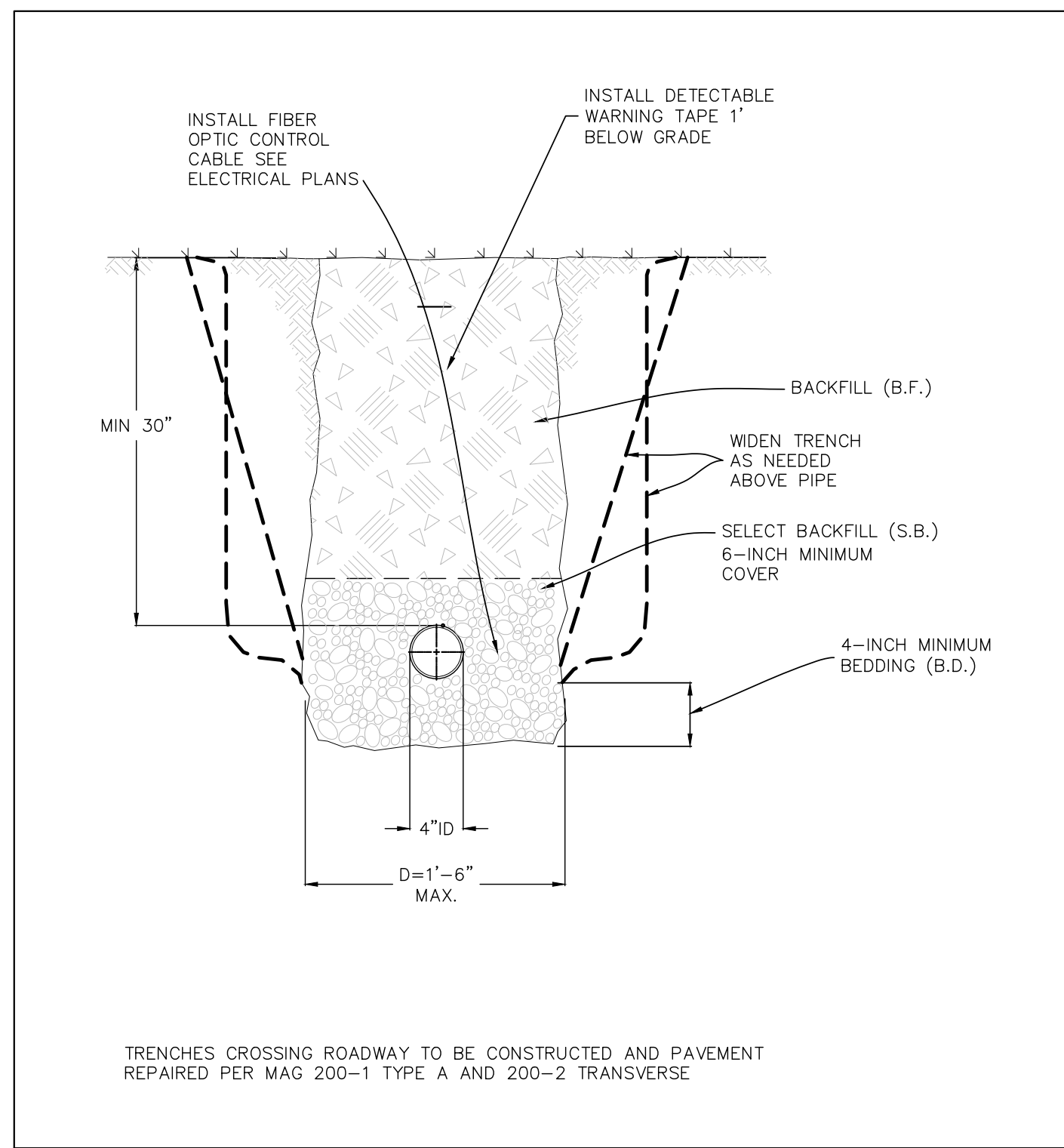
TRUJILLO TRAIL DWD
PO BOX 5111 TUBAC, AZ 85646
WELL DETAILS

TeamConverse LLC.
Engineering Construction
Financing
466 East Donato Drive
Chandler, Arizona 85226
Direct: 480-634-1533
E-mail: allan@teamconverse.net
Web: www.TeamConverse.net

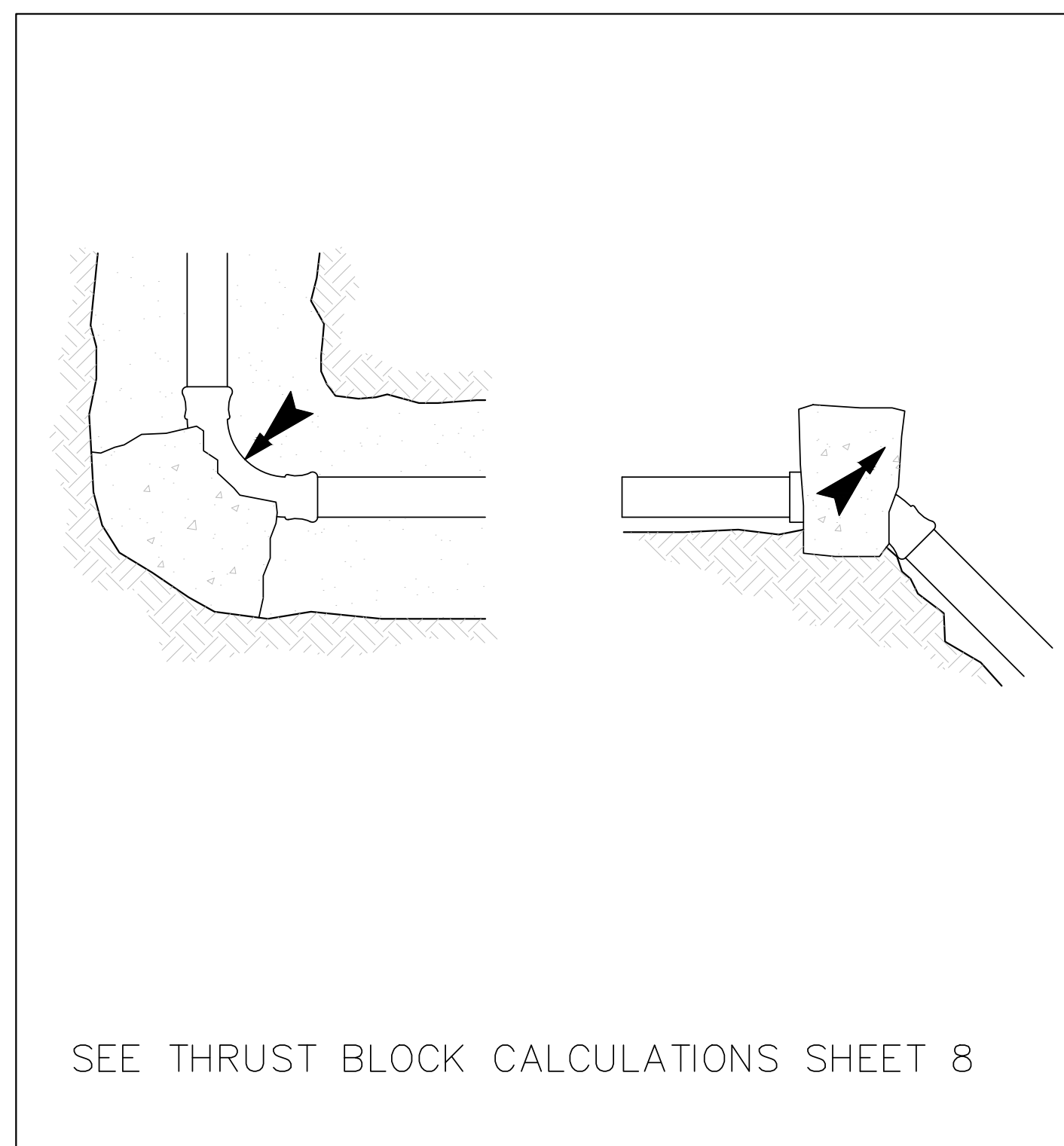


SECTION:
TOWNSHIP:
RANGE:
DATE: 8/7/2023
PROJECT:
WELL DETLS
SHEET 6 OF 21

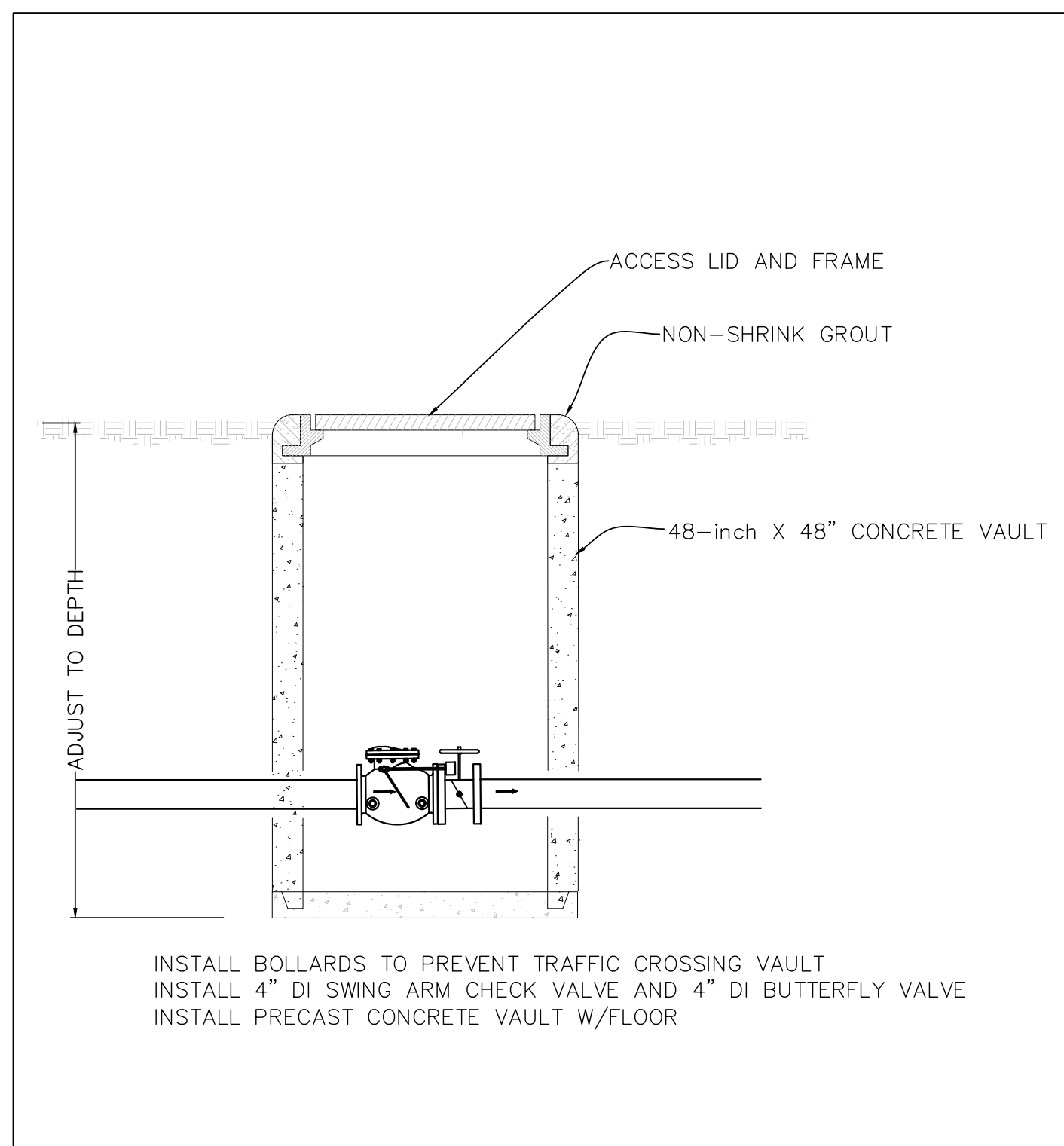
NO DATE BY REVISION



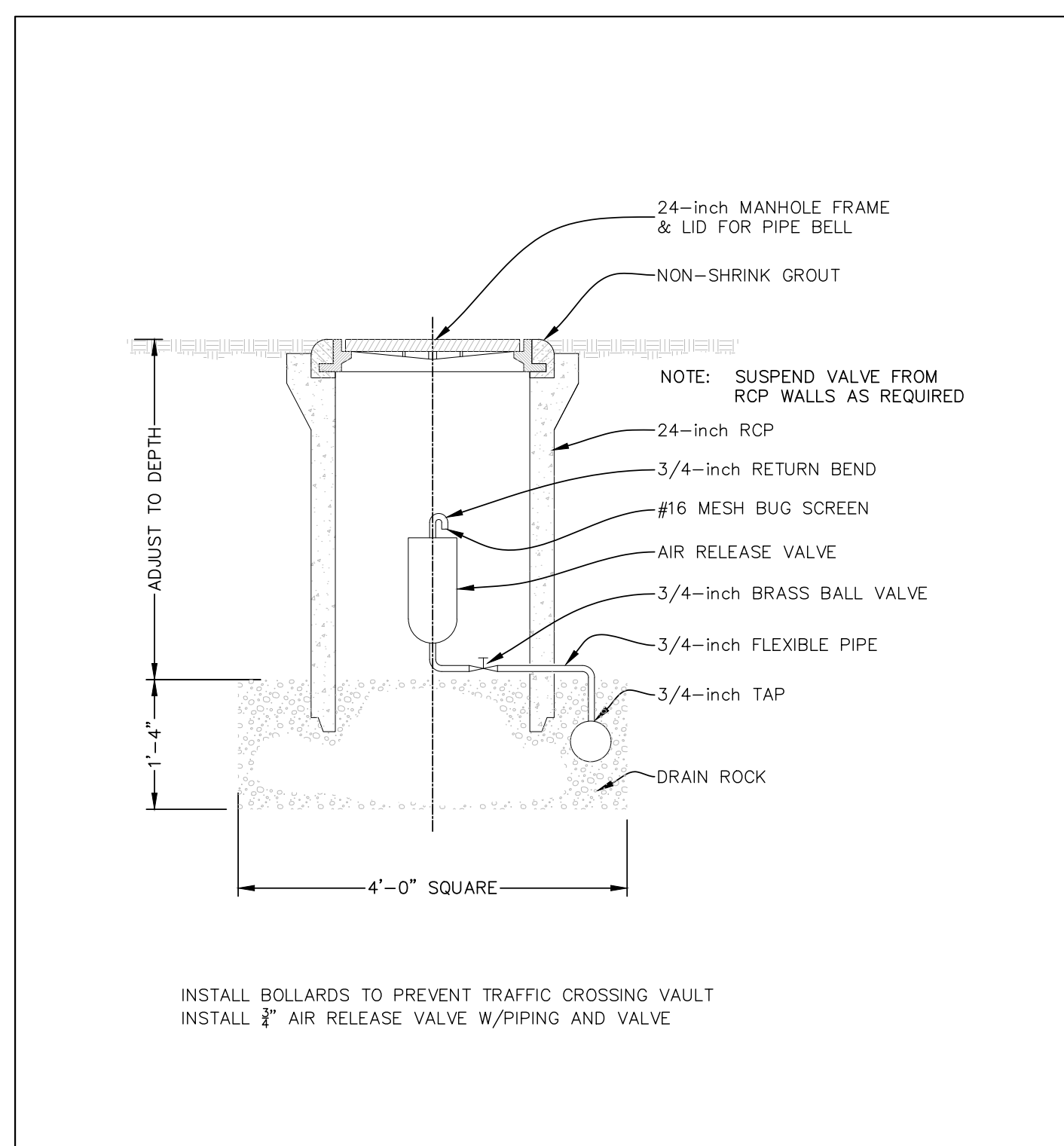
1
9-20 TRENCH DETAIL
SINGLE PIPE, NON-TRAFFIC AREA



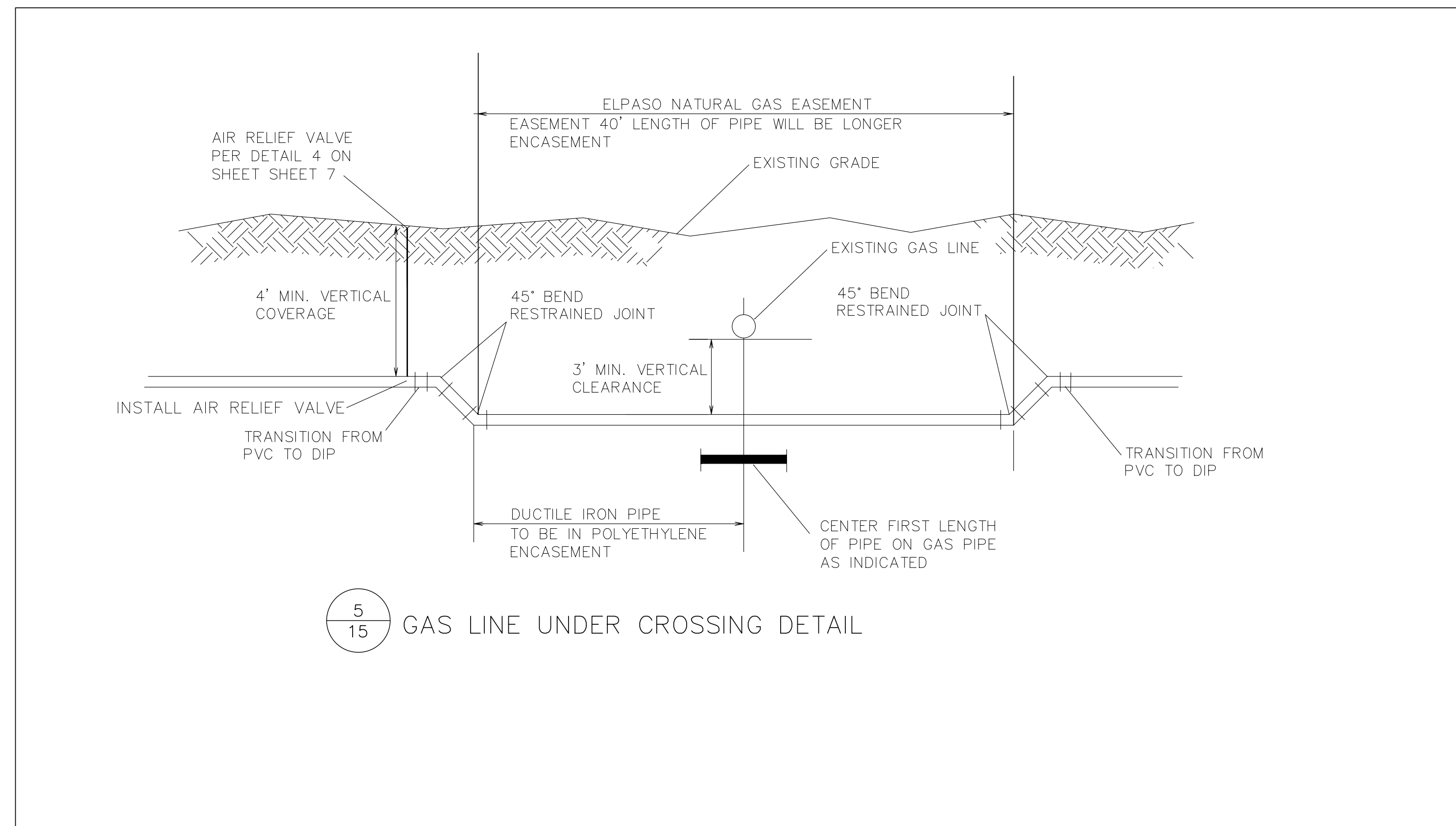
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91520 THRUST BLOCK



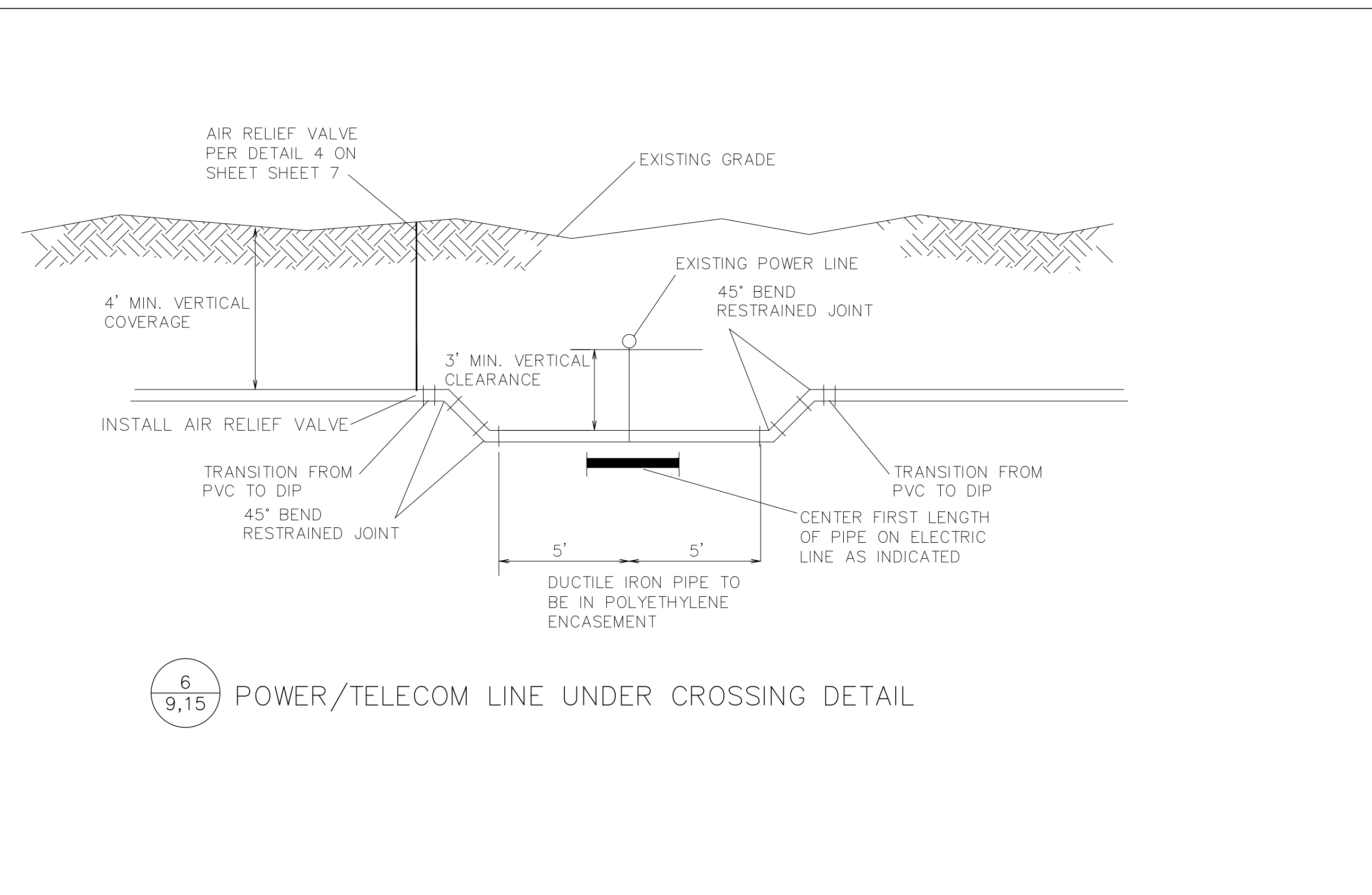
3
12,16 GATE AND CHECK VALVE IN VAULT



4
9,15 AIR RELIEF VALVE IN VAULT



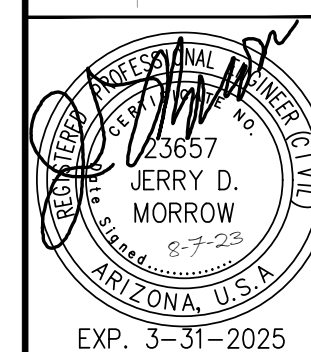
5
15 GAS LINE UNDER CROSSING DETAIL



6
9,15 POWER/TELECOM LINE UNDER CROSSING DETAIL

TRUJILLO TRAIL DWD
P.O. BOX 5111 TUBAC, AZ 85646
DETAILS

TeamConverse L.L.C.
Engineering Construction
Financing
466 East Donato Drive
Chandler, Arizona 85226
Direct: 480-634-1533
E-mail: allan@teamconverse.net
Web: www.teamconverse.net



SECTION:
TOWNSHIP:
RANGE:
DATE: 8/7/2023
PROJECT: DETAILS
SHEET 7 OF 21

NOT TO SCALE



Given/Assumed			
sr	Safety factor	Typ. 50% for thrust block design, NFPA 13 A.10.6.2.1c	50.0 %
P	Water Pressure	Given	160.0 psi
d	Pipe Diameter	Given	4.00 in
d	Pipe Outside Diameter	SFPE 5th p3483	5.000 in
θ	Angle between horizontal and vertical pipe component	Given	45.0 deg
-	Soil Type	Site Condition	Soft Clay
S _u	Bearing Strength	NFPA 13 Table A.10.6.1(c)	1,000 psf
W _b	Density of Block Material	Normal Weight Concrete = 150 lb/ft ³	150.0 lb/ft ³
b	Depth to bottom of block	User Determined; Reference NFPA 13 Figure A.10.6.2.1(a) (p13-375) for US Depth of Cover	4.5 ft
Thrust Block Volume			
A _c	Cross sectional area of the pipe based upon outside diameter	A _c = πd ² /4	19.6 in ²
T	Thrust Force	T = 2PA sin(θ/2) = 2(160)(19.6) sin(45/2)	2,404 lb
A _b	Calculated block area	A _b = T S _u / W _b = (2404)(1.5) / (1500)	3.61 ft ²
V _b	Thrust Block Volume	V _b = S _b P A sin(θ/2) = (160)(5)(20) sin(45/2)	22.2 ft ³
h _{min}	Minimum Block Height	Greater of Pipe Diameter and 0.5 x Rectangular 2:1 Block Width = greater of (0.42 ft) or (1.34 ft)	1.34 ft
h _{max}	Maximum Block Height	Lesser of (0.5 x Total Depth) and Block Width of Square Block = lesser of (0.5 x 4.5 ft) or (1.9 ft)	1.90 ft
h	Selected (Actual) Block Height	Select between Minimum & Maximum	1.80 ft
b	Calculated block width	b = 2 S _b P A sin(θ/2) / (h S _u) = 2(1.5)(160)(20) sin(45/2) / (1.8)(1500)	2.25 ft
W	Minimum Weight of Thrust Block	W = W _b x V _b = (150) x (22.2)	3,332 lb

Given/Assumed			
sr	Safety factor	Typ. 50% for thrust block design, NFPA 13 A.10.6.2.1c	50.0 %
P	Water Pressure	Given	160.0 psi
d	Pipe Diameter	Given	4.00 in
d	Pipe Outside Diameter	SFPE 5th p3483	5.000 in
θ	Angle between horizontal and vertical pipe component	Given	90.0 deg
-	Soil Type	Site Condition	Soft Clay
S _u	Bearing Strength	NFPA 13 Table A.10.6.1(c)	1,000 psf
W _b	Density of Block Material	Normal Weight Concrete = 150 lb/ft ³	150.0 lb/ft ³
b	Depth to bottom of block	User Determined; Reference NFPA 13 Figure A.10.6.2.1(a) (p13-375) for US Depth of Cover	4.5 ft
Thrust Block Volume			
A _c	Cross sectional area of the pipe based upon outside diameter	A _c = πd ² /4	19.6 in ²
T	Thrust Force	T = 2PA sin(θ/2) = 2(160)(19.6) sin(90/2)	4,443 lb
A _b	Calculated block area	A _b = T S _u / W _b = (4443)(1.5) / (1500)	6.66 ft ²
V _b	Thrust Block Volume	V _b = S _b P A sin(θ/2) = (160)(5)(20) sin(90/2)	235.0 gal
h _{min}	Minimum Block Height	Greater of Pipe Diameter and 0.5 x Rectangular 2:1 Block Width = greater of (0.42 ft) or (1.83 ft)	1.83 ft
h _{max}	Maximum Block Height	Lesser of (0.5 x Total Depth) and Block Width of Square Block = lesser of (0.5 x 4.5 ft) or (2.28 ft)	2.25 ft
h	Selected (Actual) Block Height	Select between Minimum & Maximum	2.00 ft
b	Calculated block width	b = 2 S _b P A sin(θ/2) / (h S _u) = 2(1.5)(160)(20) sin(90/2) / (2.0)(1500)	3.33 ft
W	Minimum Weight of Thrust Block	W = W _b x V _b = (150) x (234)	4,712 lb

Installation

Pipe Embedment

All PVC pipe should be installed with bedding that provides uniform longitudinal support under the pipe. Use embedment material that is free of large stones, frozen matter, or other debris. Use proper compaction procedures to provide soil densities as specified by the design engineer.

Service Connections

Direct Tapping: Direct taps may be made in C900 Class 150 and Class 200 in nominal sizes 6 inch through 12 inch. Corporation stops should be in sizes ¾, ¾, or 1 inch. When sizes larger than 1 inch are required, tapping saddles or sleeves should be used.

Saddle Tapping: Saddle taps may be made in any size or class of C900 pipe. Maximum outlet size recommended for saddle taps is 2 inches. For sizes larger than 2 inches, a tapping sleeve should be used.

Tapping Sleeves: Tapping sleeves may be used on all sizes and classes of C900. Sleeves are available up to size-on-size.

Caution: Saddles and sleeves should not:

- Distort the pipe when tightened
- Have lugs that dig into the pipe when the bolts are tightened
- Have a clamping arrangement not fully contoured to the outside diameter of the pipe

For more information on tapping, see Uni-Ball's tapping video and publications Uni-B-B and Uni-Pub-B.

Longitudinal Bending

Axial deflection at the pipe joints is not recommended. However, it is possible to curve C900 to allow for slight changes in direction.

Bending to these minimum radii will not jeopardize C900's design capability. See PWPipe's Technical Bulletin "Longitudinal Bending of PVC Pipe" for more details.

Nominal Pipe Size (Inches)	Minimum Bending Radius (feet)
4	100
6	145
8	190
10	235
12	275

Testing of Installed Systems

Place sufficient backfill before pipe filling and field testing. Under conditions requiring immediate backfilling of trenches, test after backfilling but prior to placement of permanent surface. Testing short lengths of pipe first will verify proper installation and joint assembly. If concrete thrust blocks are required, allow sufficient curing before testing.

Separate tests for pressure and leakage may be performed. If separate tests are done, the pressure test should be done first. See Table 4.

Procedure

While the line is under pressure, check for leaks in all exposed pipe, fittings, valves, and hydrants. Repair or replace all defective elements. Repeat the test until all visible leaks stop and the allowable leakage requirements are met, per Table 5. For detailed pressure-testing requirements, consult your engineer or the PWPipe installation guide.

WARNING: Do not use PVC pipe for pressurized air systems. Injury or death may result due to the catastrophic nature of pipe failure should failure occur. Rapid expansion of compressed air could propel shards of plastic throughout the area.

WARNING: Expel all air from the pipeline during filling and again before testing for pressure leakage. Automatic air-release valves are recommended. Compressed entrapped air can greatly amplify surges or pumping pressures. Also, compressed air might leak through a joint that will not leak water.

Nominal Pipe Size (Inches)	Fitting 90° Elbow (lbs force)	Fitting 45° Elbow (lbs force)	Valves, Tees, Dead Ends (lbs force)
4	2,190	1,180	1,250
6	4,460	2,420	3,160
8	7,700	4,160	5,440
10	11,600	6,280	8,190
12	16,400	8,880	11,600

Soil Type	Allowable Bearing Pressure (psf)
Muck, Peat, Etc.	0
Soft Clay	500
Sand	1,000
Sand and Gravel	1,500
Sand and Gravel With Clay	2,000
Sand and Gravel Cemented With Clay	4,000
Hard Pan	5,000

Nominal Pipe Size (Inches)	Volume (U.S. gal/100 ft)
4	70
6	153
8	259
10	405
12	673

Procedure	Pressure	Test Duration
Simultaneous pressure and leakage tests	150% of working pressure at point of test, but not less than 125% of normal working pressure at highest elevation*	2 hr
Separate pressure test	150% of working pressure at point of test, but not less than 125% of normal working pressure at highest elevation*	1 hr
Separate leakage test	150% of working pressure of segment tested*	2 hr

Source: Underground Installation of PVC Pressure Pipe and Fittings for Water, AWWA C665.
*Under no circumstances should test pressures exceed 305 psi for DR 14, 235 psi for DR 18, and 165 psi for DR 25 C900 PVC pipe.

Nominal Pipe Size (Inches)	50	100	150	200	250	300
4	0.19	0.27	0.33	0.38	0.43	0.47
6	0.29	0.41	0.50	0.57	0.64	0.70
8	0.38	0.54	0.66	0.76	0.85	0.94
10	0.48	0.68	0.83	0.96	1.07	1.17
12	0.57	0.81	0.99	1.15	1.28	1.40

PIPE TESTING CRITERIA

THRUST BLOCK

PIPE INSTALLATION CRITERIA

45 THRUST BLOCK

KINDER MORGAN

Guidelines for Design and Construction near Kinder Morgan Operated Facilities

Name of Company: **EPNG**

The list of design, construction and contractor requirements, including but not limited to the following, for the design and installation of foreign utilities or improvements on EPNG (Company) right-of-way (ROW) are not intended to do they waive or modify any rights Company may have under existing easements or ROW agreements. Reference existing easements and amendments for additional requirements. This list of requirements is applicable for Company facilities on easements only. Encroachments on fee property should be referred to the Land and Rights-of-Way Department.

Design

- Company shall be provided sufficient prior notice of planned activities involving excavation, blasting, or any type of construction on Company's ROW to determine and resolve any location, grade or encroachment problems and provide protection of our facilities and the public before the actual work is to take place.
- Encroaching entity shall provide Company with a set of drawings for review and a set of final construction drawings showing all aspects of the proposed facilities in the vicinity of Company's ROW. The encroaching entity shall also provide a set of as-built drawings showing the proposed facilities in the vicinity of Company's ROW.
- Only facilities shown on drawings reviewed by Company will be approved for installation on Company's ROW. All drawing revisions that affect facilities proposed to be placed on Company's ROW must be approved by Company in writing.
- Company shall approve the design of all permanent road crossings.
- Encroaching entity shall, at the discretion of the Company, incorporate Health ATI "sniffers" Gas Detection Units in the design of paved areas or "Green Belt" areas of Company ROW. The units shall be installed per Company Standard **TPY-V-0100-B010 - Gas Detection Unit for Pipelines Located under Asphalt or Concrete Parking Areas**.
- Any repair to surface facilities following future pipeline maintenance or repair work by Company will be at the expense of the developer or landowner.
- The depth of cover over the Company pipelines shall not be reduced nor drainage altered without Company's written approval.
- Construction of any permanent structure, building(s) or obstructions within Company pipeline easement is not permitted.
- Planting of shrubs and trees is not permitted on Company pipeline easement.
- Irrigation equipment i.e. backflow prevent devices, meters, valves, valve boxes, etc. shall not be located on Company easement.
- Foreign line, gas, water, electric and sewer lines, etc., may cross perpendicular to Company's pipeline within the ROW, provided that a minimum of two (2) feet of vertical clearance is maintained between Company pipelines(s) and the foreign pipeline. Constant line elevations must be maintained across Company's entire ROW width, gravity drain lines are the only exception. Foreign line crossings below the Company pipeline must be evaluated by Company to ensure that a significant length of the Company line is not exposed and unsupported during construction. When installing underground utilities, the last line should be placed beneath all existing lines unless it is impractical or unreasonable to do so. Foreign line crossings above the Company pipeline with less than two (2) feet of clearance must be evaluated by Company to ensure that additional support is not necessary to prevent settling on top of the Company natural gas pipeline.
- A foreign pipeline shall cross Company facilities at as near a ninety-degree angle as possible. A foreign pipeline shall not run parallel to Company pipeline within Company easement without written permission of Company.
- The foreign utility should be advised that Company maintains cathodic protection on their pipelines. The foreign utility must coordinate their cathodic protection system with Company's. At the request of Company, foreign utilities shall install or allow to be installed cathodic protection test leads at all crossings for the purposes of monitoring cathodic protection. The Company Cathodic Protection (CP) technician and the foreign utility CP technician shall perform post construction CP interference testing. Interference issues shall be resolved by mutual agreement between foreign utility and Company. All costs associated with the correction of cathodic protection problems on Company pipeline as a result of the foreign utility crossing shall be borne by the foreign utility for a period of one year from date the foreign utility is put in service.

Reference: O&M Procedure 204 Page 1 of 3 OM200-29 2016-05-01

GAS LINE CROSSING

KINDER MORGAN

Guidelines for Design and Construction near Kinder Morgan Operated Facilities

- The metallic foreign line shall be coated with a suitable pipe coating for a distance of at least 10-feet on either side of the crossing unless otherwise requested by the Company CP Technician.
- AC Electrical lines must be installed in conduit and properly insulated.
- DOT approved pipeline markers shall be installed so as to indicate the route of the foreign pipeline across the Company ROW.
- No power poles, light standards, etc. shall be installed on Company easement.

Construction

- Contractors shall be advised of Company's requirements and be contractually obligated to comply.
- The continued integrity of Company's pipelines and the safety of all individuals in the area of proposed work near Company's facilities are of the utmost importance. Therefore, contractor must meet with Company representatives prior to construction to provide and receive notification listings for appropriate area operations and emergency personnel. **Company's on-site representative will require discontinuation of any work that, in his opinion, endangers the operations or safety of personnel, pipelines or facilities.**
- The Contractor must expose all Company transmission and distribution lines prior to crossing to determine the exact alignment and depth of the lines. A Company representative must be present. In the event of pipeline lines, only one pipeline can be exposed at a time.
- Company will not allow pipelines to remain exposed overnight without consent of Company designated representative. Contractor may be required to backfill pipelines at the end of each day.
- A Company representative shall do all line locating. A Company representative shall be present for hydraulic excavation. The use of probing rods for pipeline locating shall be performed by Company representatives only, to prevent unnecessary damage to the pipeline coating.
- Notification shall be given to Company at least 72 hours before start of construction. A schedule of activities for the duration of the project must be made available at that time to facilitate the scheduling of Company's work site representative. Any Contractor schedule changes shall be provided to Company immediately.
- Heavy equipment will not be allowed to operate directly over Company pipelines or in Company ROW unless written approval is obtained from Company. Heavy equipment shall only be allowed to cross Company pipelines at localities designated by Company. Contractor shall comply with all precautionary measures required by Company to protect its pipelines. When inclement weather exists, provisions must be made to compensate for soil displacement due to subsidence of grades.
- Excavating or grading which might result in erosion or which could render the Company ROW inaccessible shall not be permitted unless the contractor/developer/owner agrees to restore the area to its original condition and provide protection to Company's facility.
- A Company representative shall be on-site to monitor any construction activities within 25-feet of a Company pipeline or aboveground appurtenance. The contractor shall not work within this distance without a Company representative being on site. Only hand excavation shall be permitted within a minimum of 18-inches (refer to state specific rules/regulations regarding any additional clearance requirements) of Company pipelines, valves and fittings. However, proceed with extreme caution when within three (3) feet of the pipe.
- Ripping is only allowed when the position of the pipe is known and not within 10-feet of Company facility unless Company representative is present.
- Temporary support of any exposed Company pipeline by Contractor may be necessary if required by Company's on-site representative. Backfill below the exposed lines and 12-inches above the lines shall be replaced with sand or other selected material as approved by Company's on-site representative and thoroughly compacted in 12-inches lifts to 95% of standard proctor dry density minimum or as approved by Company's on-site representative. This is to adequately protect against stresses that may be caused by the settling of the pipeline.

Reference: O&M Procedure 204 Page 2 of 3 OM200-29 2016-05-01

KINDER MORGAN

Guidelines for Design and Construction near Kinder Morgan Operated Facilities

No blasting shall be allowed within 1000-feet of Company's facilities unless blasting notification is given to Company including complete Blasting Plan Data. A pre-blast meeting shall be conducted by the organization responsible for blasting.

Company shall be indemnified and held harmless from any loss, cost of liability for personal injuries received, death caused or property damage suffered or sustained by any person resulting from any blasting operations undertaken within 500-feet of its facilities. The organization responsible for blasting shall be liable for any and all damages caused to Company's facilities as a result of their activities whether or not Company representatives are present. Company shall have a signed and executed Blasting Indemnification Agreement before authorized permission to blast can be given.

No blasting shall be allowed within 300-feet of Company's facilities unless blasting notification is given to Company a minimum of one week before blasting. (Note: covered above) Company shall review and analyze the blasting methods. A written blasting plan shall be provided by the organization responsible for blasting and agreed to in writing by Company in addition to meeting requirements for 500-foot and 1000-foot being met above. A written emergency plan shall be provided by the organization responsible for blasting. (Note: covered above)

Any contact with any Company facility, pipeline, valve set, etc. shall be reported immediately to Company. If repairs to the pipe are necessary, they will be made and inspected before the section is re-coated and the line is back-filled.

Company personnel shall install all test leads on Company facilities.

Burning of trash, brush, etc. is not permitted within the Company ROW.

KINDER MORGAN CONTACTS:
EL PASO NATURAL GAS LINE
CROSSING ALISO SPRINGS ROAD

KELLY SIMS – SENIOR ROW AGENT
520-663-4223
KELLY_SIMS@KINDERMORGAN.COM

TOM BROWN
TIM_BROWN@KINDERMORGAN.COM

EPNG'S STAFF MUST BE ONSITE AND SUPERVISING ALL GROUND DISTURBING ACTIVITIES WITHIN 25' OF THIS PIPELINE.

TRUJILLO TRAIL DWID

PO BOX 5111 TUBAC, AZ 85646

DETAILS

TeamConverse L.L.C.
Engineering Construction Financing

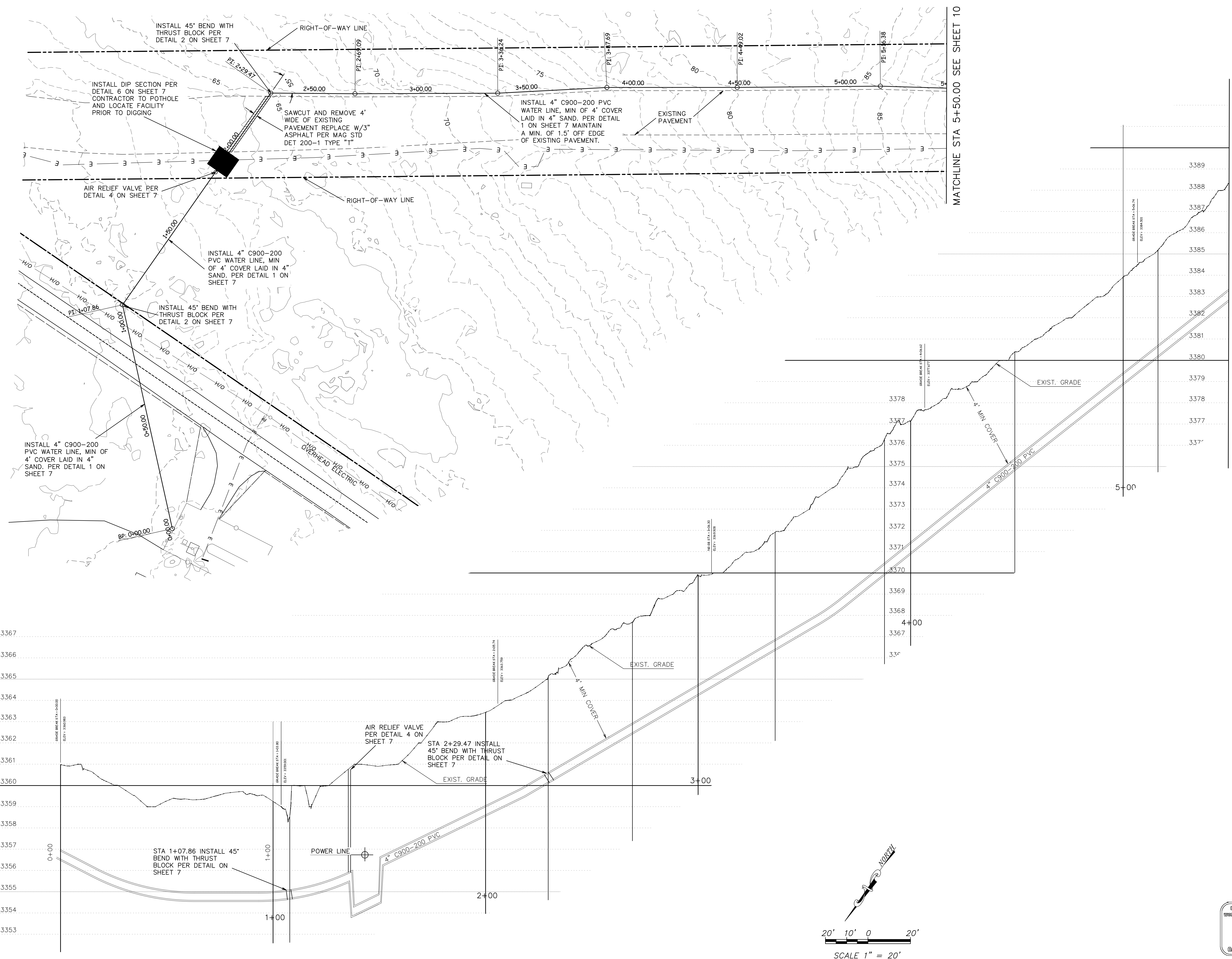
4666 East Donale Drive
Glendale, Arizona 85306
Direct: 480-634-1533
E-mail: allan@teamconverse.net
Web: www.teamconverse.net



SECTION:
TOWNSHIP:
RANGE:
DATE: 8/7/2023
PROJECT: DETAILS 2
SHEET 8 OF 21



NO DATE BY REVISION



MATCHLINE STA 5+50.00 SEE SHEET 10

MATCHLINE STA 5+50.00 SEE SHEET 10

TRUJILLO TRAIL WATER LINE

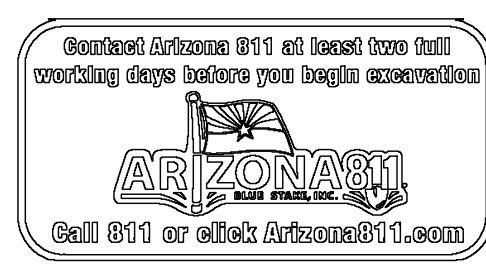
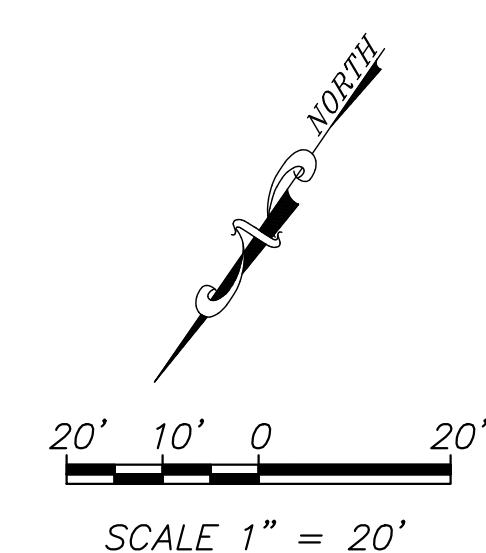
TUBAC, ARIZONA

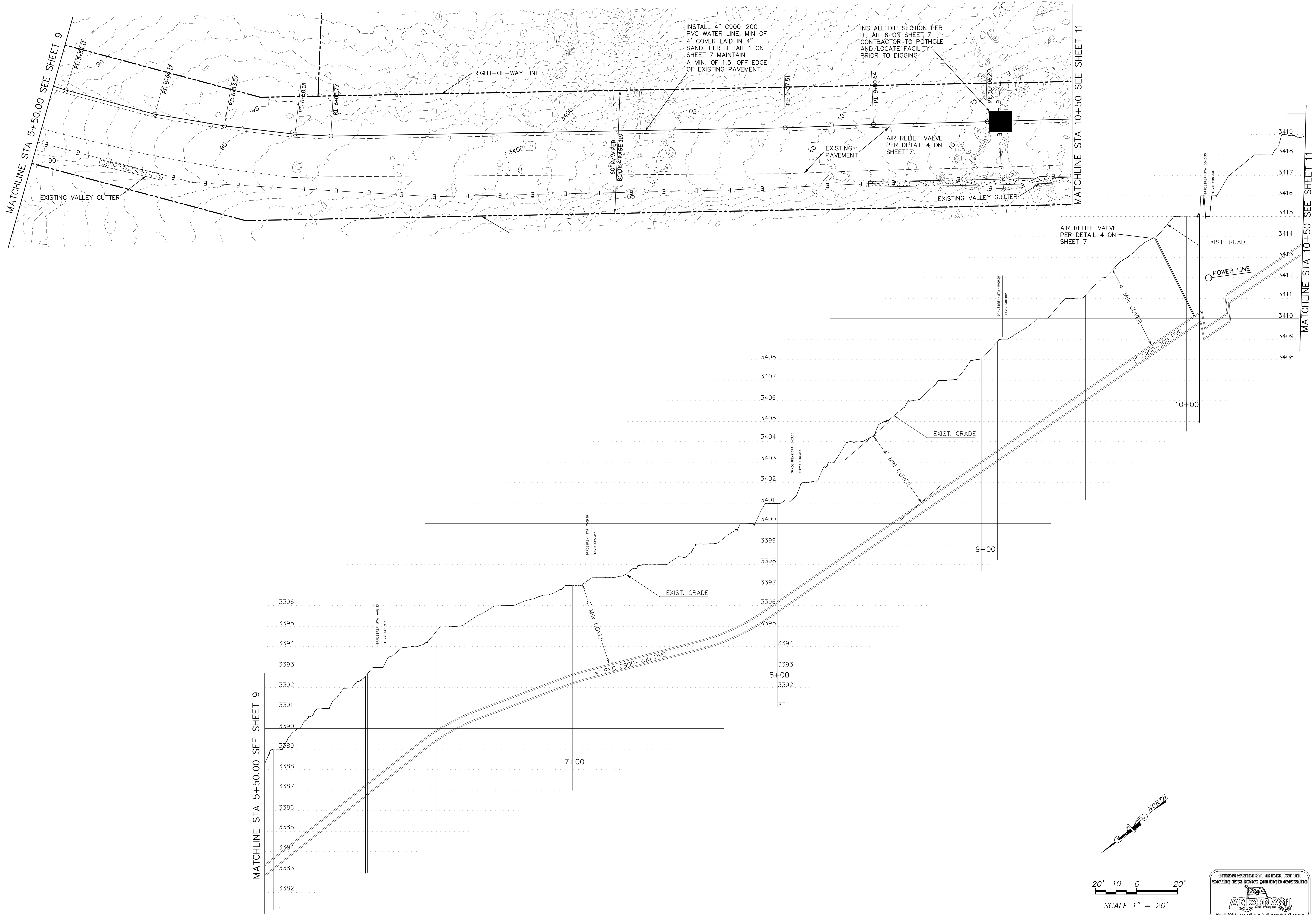
PLAN AND PROFILE

STA 0+00 TO STA 5+50

TeamConverse L.L.C.
 Engineering Construction Financing
 4866 East Coronado Drive
 Gilbert, Arizona 85298
 Direct: 480-634-1533
 Mobile: 602-339-4154
 Email: info@TeamConverse.net
 Web: www.TeamConverse.net

SECTION:	
TOWNSHIP:	
RANGE:	
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SHEET:	9 OF 21



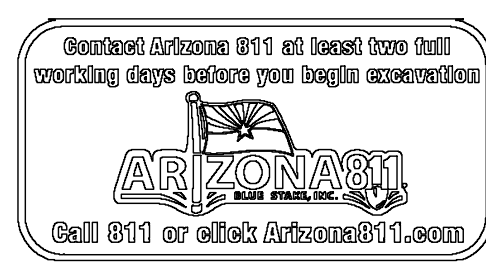
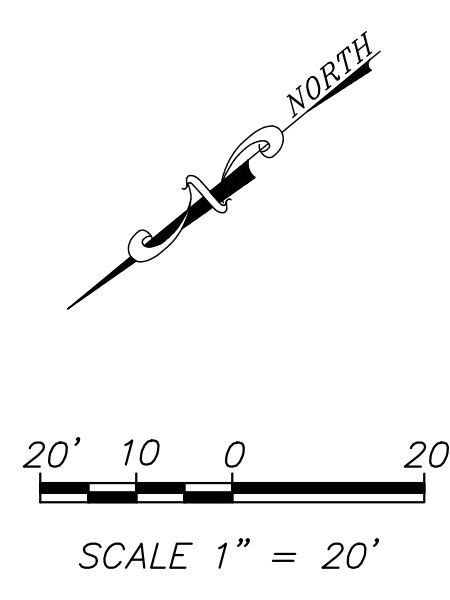


MATCHLINE STA 5+50.00 SEE SHEET 9

MATCHLINE STA 10+50 SEE SHEET 11

MATCHLINE STA 5+50.00 SEE SHEET 9

MATCHLINE STA 10+50 SEE SHEET 11



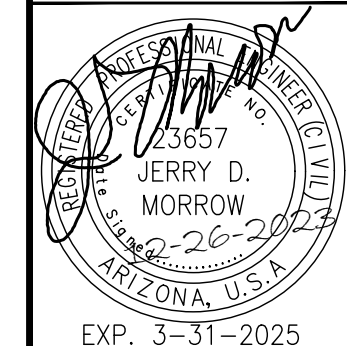
TRUJILLO TRAIL WATER LINE

TUBAC, ARIZONA

PLAN AND PROFILE

STA 5+50 TO STA 10+50

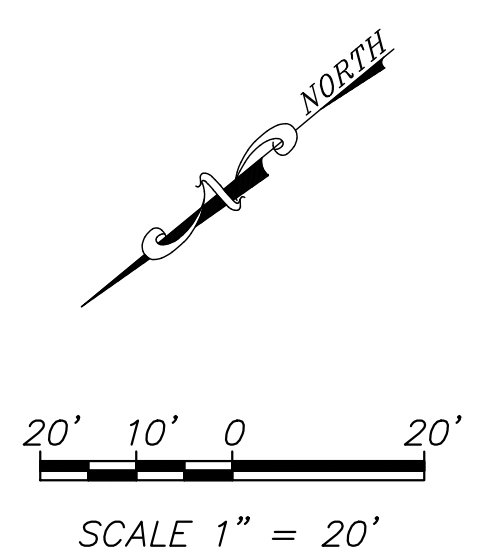
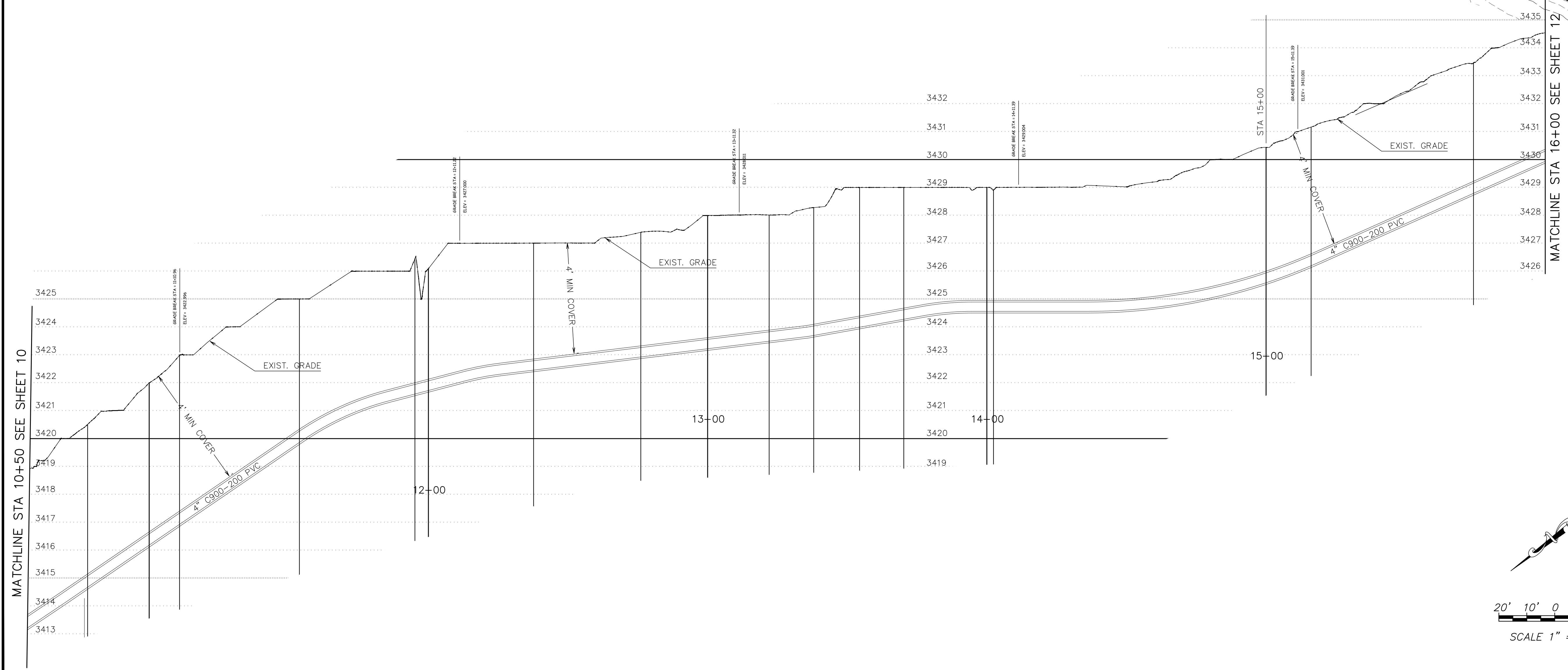
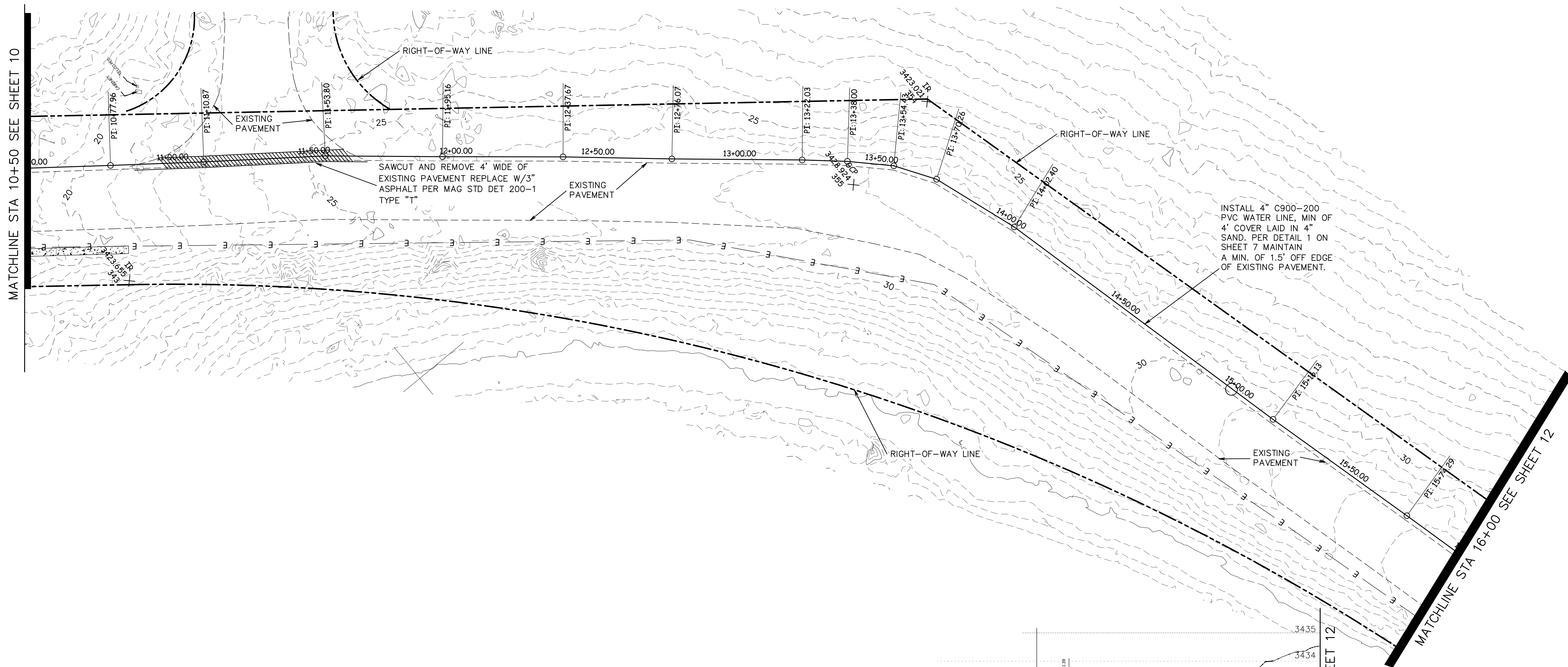
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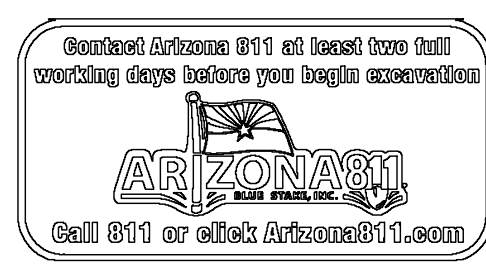
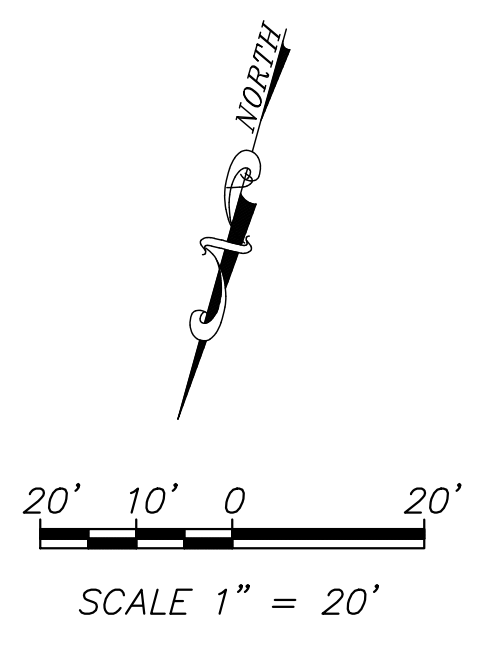
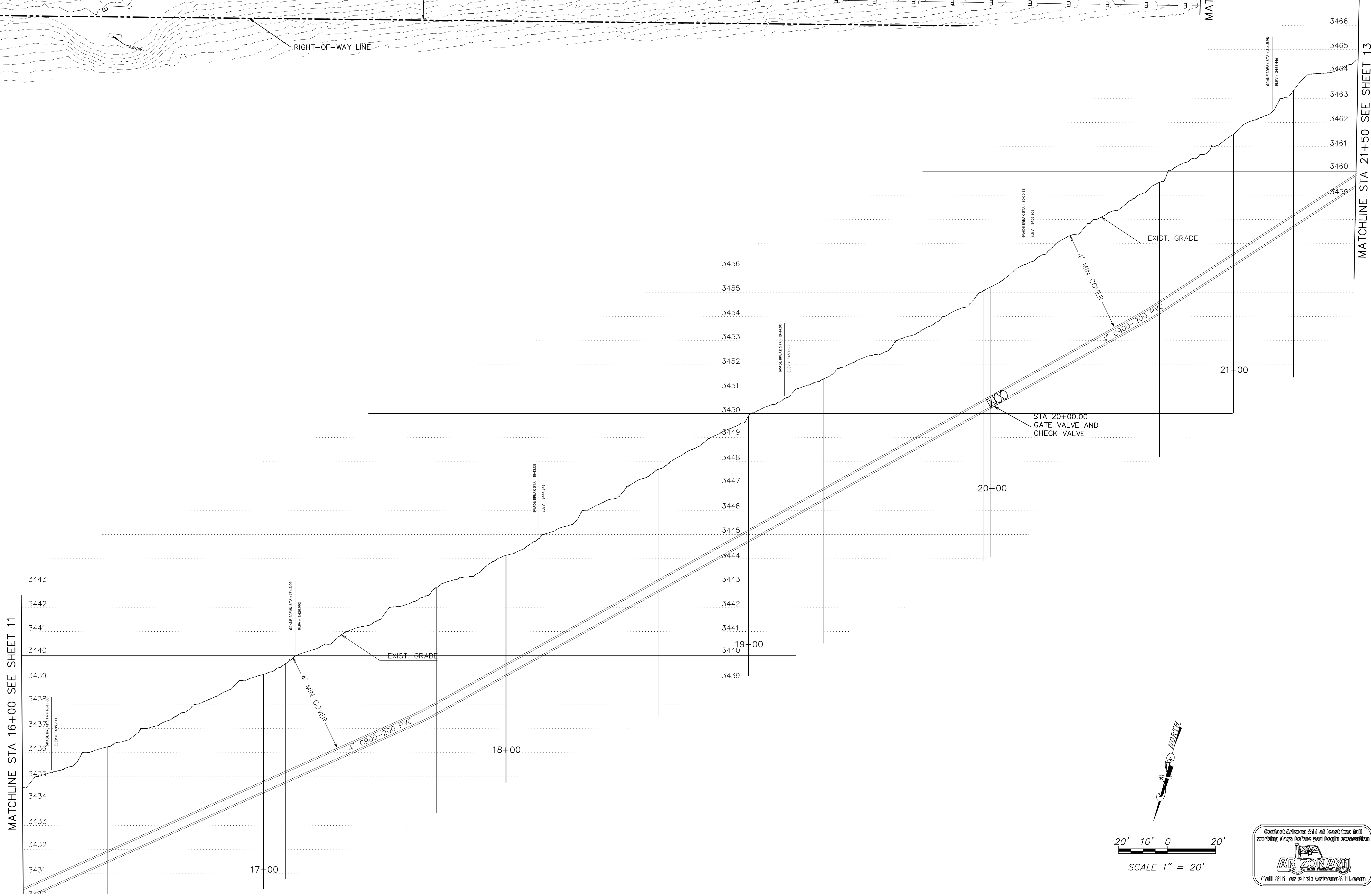
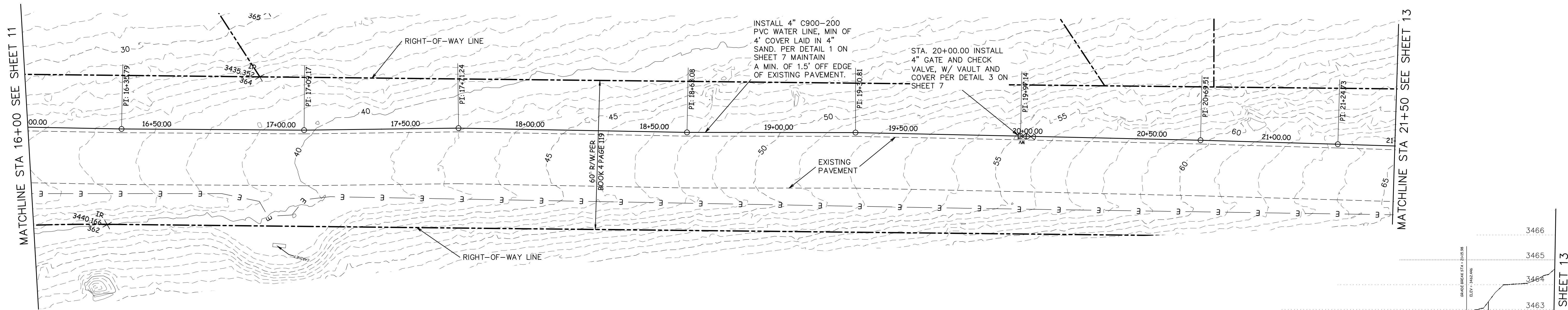
SECTION:	
TOWNSHIP:	
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DATE:	12-26-23
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REVISION



TRUJILLO TRAIL WATER LINE TUBAC, ARIZONA PLAN AND PROFILE STA. 10+50 TO STA. 16+00	
TeamConverse L.L.C. Engineering Construction Financing 4866 East Coronado Drive Gilbert, Arizona 85296 Direct: 480-634-1533 Mobile: 602-339-1154 Email: info@TeamConverse.net Web: www.TeamConverse.net	REVISION NO. DATE BY
SECTION: TOWNSHIP: RANGE: DATE: 12-26-23 PROJECT: P&P SHEET: 11 OF 21	EXP. 3-31-2025



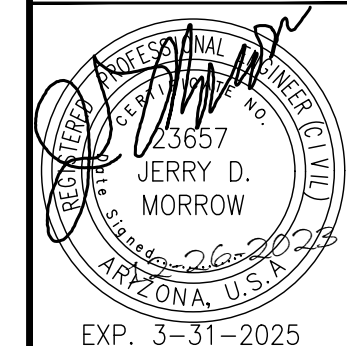
TRUJILLO TRAIL WATER LINE

TUBAC, ARIZONA

PLAN AND PROFILE

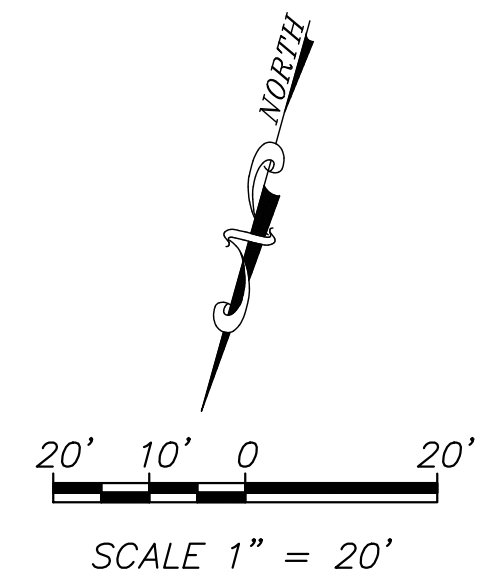
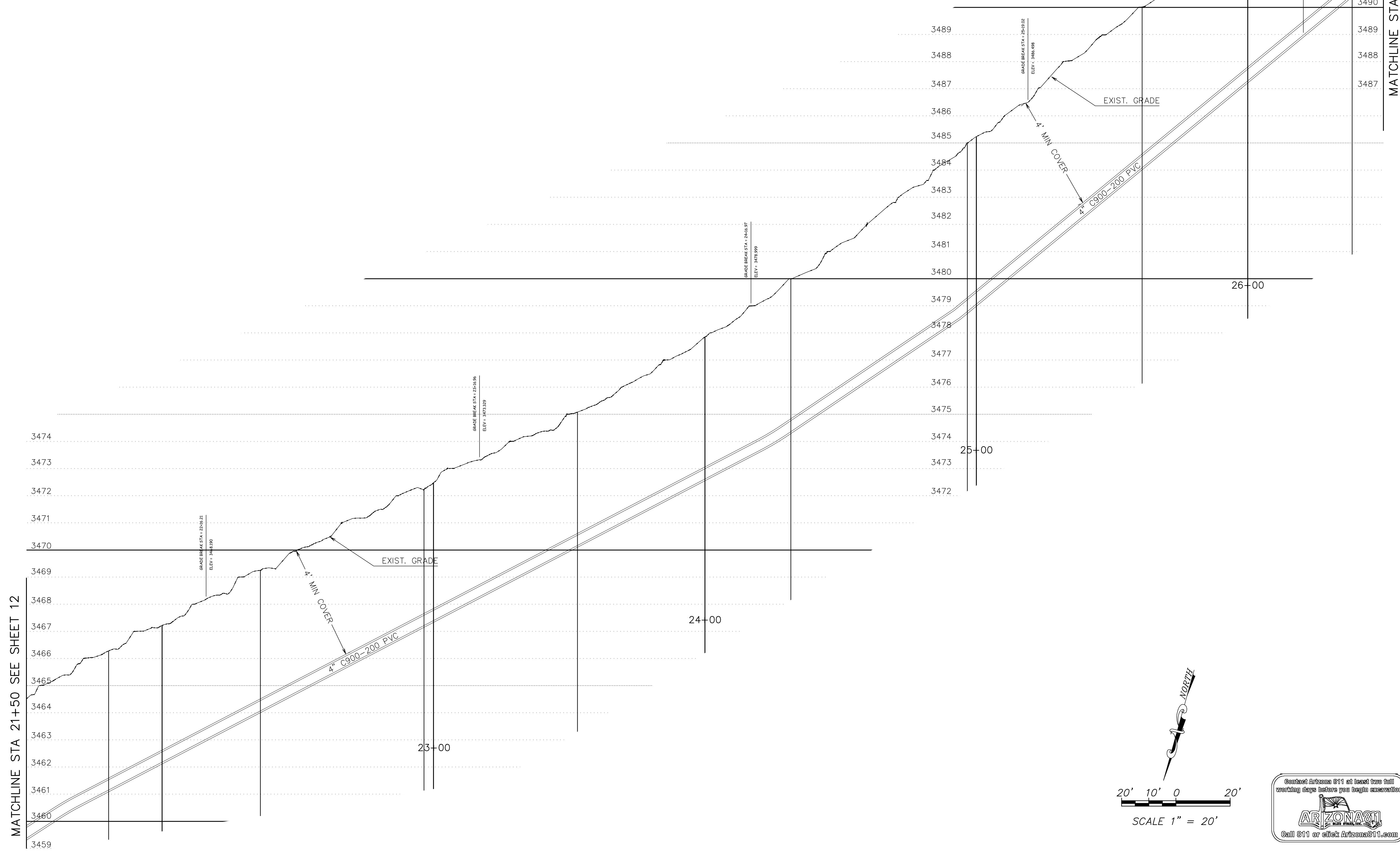
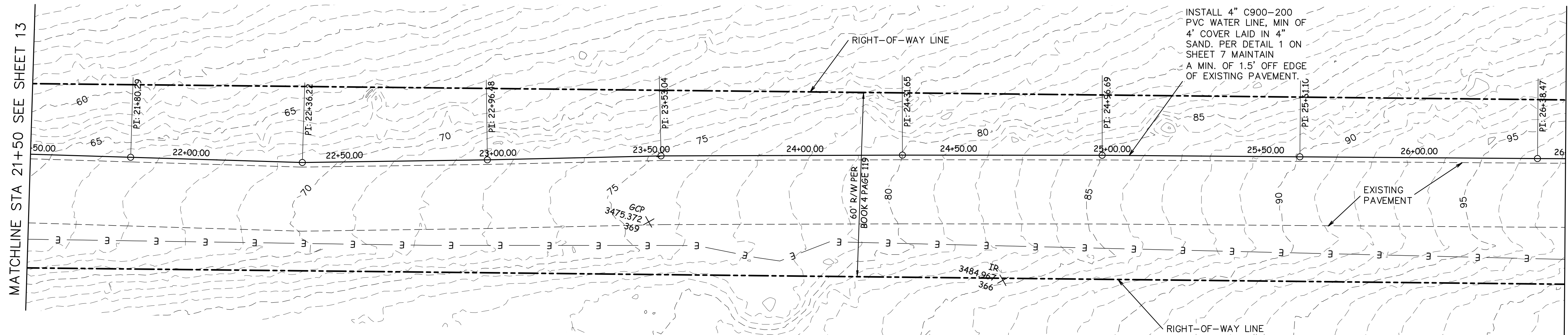
STA. 16+00 TO STA. 21+50

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RANGE:	
DATE:	12-26-23
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TRUJILLO TRAIL WATER LINE

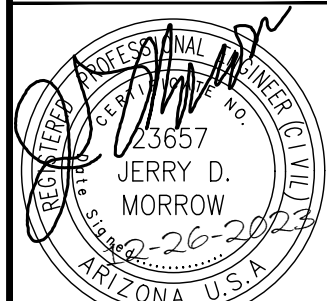
TUBAC, ARIZONA

PLAN AND PROFILE

STA 21+50 TO STA 26+50



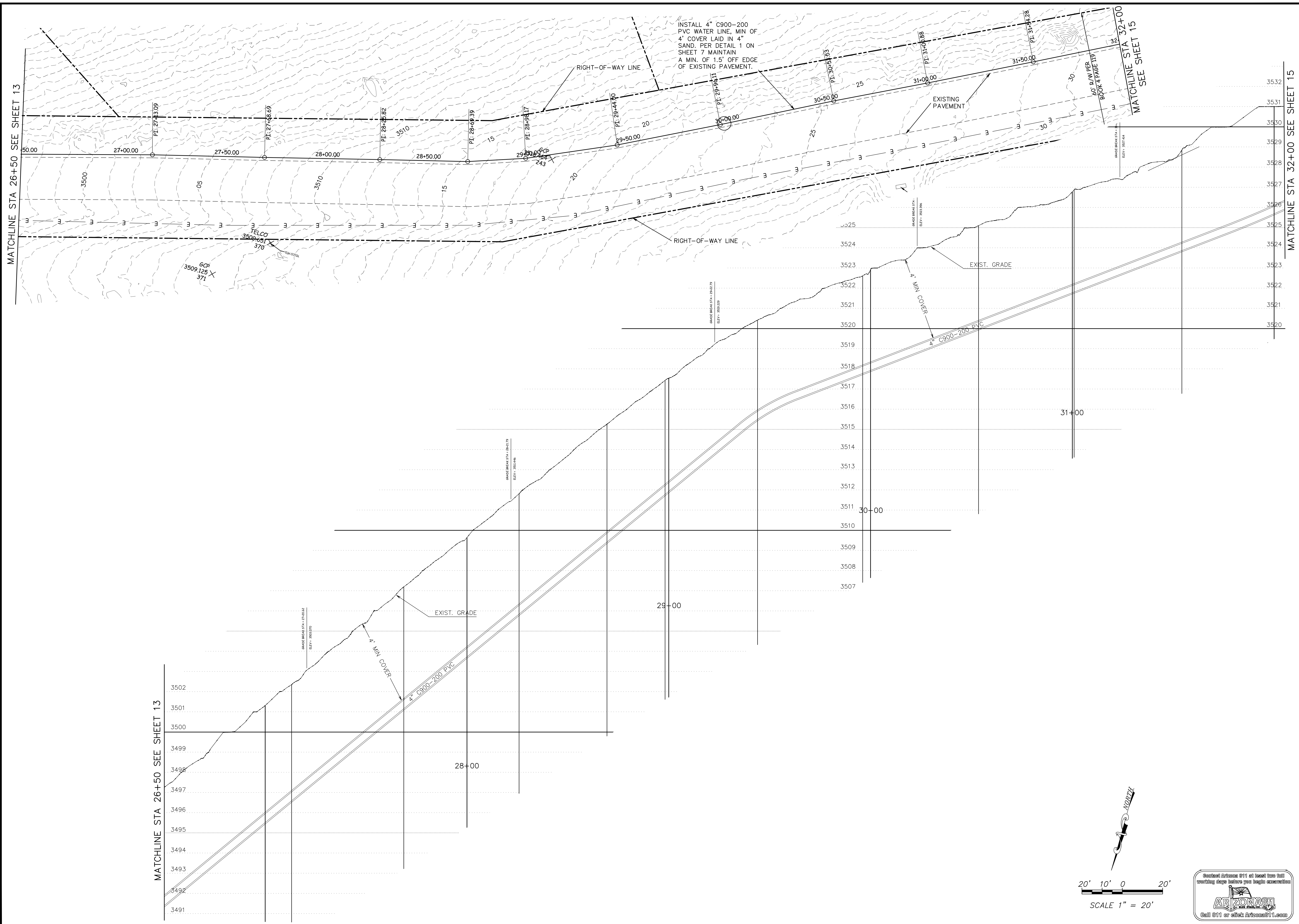
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 EXP. 3-31-2025

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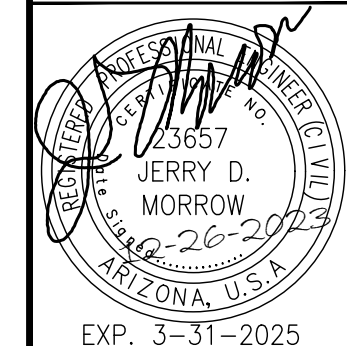


INSTALL 4" C900-200
PVC WATER LINE, MIN OF
4' COVER LAID IN 4"
SAND. PER DETAIL 1 ON
SHEET 7 MAINTAIN
A MIN. OF 1.5' OFF EDGE
OF EXISTING PAVEMENT.

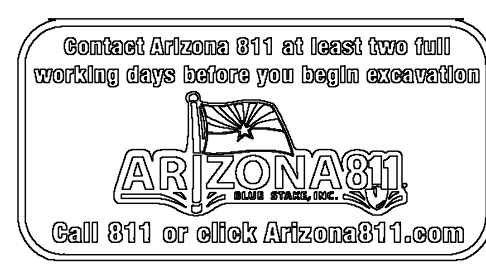
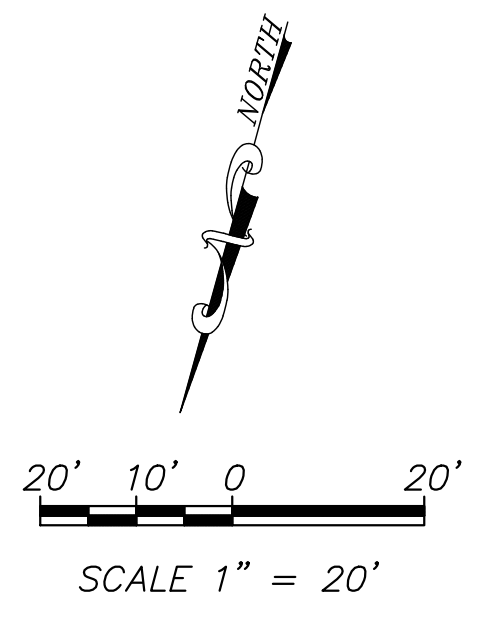
TRUJILLO TRAIL WATER LINE
TUBAC, ARIZONA

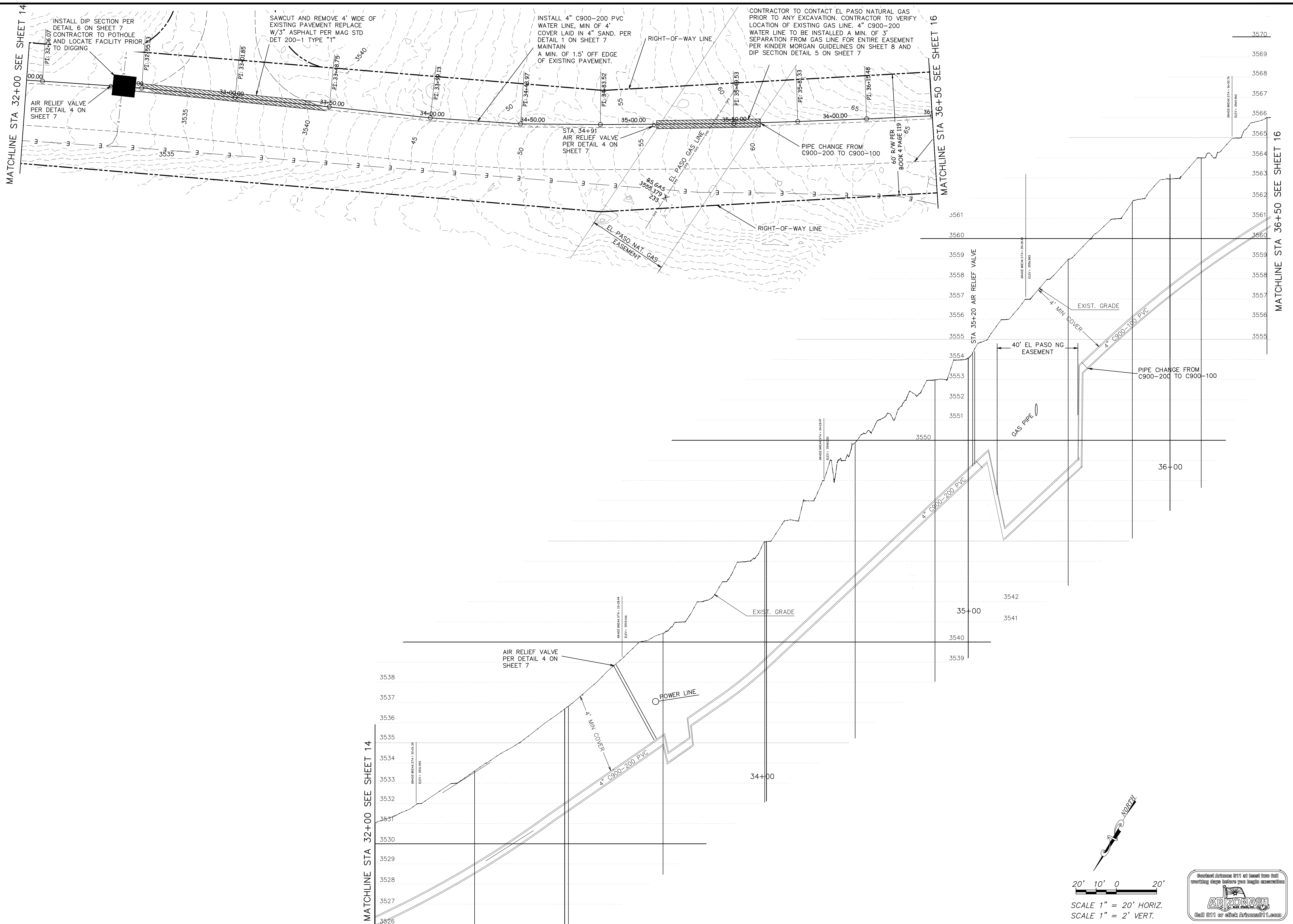
PLAN AND PROFILE
STA 27+50 TO STA 32+00

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SECTION:	
TOWNSHIP:	
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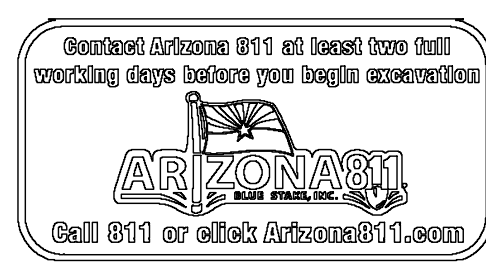
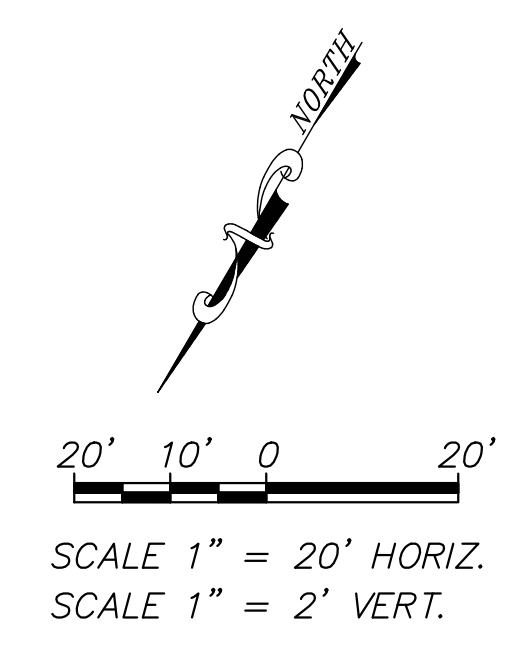
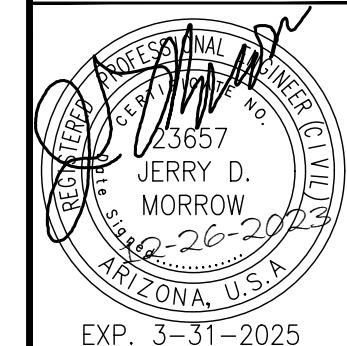
TRUJILLO TRAIL WATER LINE

TUBAC, ARIZONA

PLAN AND PROFILE

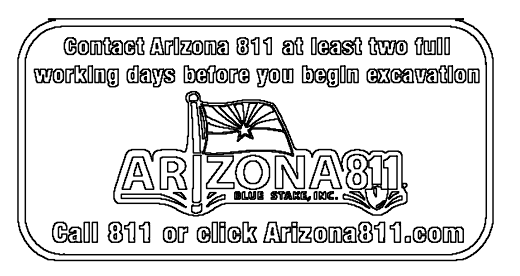
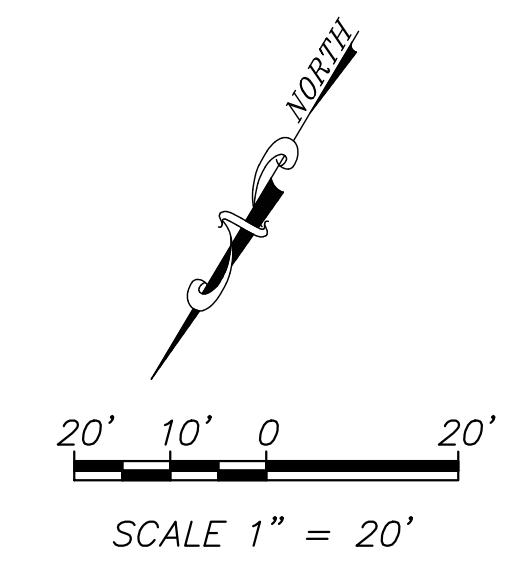
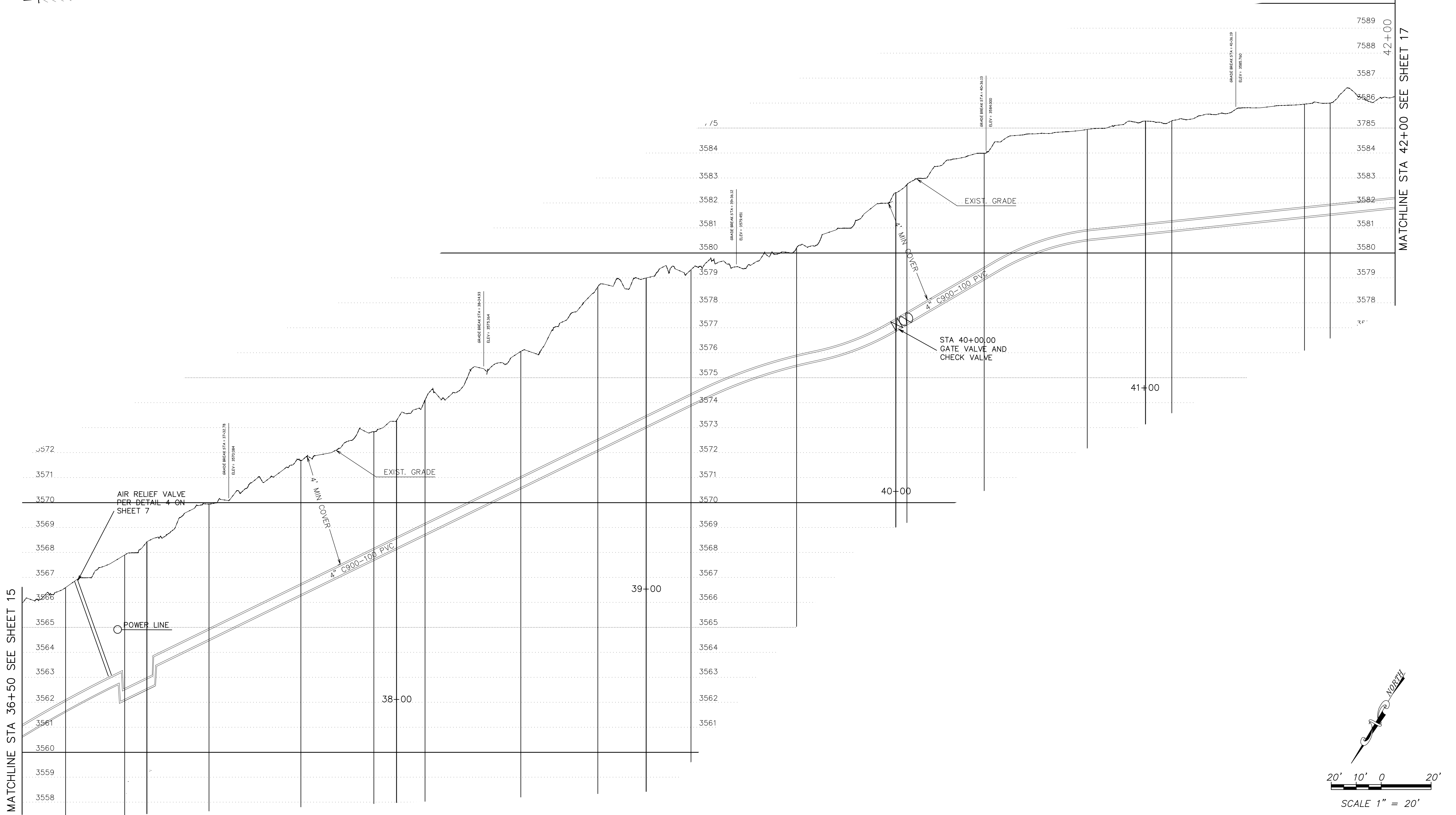
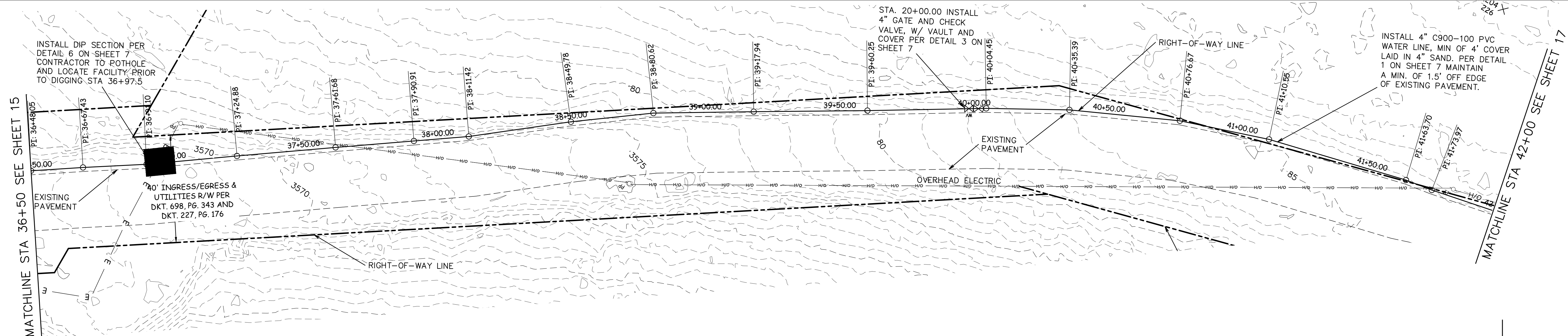
STA. 33+00 TO STA. 36+50

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SECTION:	
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DATE:	12-26-23
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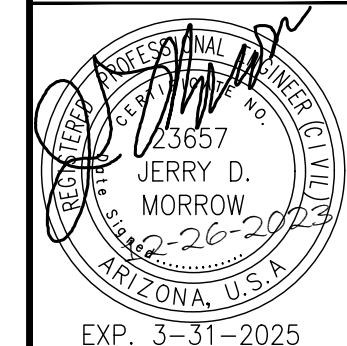
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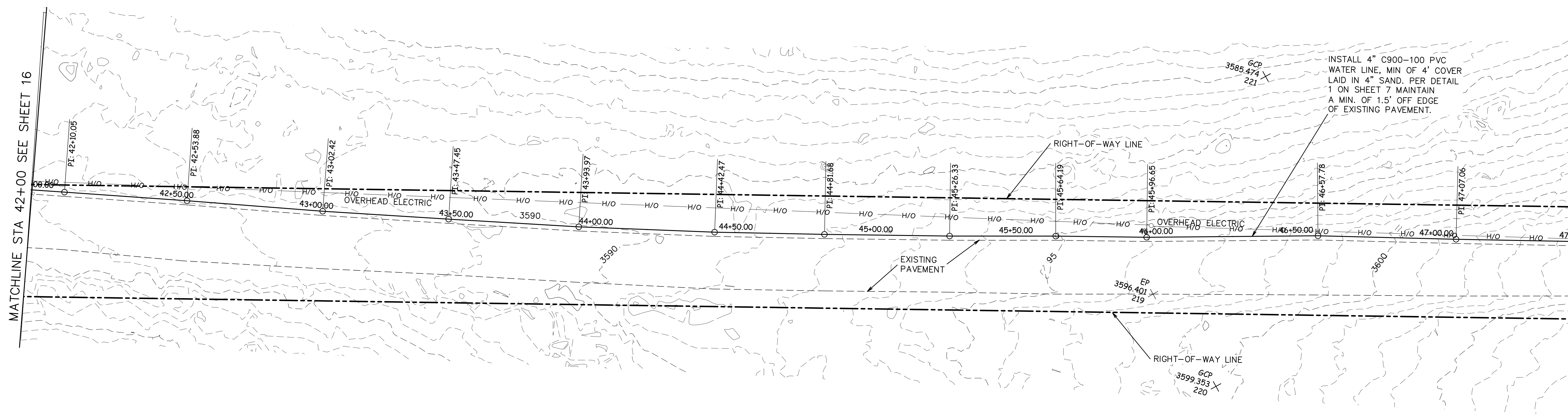
NO.	DATE	BY

TRUJILLO TRAIL WATER LINE
TUBAC, ARIZONA
PLAN AND PROFILE
STA. 36+50 TO STA. 42+00

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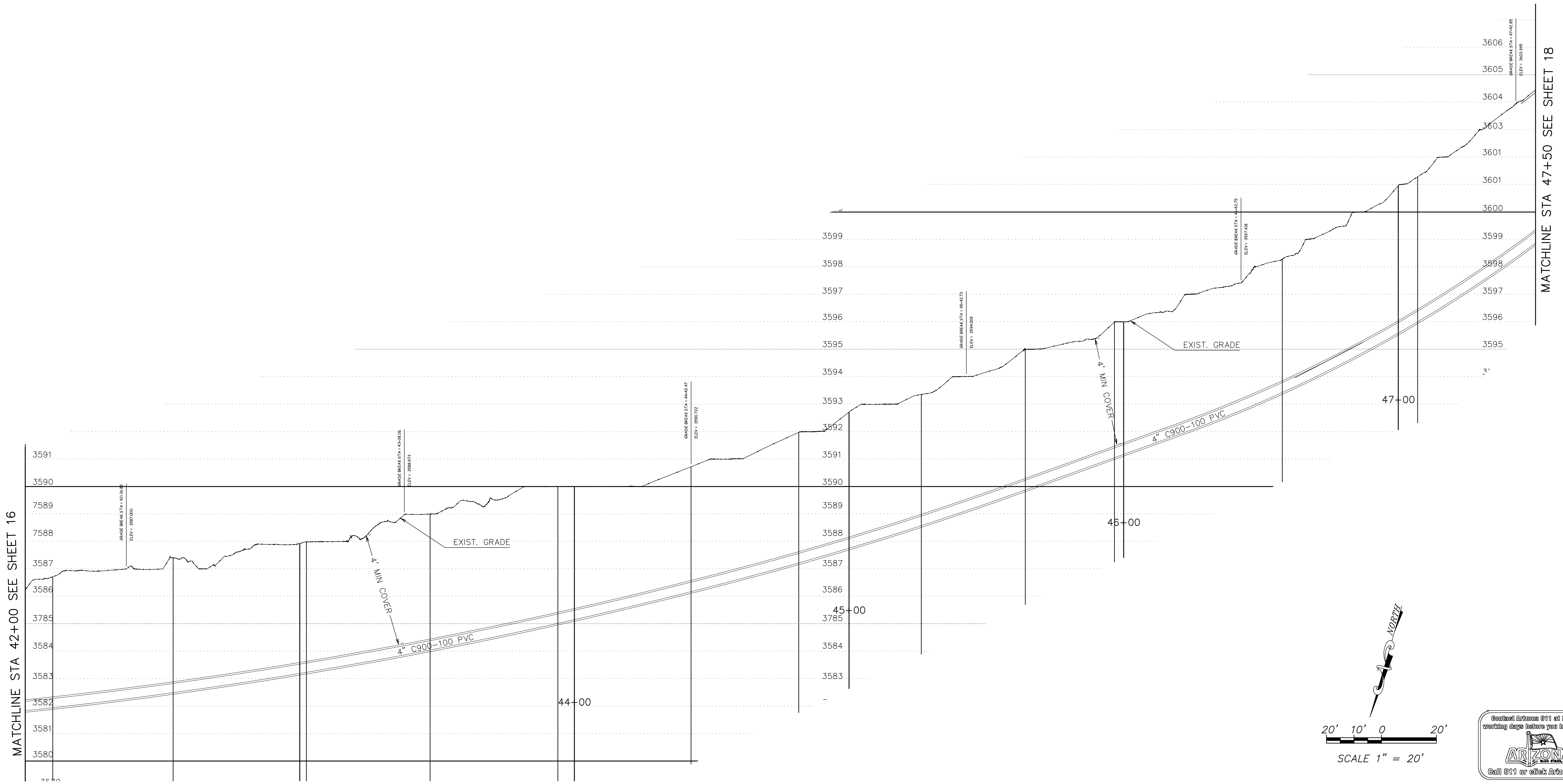


SECTION:	
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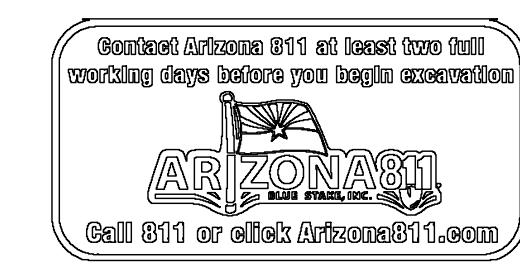
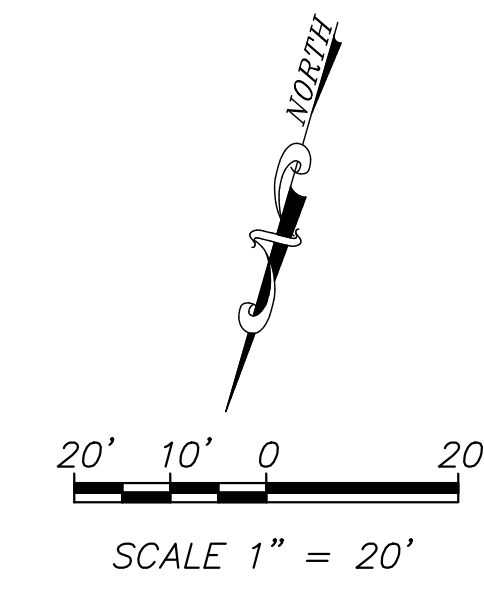
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MATCHLINE STA 47+50 SEE SHEET 18



MATCHLINE STA 42+00 SEE SHEET 16

MATCHLINE STA 47+50 SEE SHEET 18



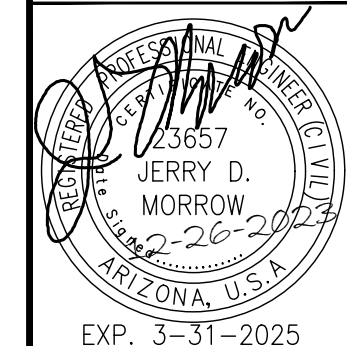
TRUJILLO TRAIL WATER LINE

TUBAC, ARIZONA

PLAN AND PROFILE

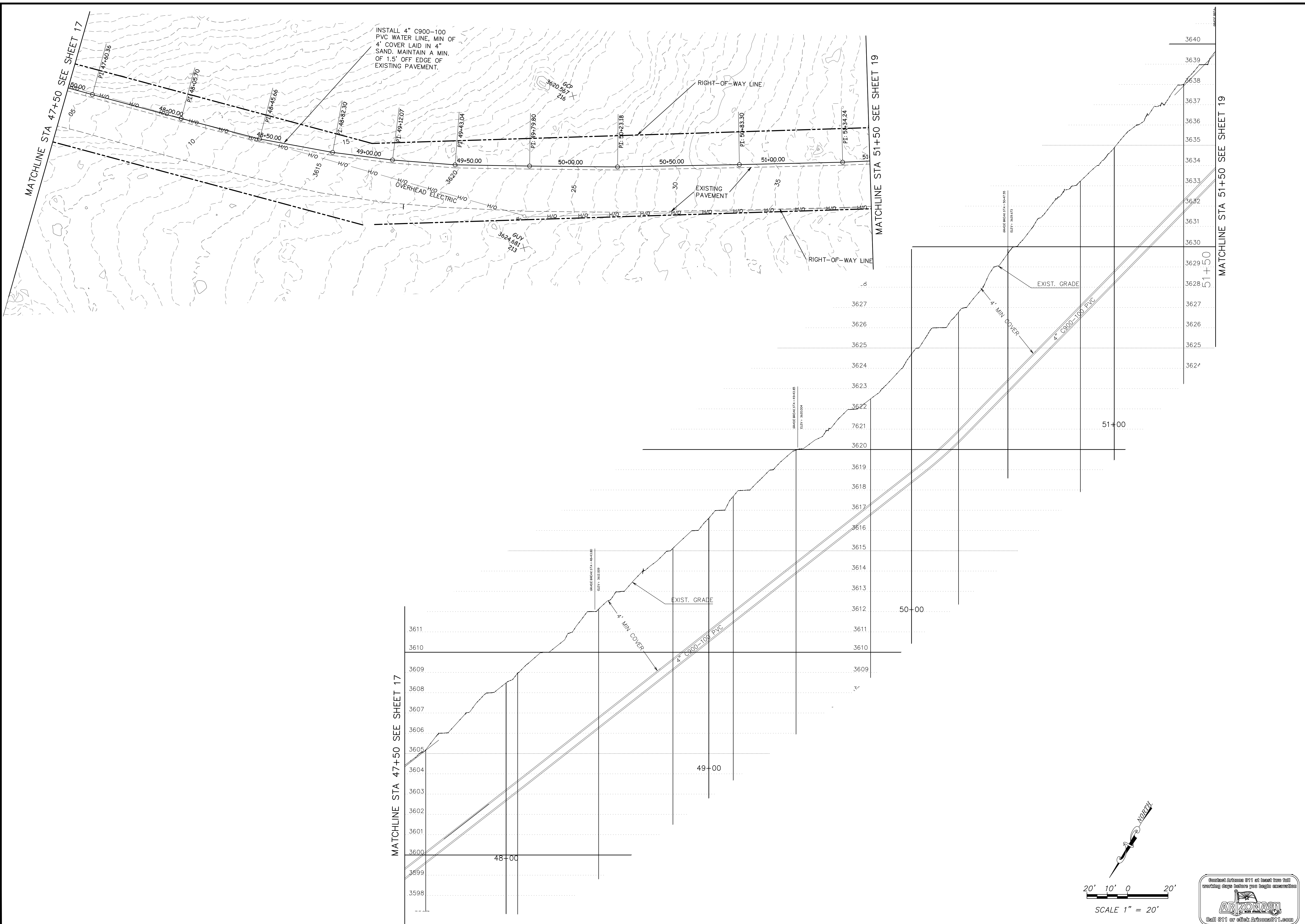
STA 42+00 TO STA 47+50

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SECTION:	
TOWNSHIP:	
RANGE:	
DATE:	12-26-2023
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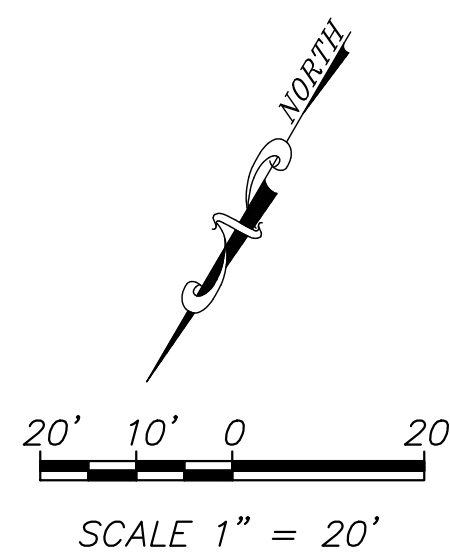


MATCHLINE STA 47+50 SEE SHEET 17

MATCHLINE STA 51+50 SEE SHEET 19

MATCHLINE STA 47+50 SEE SHEET 17

MATCHLINE STA 51+50 SEE SHEET 19



TRUJILLO TRAIL WATER LINE

TUBAC, ARIZONA

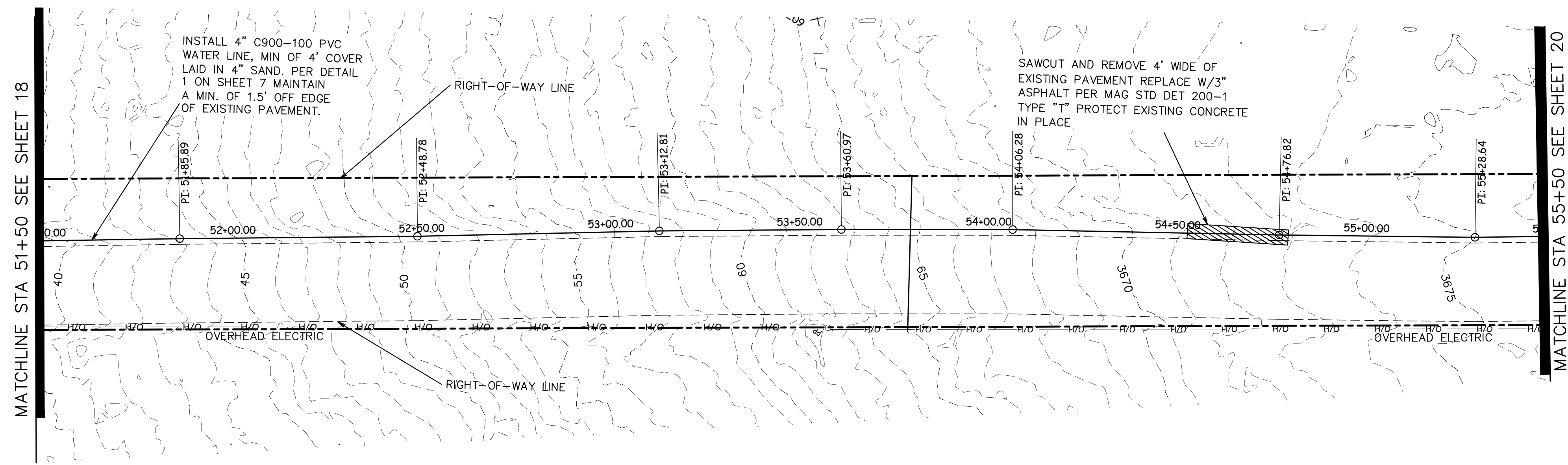
PLAN AND PROFILE

STA. 47+50 TO STA. 51+50

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Professional Engineer Seal for Jerry D. Morrow, No. 26202, Arizona, U.S.A., Exp. 3-31-2025

SECTION:	
TOWNSHIP:	
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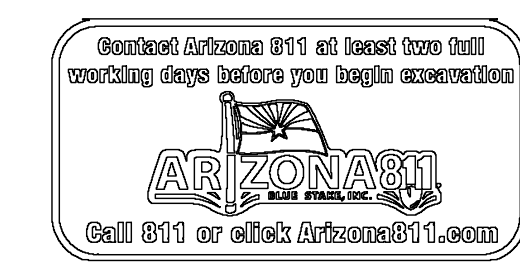
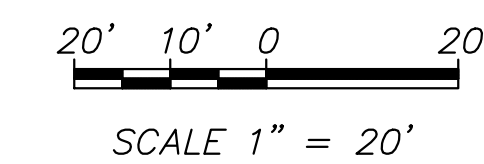
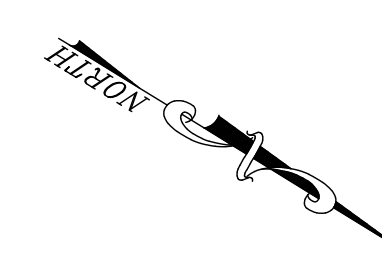
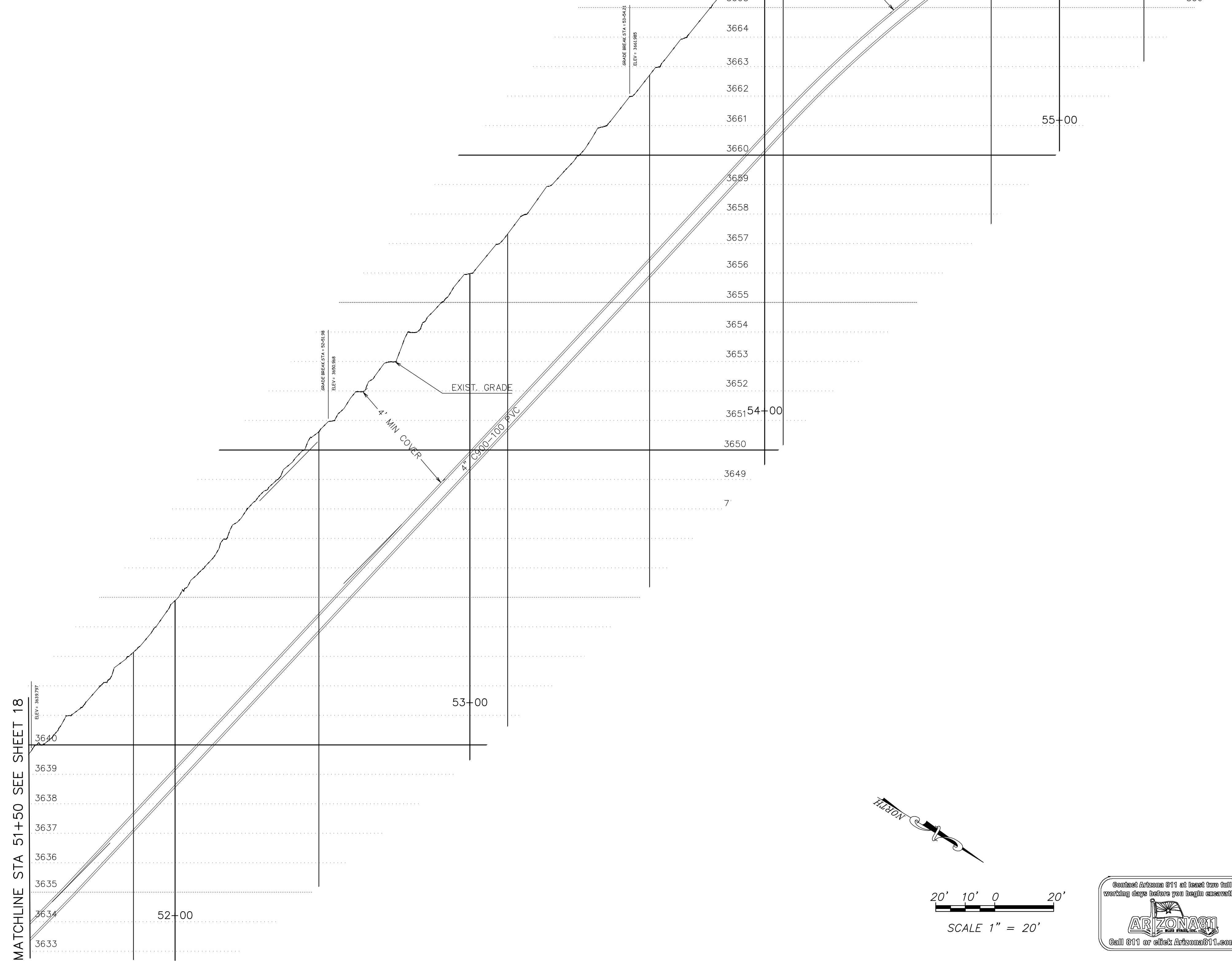


MATCHLINE STA 51+50 SEE SHEET 18

MATCHLINE STA 55+50 SEE SHEET 20

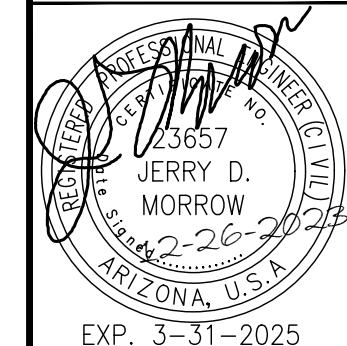
MATCHLINE STA 51+50 SEE SHEET 18

MATCHLINE STA 55+50 SEE SHEET 20



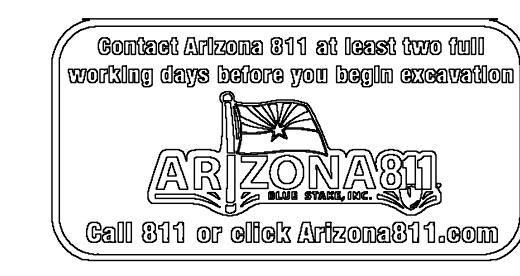
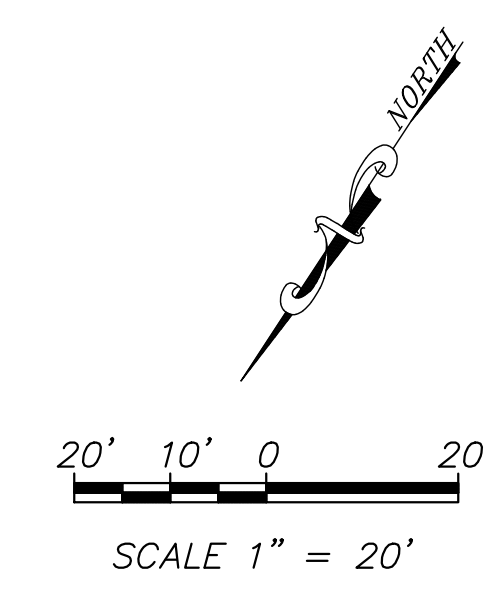
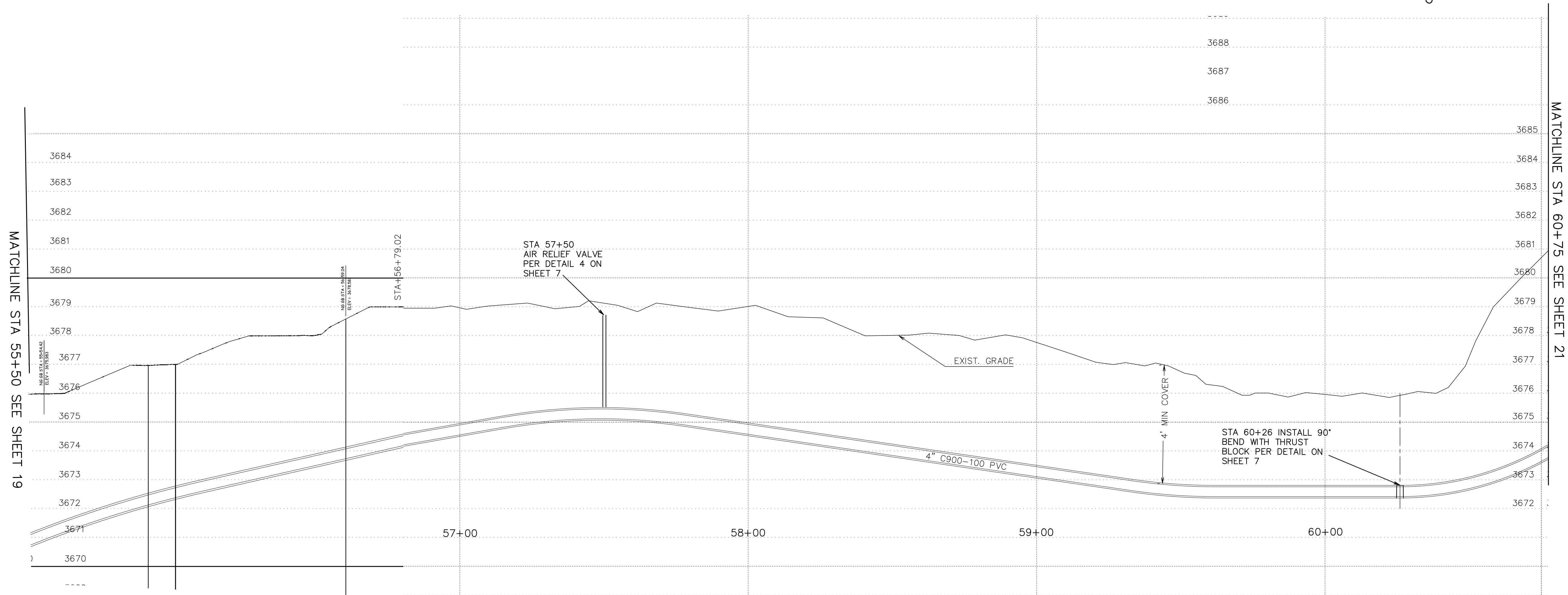
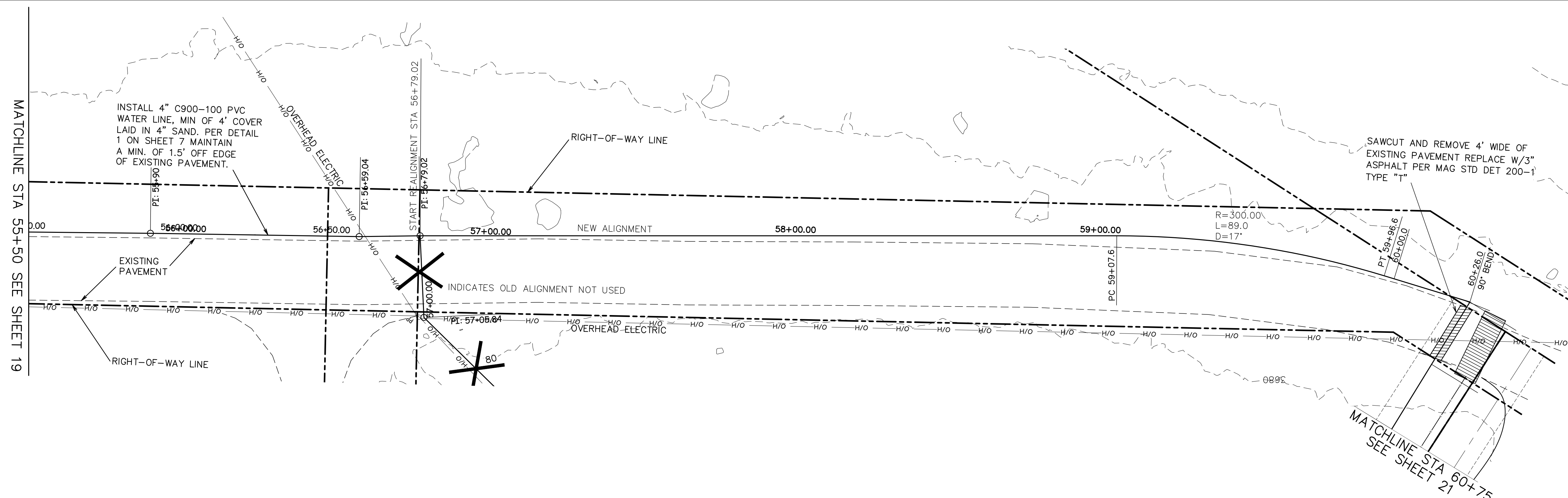
TRUJILLO TRAIL WATER LINE
 1700 W ADAMS, PHOENIX, AZ
PLAN AND PROFILE
 STA 51+50 TO STA 55+50

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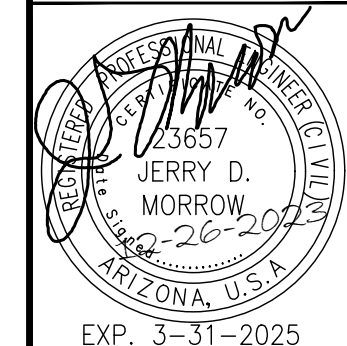
NO. DATE BY REVISION



1	7-23	RS	REALIGN WATER LINE ADD SHEET 21
NO.	DATE	BY	REVISION

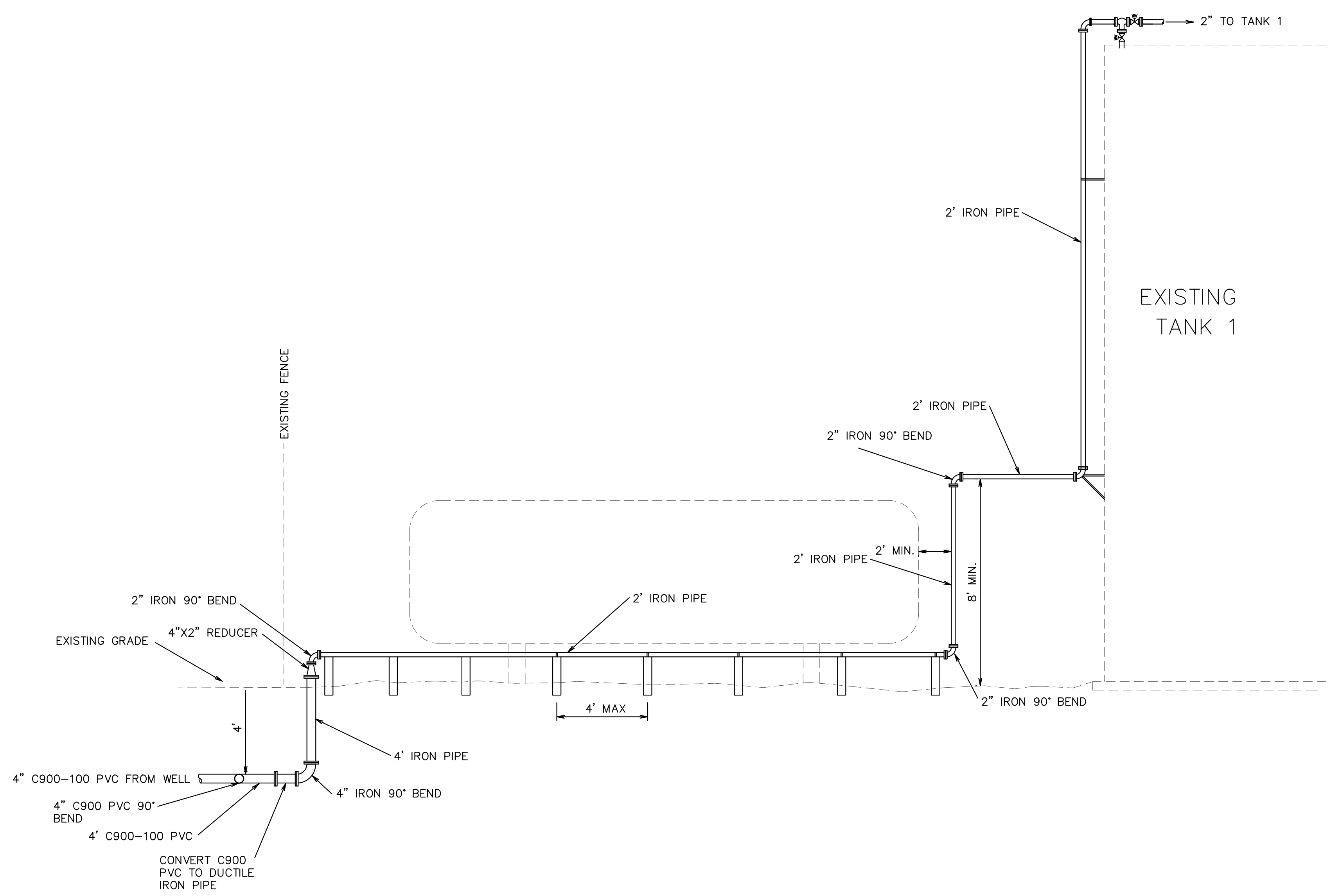
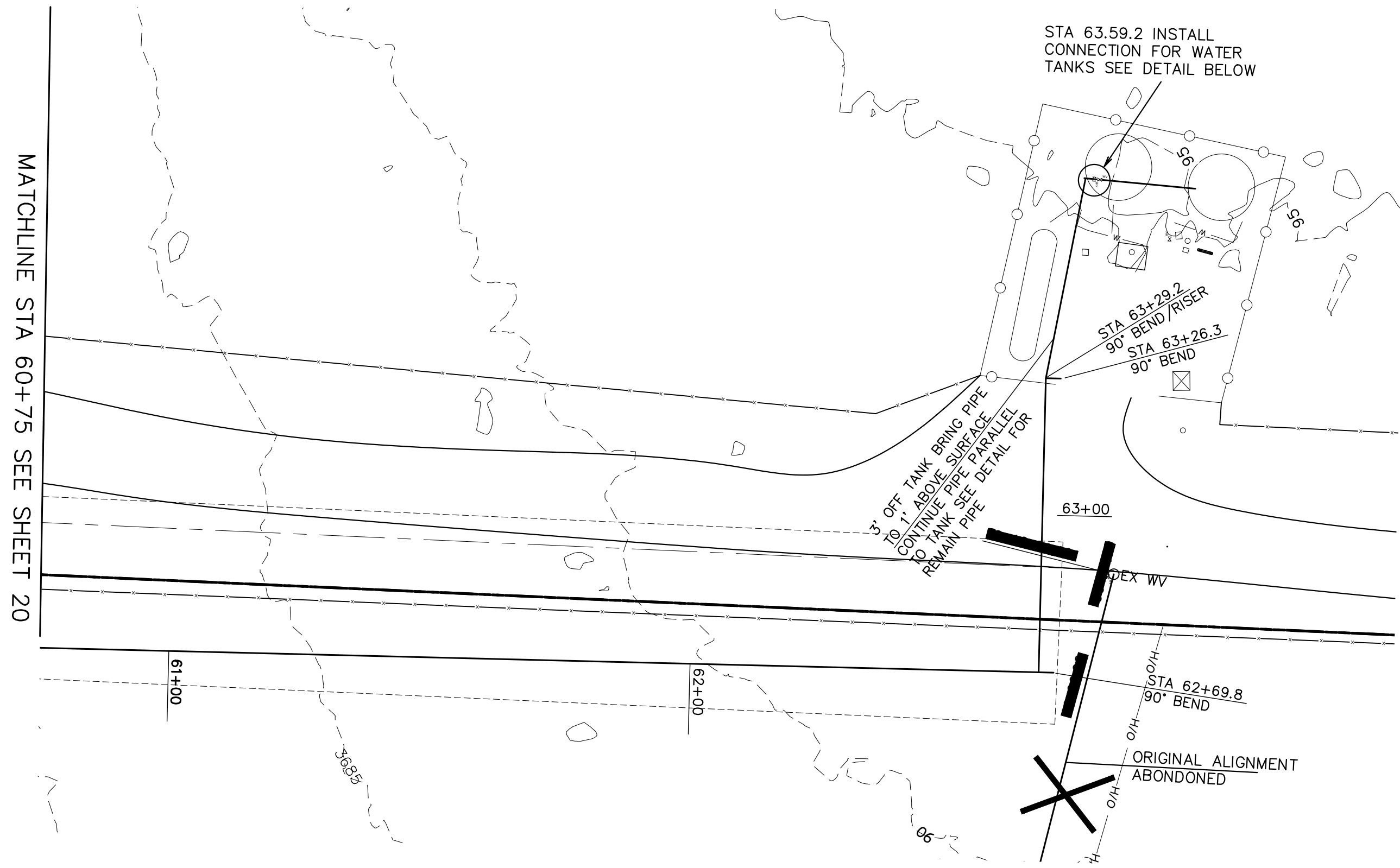
TRUJILLO TRAIL WATER LINE
 1700 W ADAMS, PHOENIX, AZ
PLAN AND PROFILE
 STA 55+50 TO END

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MATCHLINE STA 60+75 SEE SHEET 20

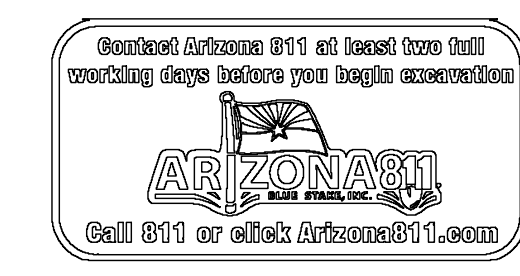
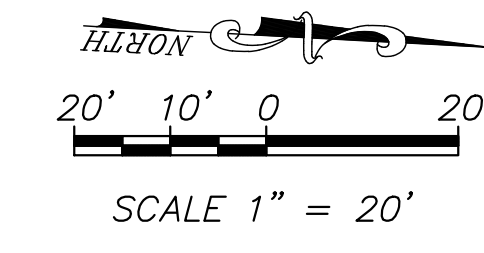
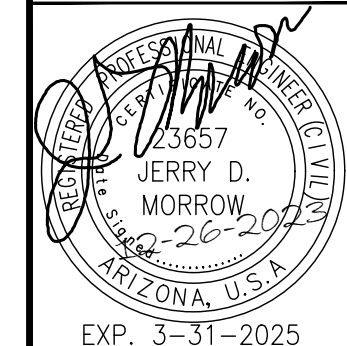


1 7-23 RS REALIGN WATER LINE ADD SHEET 21

TRUJILLO TRAIL WATER LINE

1700 W ADAMS, PHOENIX, AZ
PLAN AND PROFILE
STA 55+50 TO END

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