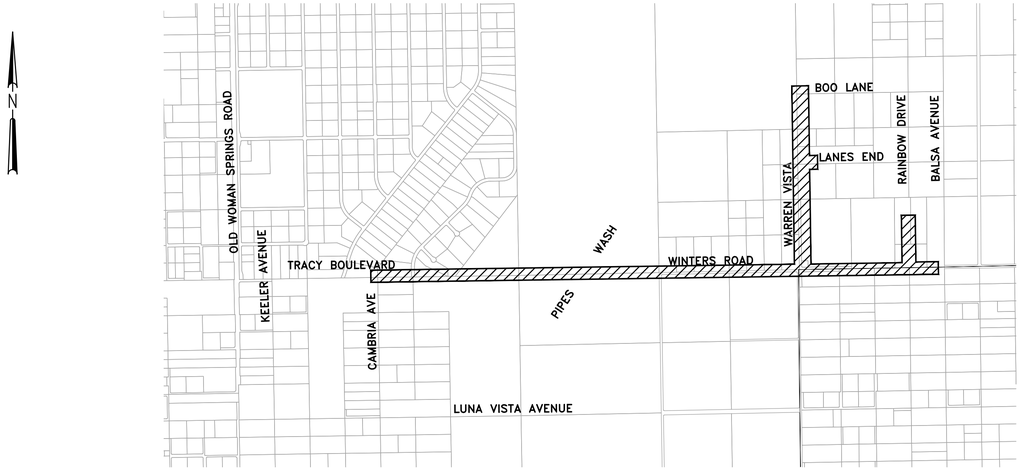
BDVWA WATER SYSTEM IMPROVEMENTS AND CONSOLIDATION PROJECTS

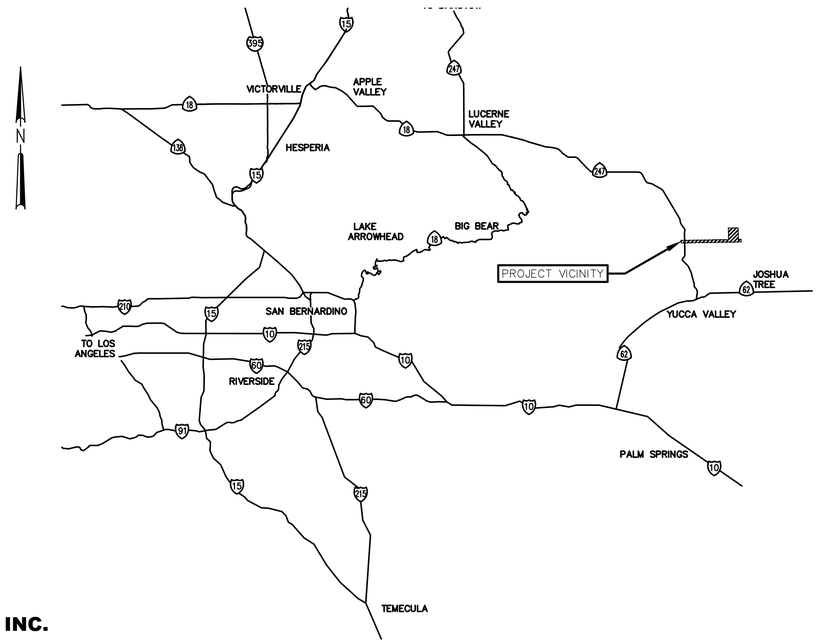
VOLUME 1 OF 3

TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

BID SET



VICINITY MAP
NTS



LOCATION MAP
NTS

MC ENGINEERING, INC.

DIGALERT
CALL AT LEAST SEVEN WORKING DAYS PRIOR TO EXCAVATING
CALL 811
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA
THE CONTRACTOR SHALL VERIFY THE LOCATION OF UNDERGROUND UTILITIES BY CONTACTING UTILITY UNDERGROUND SERVICE ALERT PRIOR TO ANY EXCAVATING AT 1-800-422-4133

CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF SECTION 310523 FOR ALL POTHOLING.

DEPARTMENT OF WATER RESOURCES STATE OF CALIFORNIA
CALIFORNIA Water Boards | State Water Resources Control Board

REVISION: BID SET
DESN: J. NELSON / D. MCKAY
DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER JARED P. NELSON No. C89673 Exp. 3/31/27 CIVIL STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01
DATE: SEPTEMBER 2026
DRAWING NUMBER
G001
1 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

0 1"

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GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO ORDERING OR FABRICATING ANY MATERIALS AND SHALL PROMPTLY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. UNLESS OTHERWISE DETAILED, SPECIFIED, OR INDICATED ON THE DRAWINGS, CONSTRUCTION SHALL CONFORM TO THE APPLICABLE TYPICAL DETAILS, GENERAL NOTES AND CURRENT STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA). TYPICAL DETAILS SHALL APPLY EVEN WHEN NOT SPECIFICALLY REFERENCED ON THE DRAWINGS
3. WHERE NO SPECIFIC CONSTRUCTION DETAILS ARE SHOWN OR NOTED, WORK SHALL BE CONSISTENT WITH SIMILAR WORK ELSEWHERE IN THE PROJECT.
4. THE CONTRACTOR SHALL COORDINATE WITH AGENCY STAFF TO LOCATE ALL EXISTING UNDERGROUND UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION ACTIVITIES TO AVOID IMPACTS TO THE CONSTRUCTION SCHEDULE, SHOULD RELOCATION OR ADJUSTMENT OF UTILITIES BE REQUIRED.
5. LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION; NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, NOR THAT ALL UTILITIES ARE SHOWN.
6. PRIOR TO ANY TRENCHING OR CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, EXPOSING, PROTECTING, MAINTAINING, AND COORDINATING AROUND ALL EXISTING UTILITIES, INCLUDING SEWER, STORM DRAIN, WATER, ELECTRIC, COMMUNICATIONS, AND GAS. UTILITIES AND FACILITIES THAT MAY AFFECT CONSTRUCTION—SUCH AS LINE CROSSINGS, PARALLEL UTILITIES, AND PROPOSED CONNECTIONS—SHALL BE FIELD VERIFIED TO ALLOW THE ENGINEER TO CONFIRM UTILITY LOCATION, GRADE, ALIGNMENT, AND APPLICABLE DESIGN ASSUMPTIONS. FIELD CONDITIONS MAY REQUIRE RELOCATION OF EXISTING UTILITIES OR REVISIONS TO THE ALIGNMENT OF PROPOSED IMPROVEMENTS.
7. ALL DESIGN CHANGES TO THE WATER SYSTEM SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION AND ACCEPTANCE OF THE CHANGE.
8. THE CONTRACTOR SHALL NOTIFY DIGALERT OF SOUTHERN CALIFORNIA BY CALLING 8_1_1 AT LEAST 48 HOURS PRIOR TO PERFORMING ANY WORK IN THE PUBLIC RIGHT-OF-WAY TO HAVE UNDERGROUND UTILITIES LOCATED.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING MONUMENTS AND ANY OTHER SURVEY MARKERS DURING CONSTRUCTION, INCLUDING STAKING BY THE AGENCY'S SURVEYOR. ANY SUCH MONUMENTS OR MARKERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
10. ALL EXCESS MATERIAL FROM THE PROJECT IS TO BE REMOVED FROM THE SITE AND DISPOSED UNDER THE AGENCY'S APPROVAL. COST FOR THE REMOVAL AND DISPOSAL OF EXCESS MATERIAL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
11. THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES IN A MANNER THAT DOES NOT INTERFERE WITH REQUIRED AGENCY OPERATIONS OR EMERGENCY ACCESS. CONTINUOUS ACCESS FOR AGENCY PERSONNEL AND EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL ALSO MAINTAIN UNINTERRUPTED ACCESS TO DRIVEWAYS AND PRIVATE ROADS THROUGHOUT CONSTRUCTION AND SHALL KEEP NON_SKID STEEL PLATES ON SITE TO SAFELY COVER EXPOSED TRENCHES AS NECESSARY TO PROVIDE IMMEDIATE VEHICULAR AND PEDESTRIAN ACCESS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING EACH PERMIT_ISSUING AGENCY WITHIN THE TIME PERIOD SPECIFIED BY THAT AGENCY PRIOR TO BEGINNING CONSTRUCTION AND SHALL COMPLY WITH ALL APPLICABLE PERMITTING REQUIREMENTS AS SPECIFIED IN THE PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR NOISE, EROSION, AND DUST CONTROL REQUIREMENTS DURING CONSTRUCTION AND SHALL PERFORM ALL CONSTRUCTION ACTIVITIES IN COMPLIANCE WITH STANDARDS ESTABLISHED BY THE LOCAL AIR QUALITY MANAGEMENT DISTRICT FOR AIRBORNE PARTICULATE MATTER. A TRENCH SAFETY PERMIT SHALL BE OBTAINED FROM THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO EXCAVATION OF ANY TRENCH OR CUT WITH VERTICAL OR NEAR_VERTICAL WALLS GREATER THAN FIVE (5) FEET DEEP.
13. IN THE EVENT THAT ANY REMAINS OF PREHISTORIC OR HISTORIC HUMAN ACTIVITIES ARE ENCOUNTERED DURING PROJECT_RELATED ACTIVITIES, WORK IN THE IMMEDIATE VICINITY OF THE FINDS SHALL HALT AND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT SUPERINTENDENT AND THE AGENCY. WORK SHALL NOT RESUME UNTIL A QUALIFIED ARCHAEOLOGIST OR HISTORIC ARCHAEOLOGIST, AS APPROPRIATE, HAS EVALUATED THE FINDINGS AND MADE RECOMMENDATIONS FOR TREATMENT OF THE RESOURCE, AND SUCH RECOMMENDATIONS ARE CARRIED OUT. IF HUMAN BURIAL REMAINS ARE ENCOUNTERED, THE CONTRACTOR SHALL ALSO CONTACT THE COUNTY CORONER.
14. UNLESS OTHERWISE NOTED, CONNECTIONS TO EXISTING PIPELINES SHALL BE MADE DRY. THE TIME AND DURATION OF ANY SHUTDOWNS OF EXISTING MAINS SHALL BE SUBJECT TO OWNER APPROVAL. THE OWNER SHALL BE NOTIFIED A MINIMUM OF FIVE (5) WORKING DAYS IN ADVANCE OF ANY SHUTDOWN. SYSTEM VALVES SHALL BE OPERATED BY OWNER'S FORCES ONLY. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ALL ARRANGEMENTS FOR HIGH_LINING AND TEMPORARY SERVICES PRIOR TO SHUTDOWNS. NO SHUTDOWNS SHALL BE SCHEDULED ON MONDAYS, FRIDAYS, WEEKENDS, OR HOLIDAYS.
15. NO WORK SHALL BEGIN OR PROCEED WITHOUT THE DIRECTION OF THE OWNER'S INSPECTOR. THE CONTRACTOR SHALL NOTIFY THE OWNER'S INSPECTOR A MINIMUM OF FORTY_EIGHT (48) HOURS PRIOR TO THE START OF WORK TO ARRANGE FOR INSPECTION.
16. CONTRACTOR SHALL TIE OFF ALL VALVE LOCATIONS AND PROVIDE WRITTEN DIMENSIONS TO INSPECTOR IMMEDIATELY UPON INSTALLATION OF VALVES.
17. THE WATER SYSTEM, INCLUDING PIPELINES AND APPURTENANCES, SHALL BE PRESSURE TESTED AND DISINFECTED IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OF THE PROJECT SPECIFICATIONS PRIOR TO TIE_IN OR CONNECTION TO EXISTING SYSTEM FACILITIES. BACTERIOLOGIC QUALITY TEST RESULTS SHALL CONFORM TO THE CRITERIA SPECIFIED IN THE PROJECT SPECIFICATIONS.
18. CONNECTIONS TO EXISTING ASBESTOS CEMENT PIPE SHALL BE MADE AS SPECIFIED IN THE SPECIFICATION.
19. CONSTRUCTION SEQUENCING AND FACILITY SHUTDOWN LIMITATIONS ARE ESSENTIAL TO THE EXECUTION OF THE WORK. SEE PROJECT SPECIFICATIONS.
20. THE CONTRACTOR SHALL REFER TO PREVIOUS RECORD DRAWINGS FOR ADDITIONAL INFORMATION RELEVANT TO EXISTING UTILITIES.
21. THE CONTRACTOR SHALL REFER TO PREVIOUS RECORD DRAWINGS FOR ADDITIONAL INFORMATION RELATED TO EXISTING UTILITIES. CONTRACT RECORD DRAWINGS SHALL BE SUBMITTED PRIOR TO FINAL ACCEPTANCE OF THE WORK AND SHALL PROVIDE POST_CONSTRUCTION VERIFICATION OF THE LOCATION AND ELEVATION OF PIPES AND APPURTENANCES. THE CONTRACTOR SHALL ABIDE BY ALL GUARANTEES AND WARRANTIES PROVIDED IN THE PROJECT SPECIFICATIONS.
22. THE CONTRACTOR SHALL INSPECT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF DEMOLITION WORK AND SITE CONDITIONS AND SHALL INCLUDE ALL NECESSARY WORK IN THE BID. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, RESTORING, OR REPLACING ANY PAVEMENT AND GRAVEL ACCESS ROUTES DAMAGED BY CONSTRUCTION ACTIVITIES OR TRAFFIC, AND THE BID SHALL INCLUDE ALL SUCH COSTS. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING CONSTRUCTION, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY.

APPLICABLE CODES

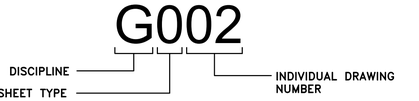
ALL WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE FOLLOWING LISTED CODES AND ALL OTHERS HAVING JURISDICTION OVER THE WORK.

- 2022 EDITION OF THE CALIFORNIA FIRE CODE
- 2025 EDITION OF THE CALIFORNIA BUILDING CODE
- 2022 EDITION OF THE CALIFORNIA ELECTRICAL CODE
- 2022 EDITION OF THE CALIFORNIA MECHANICAL CODE
- 2025 EDITION OF THE CALIFORNIA PLUMBING CODE

GENERAL DESCRIPTION OF WORK TO BE PERFORMED

- ZONE D TO ZONE B TRANSMISSION MAIN INSTALLATION CONSISTING OF NEARLY 10,850 LINEAR FEET OF 6" DR 14 AWWA C900 PVC PIPE FROM THE NEW ZONE B BOOSTER PUMP STATION TO TRACY BOULEVARD X CAMBRIA AVENUE.
- ZONE D DISTRIBUTION IMPROVEMENT PIPING INSTALLATION CONSISTING OF NEARLY 8,085 LINEAR FEET OF 6" DR 14 AWWA C900 PVC PIPE ALONG WARRENT VISTA AVENUE, BOO LANE, LANES END, WINTERS ROAD, AND RAINBOW DRIVE.
- ZONE D TO HDWD SYSTEM INTERTIE PIPELINE INSTALLATION CONSISTING OF NEARLY 2,632 LINEAR FEET OF 6" DR 14 AWWA C900 PVC PIPE ALONG WINTERS ROAD CONNECTING THE (E) HDWD PIPELINE ON WARREN VISTA AVENUE TO THE NEW ZONE B BOOSTER PUMP STATION LOCATED ON WINTERS ROAD AND BALSA AVENUE.
- INSTALLATION OF VARIOUS WATER SYSTEM APPURTENANCES INCLUDING, COMBINATION AIR/VACUUM VALVES, BLOW OFFS, PRESSURE REDUCING VALVES VARIOUS DUCTILE IRON FITTINGS, MECHANICAL RESTRAINS, SERVICE CONNECTIONS, THRUST BLOCKS, AND OTHER ASSEMBLIES.

DRAWING DESIGNATION

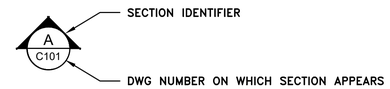


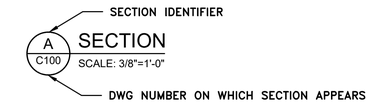
LETTER	DISCIPLINE
G	GENERAL
C	CIVIL

NUMBER	SHEET TYPE
0	GENERAL
1	KEY PLAN
2	ZONE B TRANSMISSION PIPELINE PLAN AND PROFILE
3	WARREN VISTA PIPELINE PLAN AND PROFILE
4	WINTERS ROAD COMMON TRENCH PIPELINE PLAN AND PROFILE
5	RAINBOW DRIVE PIPELINE PLAN AND PROFILE
6	LANES END PIPELINE PLAN AND PROFILE
7	DETAILS

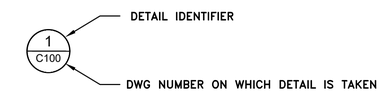
ANNOTATION

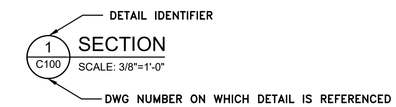
DETAIL / SECTION IDENTIFICATION





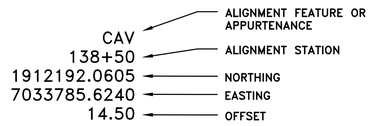
DETAIL IDENTIFICATION





"–" INDICATES THAT DETAIL IS REFERENCED FROM SAME SHEET
"VAR" INDICATES THAT DETAIL IS REFERENCED FROM MULTIPLE SHEETS

ALIGNMENT ANNOTATION



REVISION: BID SET
DESN: J. NELSON / D. MCKAY
DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER
JARED P. NELSON
No. C89673
Exp. 3/31/27
CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

INDEX OF DRAWINGS, GENERAL NOTES, DRAWING DESIGNATION, AND SYMBOLS

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

DATE: SEPTEMBER 2026

DRAWING NUMBER
G002
2 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

0 1"

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ABBREVIATIONS

1W	POTABLE WATER
3W	TREATED EFFLUENT
@	AT
AB	AGGREGATE BASE, ANCHOR BOLT
AC	ASPHALT CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
ADD	ADDITIONAL
ADH AB	ADHESIVE ANCHOR BOLT
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AGG	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALIGN	ALIGNMENT
AL	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUE
APPROX	APPROXIMATE
APN	ASSESSOR PARCEL NUMBER
ARCH	ARCHITECTURAL
ARV	AIR RELEASE VALVE
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BC	BEGIN CURVE
BDVWA	BIGHORN–DESERT VIEW WATER AGENCY
BF	BRANCH FEEDER
BFV	BUTTERFLY VALVE
BLDG	BUILDING
BM	BENCH MARK, BEAM
BO	BLOW OFF
BOP	BOTTOM OF PIPE
BTM	BOTTOM
BV	BALL VALVE
BVC	BEGINNING OF VERTICAL CURVE
BW	BOTTOM OF WALL
C	CHANNEL
CAV	COMBINATION AIR VALVE
CC	COUNTY CLERK
CDFW	CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIP	CAST IRON PIPE
CIRJ	CAST IRON RESTRAINED JOINT
CJ	CONSTRUCTION JOINT
CLR	CLEAR
CL	CENTERLINE
CML&C	CEMENT MORTAR LINED AND COATED
CMS	CORROSION MONITORING STATION
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COMM	COMMUNICATIONS
CONC	CONCRETE
CONT	CONTINUOUS, CONTINUATION
COORD	COORDINATE
COP	COPPER
CMS	CORROSION MONITORING STATION
CPLG	COUPLING
CS	CONTRACT SPECIFICATIONS
CTD	CENTERED
CTF	CUT TO FIT
CTR	CENTER
CU FT	CUBIC FOOT
CU IN	CUBIC INCH
CU YD	CUBIC YARD
CV	CHECK VALVE
DR	DIMENSION RATIO
DBL	DOUBLE
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DO	DESCRIPTION ONLY
DWG	DRAWING
E	EAST
EA	EACH
EBF	EAST BRANCH FEEDER
EF	EACH FACE
EG	EXISTING GRADE
ELEV	ELEVATION
ELB, ELL	ELBOW
ELC	ELECTRICAL LOAD CENTER
ELEC	ELECTRIC, ELECTRICAL
EP	EDGE OF PAVEMENT
ENGR	ENGINEER
E OHD	ELECTRICAL OVERHEAD
EQL SP	EQUALLY SPACED
EQPT	EQUIPMENT
ES	EACH SIDE
EW	EXTRACTION WELL
EXC	EXCAVATE
EXP	EXPOSED, EXPANSION, EXPORT
EXP JT	EXPANSION JOINT
(E)	EXISTING
FC	FLEXIBLE COUPLING
FCA	FLANGED COUPLING ADAPTER
FCV	FLOW CONTROL VALVE
FG	FINISH GRADE
FIG	FIGURE
FL	FLANGE, FLOOR, FLOWLINE
FLTR	FILTER
FOC	FACE OF CONCRETE
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT OR FEET
FTG	FOOTING
FWD	FORWARD
°F	DEGREE FAHRENHEIT
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GC	GROOVED COUPLING
GCF	GROOVED COUPLING FITTINGS
GE	GROOVED END
GL	GLASS
GLO	GENERAL LAND OFFICE
GPM	GALLONS PER MINUTE
GSM	GALVANIZED SHEET METAL
GSP	GALVANIZED STEEL PIPE
GTE	GENERAL TELEPHONE & ELECTRONICS
GV	GATE VALVE
GVL	GRAVEL
H	HEIGHT
HDD	HORIZONTAL DIRECTIONAL DRILLING
HDPE	HIGH DENSITY POLYETHYLENE
HDR	HEADER
HDWD	HIGH DESERT WATER DISTRICT
HGT	HEIGHT
HORIZ	HORIZONTAL
HP	HORSEPOWER, HIGH POINT
HR	HANDRAIL
HV	HOSE VALVE, HIGH VOLTAGE
I&C	INSTRUMENTATION & CONTROL
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH
INC.	INCORPORATED
INFL	INFLUENT
INV	INVERT
IP	IRON PIPE
JT	JOSHUA TREE
KIP	THOUSAND POUNDS
KW	KILOWATT
L	LEFT, ANGLE, LENGTH
LAB	LABORATORY
LB	POUNDS
LB/CU FT	POUNDS PER CUBIC FOOT
LF	LINEAR FEET
LG	LONG
LH	LEFT HAND
LONG	LONGITUDINAL
LR	LONG RADIUS
LS	LICENSED SURVEYOR
M	MEASURE
MAX	MAXIMUM
MB	MACHINE BOLT
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MIXED LIQUOR
MSNRY	MASONRY
MTL	MATERIAL
MWS	MAXIMUM WATER SURFACE
N	NEW, NORTH
NG	NATURAL GROUND
NIC	NOT IN CONTRACT
NO	NUMBER, NUMBERING
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER, OVERFLOW DRAIN
OF	OUTSIDE FACE, OVERFLOW
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC	PRESSURE CLASS
PCC	PORTLAND CONCRETE CEMENT
PE	POLYETHYLENE, PLANE END
PI	POINT OF INTERSECTION
PIP	PROTECT IN PLACE
PL	PLATE, PROPERTY LINE
POC	POINT OF CONNECTION
PP	POWER POLE
PPM	PARTS PER MILLION
PRCST	PRECAST
PREFAB	PREFABRICATED
PRESS	PRESSURE
PROP	PROPERTY
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PS	PUMP STATION
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE PLASTIC
PVMT	PAVEMENT
R	RADIUS
RC	RELATIVE COMPACTION
RD	ROAD
RDCR	REDUCER
REF	REFER OR REFERENCE
REINF	REINFORCED, REINFORCING, REINFORCE
REQD	REQUIRED
RFCA	RESTRAINED FLANGED COUPLING ADAPTER
RMJ	RESTRAINED MECHANICAL JOINT
ROW	RIGHT OF WAY
RST	REINFORCING STEEL
RTN	RETURN
RW	RAW WATER, RESERVOIR WATER
R/W	RIGHT OF WAY
S	SOUTH
SBCFCD	SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
SCE	SOUTHERN CALIFORNIA EDISON
SCFH	STANDARD CUBIC FEET PER HOUR
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SEC	SECTION
SH	SODIUM HYPOCHLORITE
SIM	SIMILAR
SL	SERVICE LATERAL
SPEC	SPECIFICATIONS
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SST, SS	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL, STEEL PIPE
STR	STRAIGHT
STRL	STRUCTURAL
STRUCT	STRUCTURE
T	TANGENT
TBD	TO BE DETERMINED
TBG	TUBING
T&B	TOP AND BOTTOM
TDH	TOTAL DYNAMIC HEAD
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE
TF	TOP FACE
THD	THREAD
THK	THICK
TP	TURNING POINT
TPZ	TREE PROTECTION ZONE
TT	THRUST TIE
TOV	TOP OF VAULT
TYP	TYPICAL
UNK	UNKNOWN
UNO	UNLESS NOTED OTHERWISE
V	VENT, VOLT, VALVE
VAC	VACUUM
VAR	VARIES
VC	VERTICAL CURVE
VERT	VERTICAL
VPI	VERTICAL POINT OF INTERSECTION
W	WATER, WEST, WIDTH
W/	WITH
WJT	WESTERN JOSHUA TREE
WS	WATER SURFACE, WATER STOP
WSP	WELDED STEEL PIPE
WWF	WELDED WIRE FABRIC
YD	YARD

LEGEND

UTILITY AND TOPOGRAPHIC

NEW	EXISTING	
—W—	—W_X—	POTABLE WATER
	—TEL—	UNDERGROUND COMMUNICATION
	—UE—	UNDERGROUND ELECTRIC
	—E—	OVERHEAD ELECTRIC
	—NPW_X—	NON–POTABLE WATER
	—FO—	FIBER OPTIC
		RIGHT OF WAY
		JOSHUA TREE
		FENCE
		INTERMEDIATE CONTOUR
3	3	INDEX CONTOUR
		BRUSH LINE
		BOUNDARY LINE
		TOP OF BERM
		POWER POLE
	× 1338.4	SPOT ELEVATION
		COMBINATION AIR VALVE
		BLOW OFF VALVE
		PARCEL BOUNDARY
		RIGHT OF WAY LINE AS SHOWN ON COUNTY ASSESSOR MAP
		CDFW STREAM BED ALTERATION PERMIT WORK ZONE BUFFER

HATCHING LEGEND

NEW	EXISTING	
		CONCRETE
		FILL MATERIAL
		FILL MATERIAL OR SOIL
		PAVEMENT CONFORM
		DEMOLISH OR REMOVE

GEOTECHNICAL NOTES

REFERENCES MADE TO THE "GEOTECHNICAL REPORT" REFER TO THE FOLLOWING DOCUMENT PREPARED BY NV5 DATED NOVEMBER 14, 2019 TITLED:

"BIGHORN–DESERT VIEW WATER AGENCY WATER SYSTEM IMPROVEMENTS LANDERS, CALIFORNIA"

BSK PROJECT NUMBER: 226815–0000025.07

REVISION: BID SET
DESN: J. NELSON / D. MCKAY
DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER
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No. C89673
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CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

CIVIL ABBREVIATIONS, LEGENDS, AND NOTES

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

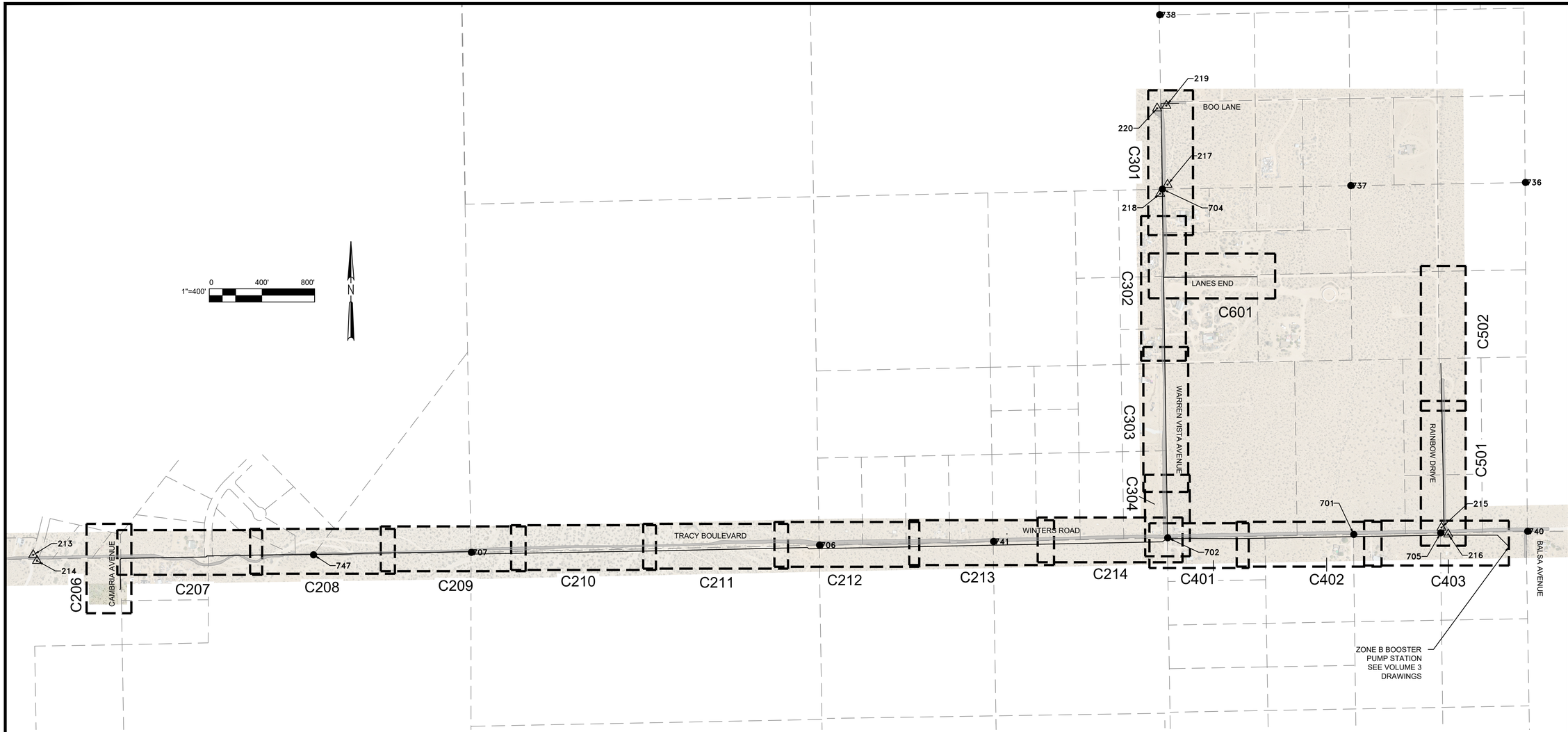
DATE: SEPTEMBER 2026

DRAWING NUMBER
C001
3 / 32

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VERIFY SCALE! 0 1"

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BOUNDARY NOTE:

SUBJECT AREA CENTERLINES ARE SHOWN HEREON PER FOUND SURVEY MONUMENATION. PARCEL SIDE LINES ARE SHOWN HEREON PER FOUND SURVEY MONUMENTATION (IN PART LIMITED TO THE IMMEDIATE PROJECT AREA ONLY), INCLUDING RECORD MAP DATA (TRACT MAPS, PARCEL MAPS, AND RECORD OF SURVEYS) AND A LIMITED LEGAL DESCRIPTION RESEARCH.

EASEMENT NOTE:

THERE MAY BE EASEMENTS OF RECORD DELINEATED AND REFERENCED ON THE UNDERLYING MAP AND/OR TITLE REPORT THAT MAY NOT BE SHOWN HEREON.

BENCHMARK:

ELEVATION:3,585.81' NAVD 88
DESCRIPTION:NGS PID EV0399 BRASS CAP IN SET IN TOP OF CONCRETE MONUMENT STAMPED 705.30 1968
LOCATION: 6.2 MILES NW FROM YUCCA VALLEY ALONG HWY 247 FROM THE JUNCTION OF HWY 62, 104 FEET NORTH OF INTERSECTION OF OLD HIGHWAY (DIRT ROAD) AND PRESENT PAVED ROAD, 48 FEET EAST OF HWY 247 PAVED ROAD, BRASS DISK IN 8 IN X 4 FOOT CONCRETE MONUMENT, 2 FEET ABOVE PAVED ROAD AND 3.5 FEET NORTH OF WHITE WITNESS POST.

BASIS OF BEARINGS:

THE BEARINGS SHOWN HEREON ARE BASED ON GRID NORTH, STATE PLANE ZONE 5 NAD83 (2011) CSRC EPOCH 2017.5. USING CRTN STATION LDES_SCGN_CS1998, A FIXED STATION USING THE NETWORKED TRANSPORT OF RTCM INTERNET PROTOCOL NETWORK PORT 2104 RUN BY NETWORK OF THE AMERICAS.

CONTROL POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	CONTROL POINT DESCRIPTION
213	1912271.08	7035247.15	3364.88	CP PKNAIL SE COR GTE VAULT
214	1912226.67	7035276.76	3363.36	1X2 HUB WITH TAC
215	1912478.99	7045944.80	3290.08	CP PKINCONC WATER STRUCTURE
216	1912427.78	7045995.98	3289.27	1X2 HUB WITH TAC
217	1915083.01	7043863.82	3264.23	1X2 HUB WITH TAC
218	1915014.71	7043807.91	3265.28	1X2 HUB WITH TAC
219	1915682.72	7043854.67	3254.40	1X2 HUB WITH TAC
220	1915662.95	7043784.84	3255.52	1X2 HUB WITH TAC

MONUMENT TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
701	1912426.76	7045278.39	3298.24	GLO BRASSCAP 16TH COR SEC 19&30 DWN1.2
702	1912401.18	7043864.88	3308.83	GLO BRASSCAP SEC COR
704	1915049.11	7043824.37	3264.91	GLO SEC 24&19 COR UP 0.2
705	1912438.75	7045938.85	3290.25	1" IP STAMPED LS7070 FLUSH
706	1912345.81	7041220.48	3333.19	GLO BRASS CAP MARKED 1/4 SEC 24/25 D0.3
707	1912290.89	7038575.95	3249.71	GLO BRASS CAP COR SEC 23,24,25&26 FLUSH
711	1910851.87	7030639.64	3550.30	GLO BRASS CAP 1/16SEC27 D1.0
736	1915100.18	7046582.35	3240.47	3/4 IP TAG LS 2881 WIRED TO SIDE UP 0.2
737	1915075.55	7045255.79	3249.83	2" BRASS CAP LS2865 CW1/6 D1.2
738	1916372.98	7043804.20	3276.73	GLO BRASS CAP N1/16 SECS24/19 UP0.6
739	1917747.69	7046565.66	3192.17	GLO BRASS CAP UP 0.2
740	1912450.67	7046599.28	3264.31	GLO BRASS CAP D0.3
741	1912373.36	7042542.12	3321.20	GLO BRASS CAP
747	1912271.93	7037377.13	3330.30	1" IP STAMPED LS5933 DWN0.6

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DESN: J. NELSON / D. MCKAY
DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

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STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

KEY MAP & BASIS OF BEARINGS

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

DATE: SEPTEMBER 2026

DRAWING NUMBER
C101
4 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

0 1"

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PLAN AND PROFILE GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY TO ALL PLAN AND PROFILE SHEETS IN THIS DRAWING SET:

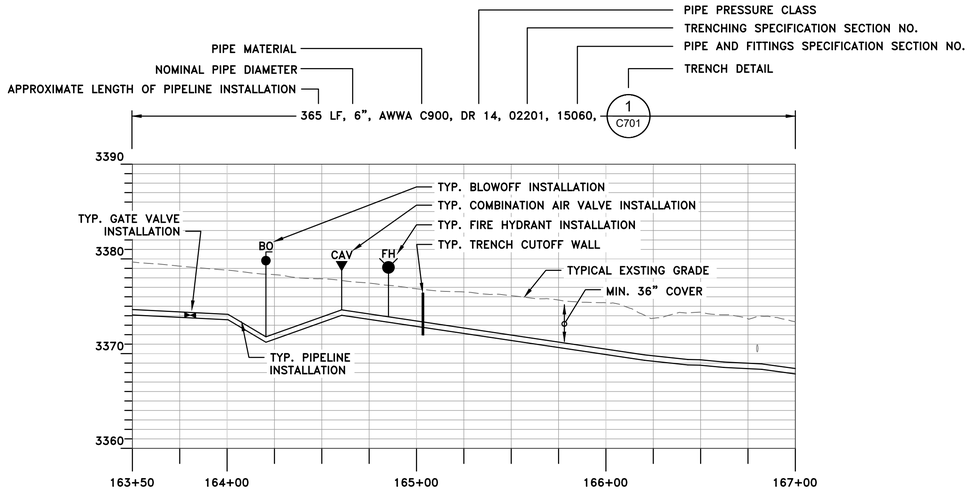
1. MINIMUM COVER REQUIREMENTS ARE SPECIFIED ON A PER-SHEET BASIS. IN NO CASE SHALL COVER BE LESS THAN 36 INCHES FROM FINISHED GRADE TO TOP OF PIPE.

2. PVC PRESSURE PIPE AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C605 AND THE PIPE MANUFACTURER'S RECOMMENDATIONS.

3. PIPELINE APPURTENANCES INCLUDING BLOWOFFS, COMBINATION AIR VALVES, SERVICE CONNECTIONS, AND FIRE HYDRANTS ARE SHOWN IN PLAN VIEW ONLY FOR CLARITY. UNLESS NOTED OTHERWISE, APPURTENANCES SHALL BE INSTALLED AT THE STATIONS AND OFFSETS AS SHOWN IN PLAN VIEW.

4. HORIZONTAL BENDS:
   A. HORIZONTAL BENDS SHALL BE LOCATED AS SHOWN ON THE PLAN VIEW.
   B. MINIMUM MECHANICAL RESTRAINT LENGTHS AND THRUST BLOCKS FOR HORIZONTAL BENDS ARE SHOWN IN PROFILE OR ON REFERENCED DETAILS.
   C. UNLESS OTHERWISE APPROVED BY THE ENGINEER, HORIZONTAL CHANGES IN ALIGNMENT SHALL BE MADE USING DUCTILE IRON FITTINGS. BENDING OF PIPE OR USE OF JOINT DEFLECTIONS FOR HORIZONTAL ALIGNMENT CHANGES IS NOT PERMITTED.

6. VERTICAL BENDS:
   A. THE CONTRACTOR SHALL LOCATE VERTICAL BENDS AS REQUIRED TO ACHIEVE THE PIPELINE ELEVATIONS AND MINIMUM COVER SHOWN IN PROFILE VIEW.
   A. ALL VERTICAL BEND FITTINGS SHALL BE RESTRAINED PER SHEET C702, DETAIL 5.
   B. PVC PIPE MAY BE FIELD-BENT TO A MINIMUM RADIUS OF 150 FEET, ONLY AS ALLOWED BY THE PIPE MANUFACTURER, FOR VERTICAL CURVES.
   C. JOINT DEFLECTION AT BELL-AND-SPIGOT CONNECTIONS SHALL NOT EXCEED 1 DEGREE AND SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS.
   D. THE CONTRACTOR SHALL DOCUMENT THE STATION, OFFSET, AND DEPTH OF ALL DUCTILE IRON FITTINGS USED TO FORM VERTICAL BENDS AND SHALL PROVIDE THIS INFORMATION FOR INCORPORATION INTO RECORD DRAWINGS.
   E. THE CONTRACTOR SHALL NOT DEVIATE FROM THE PIPELINE ELEVATIONS AND GRADES SHOWN IN PROFILE WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. IF THE CONTRACTOR'S MEANS AND METHODS OR UNAUTHORIZED DEVIATIONS RESULT IN LOCAL HIGH OR LOW POINTS, THE ENGINEER MAY REQUIRE ADDITIONAL COMBINATION AIR VALVES OR BLOWOFF ASSEMBLIES. ALL COSTS FOR SUCH ADDITIONAL APPURTENANCES, INCLUDING MATERIALS, INSTALLATION, AND ASSOCIATED WORK, SHALL BE BORNE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.



PROFILE LEGEND

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1"=8'

REVISION
BID SET
DESN
J. NELSON / D. MCKAY
DRW
D. MCKAY
CHECK
M. CAREY
DATE
9/4/2026

REGISTERED PROFESSIONAL ENGINEER
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Exp. 3/31/27
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STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

PLAN AND PROFILE GENERAL NOTES AND STAGING AREA

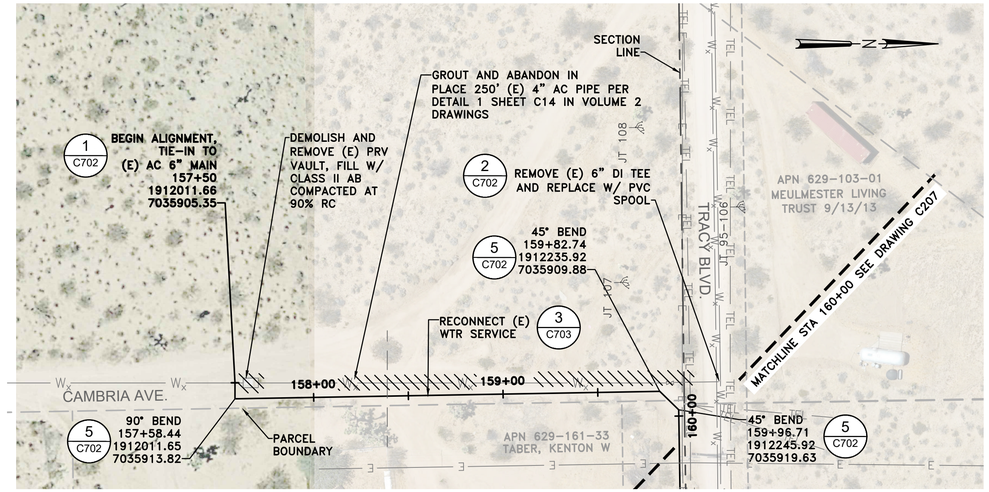
BIGHORN Desert View WATER AGENCY

PROJECT:
072-01
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C205
5 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

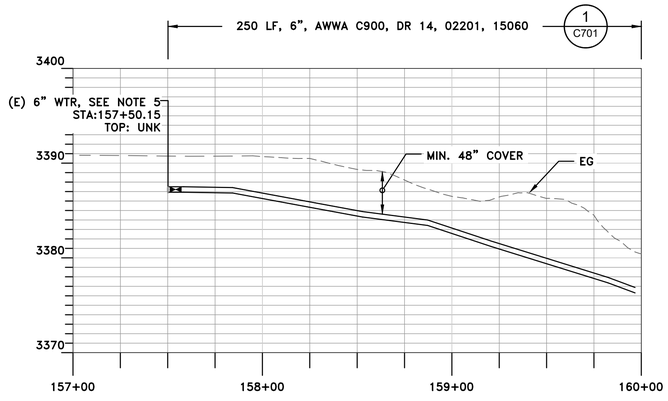
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PLAN
SCALE: 1" = 40'

1"=40' 0 40' 80'



PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1"=8'

GENERAL SHEET NOTES

1. THE CONTRACTOR SHALL LIMIT ALL WORK, DISTURBANCE, STAGING, AND SPOILS STOCKPILING TO THE PUBLIC R/W AND RECORDED EASEMENT LIMITS SHOWN. NO OFF-EASEMENT ACCESS OR DISTURBANCE ON PRIVATE PROPERTY IS PERMITTED WITHOUT WRITTEN AUTHORIZATION AND/OR OBTAINING SEPARATE TEMPORARY RIGHTS.
2. THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE WESTERN JOSHUA TREE CONSERVATION ACT INCIDENTAL TAKE PERMIT NO. 1927-ITP-2026-009-06:
   A. THE CONTRACTOR SHALL NOT DISTURB, TRIM, RELOCATE, OR ENCROACH INTO THE APPROVED NO-DISTURBANCE BUFFER AROUND ANY WESTERN JOSHUA TREE OR PROTECTED JOSUA TREE, EXCEPT WHERE SPECIFICALLY AUTHORIZED ON THE PLANS OR IN WRITING BY THE ENGINEER AND PROJECT BIOLOGIST.
   B. NO GRADING, EXCAVATION, SPOILS, EQUIPMENT PARKING, REFUELING, OR MATERIAL STORAGE WITHIN FENCED TREE PROTECTION ZONES.
   C. REMOVAL OF ANY WESTERN JOSHUA TREE AUTHORIZED FOR TAKE SHALL BE PERFORMED OR DIRECTLY SUPERVISED BY A DESERT NATIVE PLANT SPECIALIST IN ACCORDANCE WITH THE PROJECT'S WJTCA ITP. DISPOSAL OR RETENTION OF TREE MATERIAL SHALL CONFORM TO PERMIT CONDITIONS; NO POSSESSION OR USE OF TREE MATERIAL BY CONTRACTOR OR ITS EMPLOYEES IS ALLOWED EXCEPT AS EXPRESSLY AUTHORIZED.
2. INSTALL ALL PVC PRESSURE PIPE, FITTINGS, AND APPURTENANCES IN ACCORDANCE WITH AWWA C605 AND THE PIPE MANUFACTURER'S WRITTEN RECOMMENDATIONS, INCLUDING REQUIREMENTS FOR HANDLING, STORAGE, TRENCH EXCAVATION, BEDDING, BACKFILL, JOINT ASSEMBLY, DEFLECTION LIMITS, AND FIELD TESTING.
3. LOCATE HORIZONTAL AND VERTICAL BENDS AS NOTED ON SHEET C201.
4. CONTRACTOR SHALL VERIFY LOCATION OF CAV ASSEMBLIES, BLOW OFF ASSEMBLIES, FIRE HYDRANTS, SERVICES, AND OTHER APPURTENANCES WITH BDVWA STAFF PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL POTHOLE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES AT ALL CROSSINGS AND TIE-INS PRIOR TO PIPELINE TRENCHING PER CS SECTION 310523.

REVISION
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DESN
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DRW
D. MCKAY
CHECK
M. CAREY
DATE
9/4/2026

REGISTERED PROFESSIONAL ENGINEER
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Exp. 3/31/27
CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

ZONE B TRANSMISSION MAIN STA 157+30 TO STA 160+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

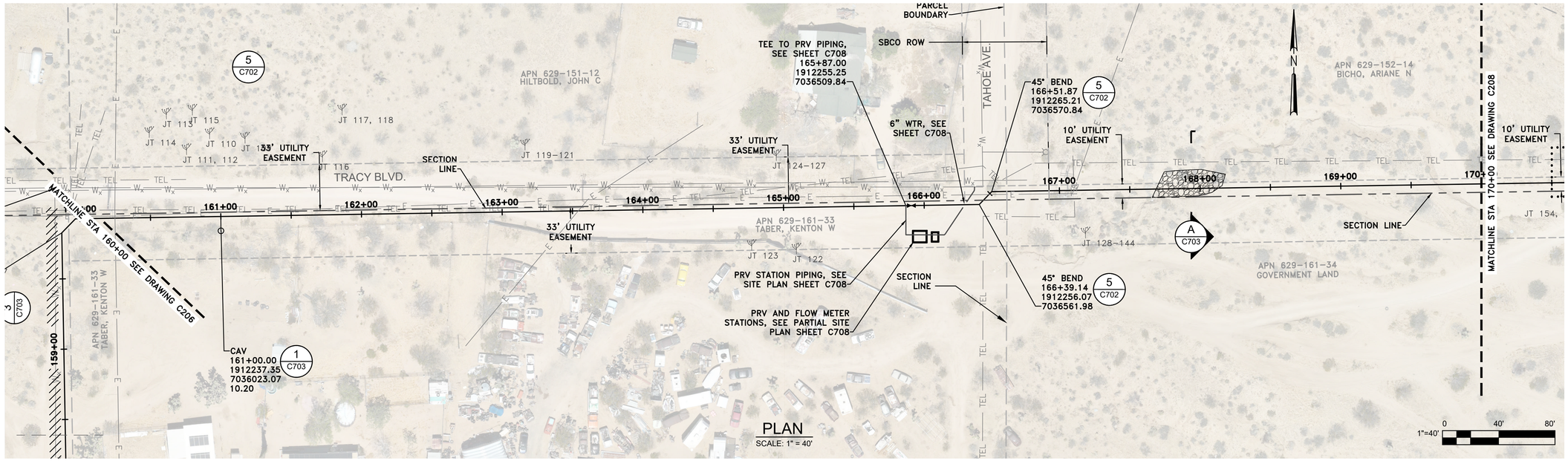
DATE: SEPTEMBER 2026

DRAWING NUMBER
C206
6 / 32

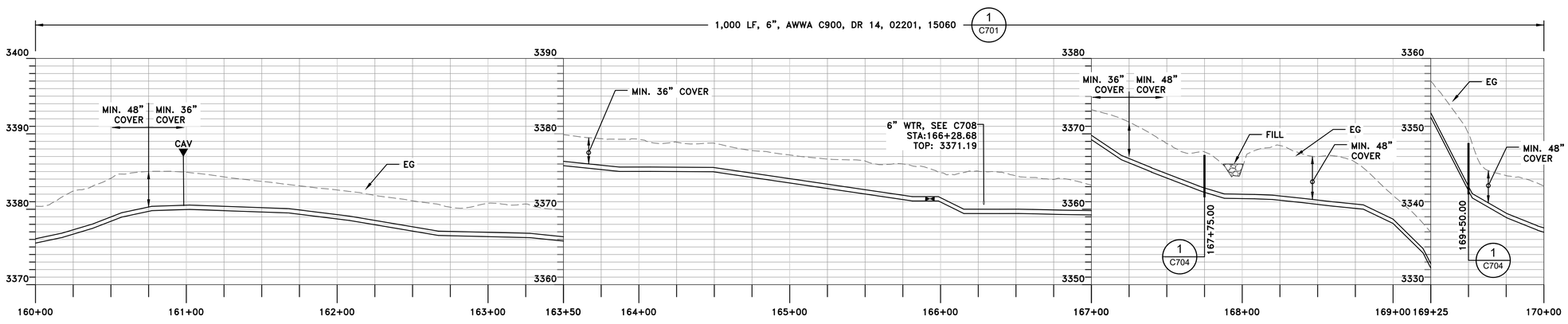
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PLAN
SCALE: 1" = 40'



PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1"=8'

GENERAL SHEET NOTES

1. THE CONTRACTOR SHALL LIMIT ALL WORK, DISTURBANCE, STAGING, AND SPOILS STOCKPILING TO THE PUBLIC R/W AND RECORDED EASEMENT LIMITS SHOWN. NO OFF-EASEMENT ACCESS OR DISTURBANCE ON PRIVATE PROPERTY IS PERMITTED WITHOUT WRITTEN AUTHORIZATION AND/OR OBTAINING SEPARATE TEMPORARY RIGHTS.
2. THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE WESTERN JOSHUA TREE CONSERVATION ACT INCIDENTAL TAKE PERMIT NO. 1927-ITP-2026-009-06:
   A. THE CONTRACTOR SHALL NOT DISTURB, TRIM, RELOCATE, OR ENCROACH INTO THE APPROVED NO-DISTURBANCE BUFFER AROUND ANY WESTERN JOSHUA TREE OR PROTECTED JOSUA TREE, EXCEPT WHERE SPECIFICALLY AUTHORIZED ON THE PLANS OR IN WRITING BY THE ENGINEER AND PROJECT BIOLOGIST.
   B. NO GRADING, EXCAVATION, SPOILS, EQUIPMENT PARKING, REFUELING, OR MATERIAL STORAGE WITHIN FENCED TREE PROTECTION ZONES.
   C. REMOVAL OF ANY WESTERN JOSHUA TREE AUTHORIZED FOR TAKE SHALL BE PERFORMED OR DIRECTLY SUPERVISED BY A DESERT NATIVE PLANT SPECIALIST IN ACCORDANCE WITH THE PROJECT'S WJTCA ITP. DISPOSAL OR RETENTION OF TREE MATERIAL SHALL CONFORM TO PERMIT CONDITIONS; NO POSSESSION OR USE OF TREE MATERIAL BY CONTRACTOR OR ITS EMPLOYEES IS ALLOWED EXCEPT AS EXPRESSLY AUTHORIZED.
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3. LOCATE HORIZONTAL AND VERTICAL BENDS AS NOTED ON SHEET C201.
4. CONTRACTOR SHALL VERIFY LOCATION OF CAV ASSEMBLIES, BLOW OFF ASSEMBLIES, FIRE HYDRANTS, SERVICES, AND OTHER APPURTENANCES WITH BDVWA STAFF PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL POTHOLE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES AT ALL CROSSINGS AND TIE-INS PRIOR TO PIPELINE TRENCHING PER CS SECTION 310523.

CDFW STREAM BED ALTERATION NOTE

1. THE CONTRACTOR SHALL NOT PERFORM GRADING, STAGING, ACCESS, OR ANY OTHER CONSTRUCTION ACTIVITIES OUTISDE THE WORK ZONE BUFFER AND AS NOTED WITHIN THE STREAMBED ALTERATION PERMIT.

REVISION: BID SET
DESN: J. NELSON / D. MCKAY
DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

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STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

ZONE B TRANSMISSION MAIN STA 160+00 TO STA 170+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

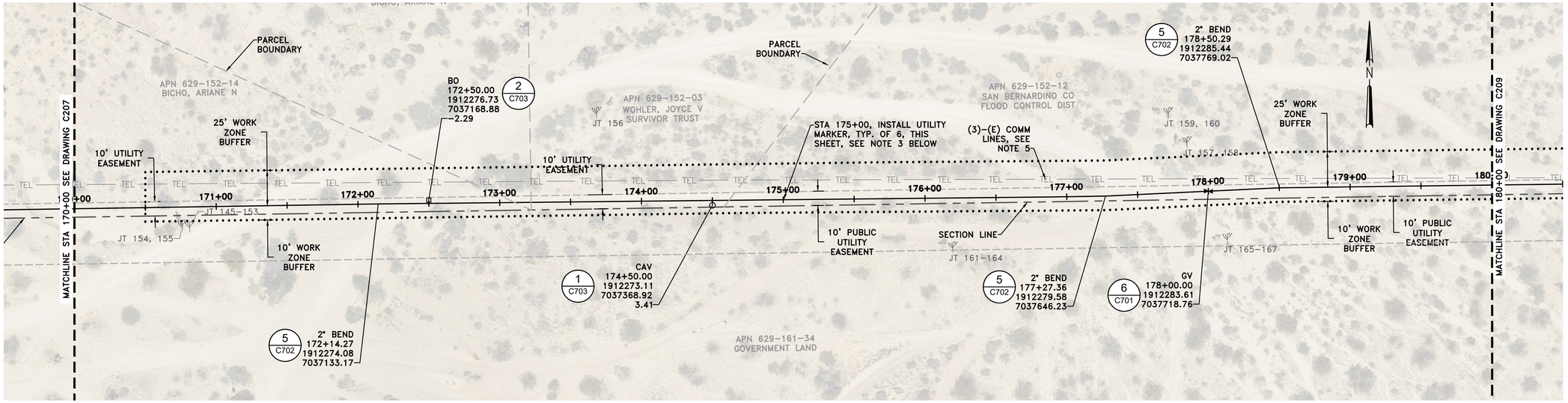
DATE: SEPTEMBER 2026

DRAWING NUMBER
C207
7 / 32

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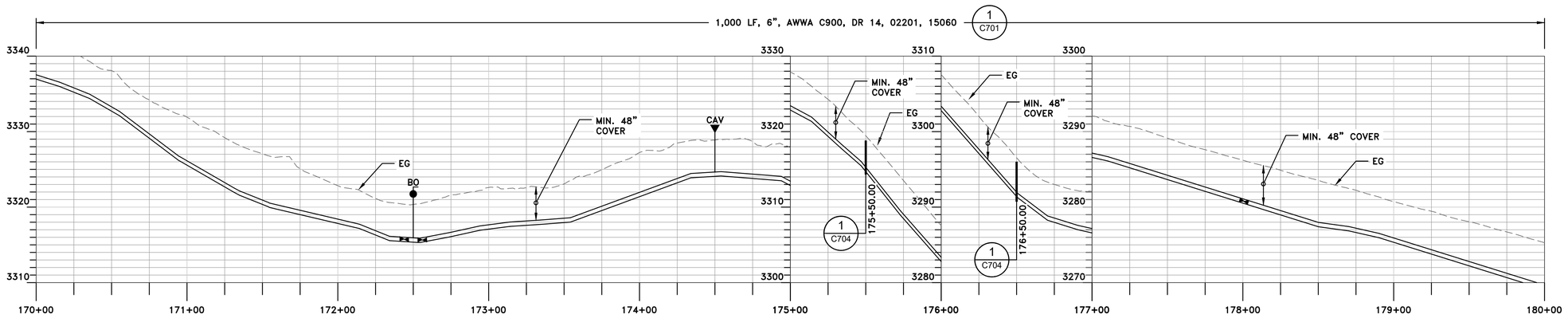
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PLAN
SCALE: 1" = 40'

1"=40' 0 40' 80'



PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1"=8'

GENERAL SHEET NOTES

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   C. REMOVAL OF ANY WESTERN JOSHUA TREE AUTHORIZED FOR TAKE SHALL BE PERFORMED OR DIRECTLY SUPERVISED BY A DESERT NATIVE PLANT SPECIALIST IN ACCORDANCE WITH THE PROJECT'S WJTCA ITP. DISPOSAL OR RETENTION OF TREE MATERIAL SHALL CONFORM TO PERMIT CONDITIONS; NO POSSESSION OR USE OF TREE MATERIAL BY CONTRACTOR OR ITS EMPLOYEES IS ALLOWED EXCEPT AS EXPRESSLY AUTHORIZED.
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3. LOCATE HORIZONTAL AND VERTICAL BENDS AS NOTED ON SHEET C201.
4. CONTRACTOR SHALL VERIFY LOCATION OF CAV ASSEMBLIES, BLOW OFF ASSEMBLIES, FIRE HYDRANTS, SERVICES, AND OTHER APPURTENANCES WITH BDVWA STAFF PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL POTHOLE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES AT ALL CROSSINGS AND TIE-INS PRIOR TO PIPELINE TRENCHING PER CS SECTION 310523.

SBCFCD RIGHT OF WAY NOTES:

1. CONFORM TO THE REQUIREMENTS AND RESPONSIBILITIES SPECIFIED IN THE SBCFCD PERMIT NO. FCCON-2025-00075. NOTABLE ITEMS ARE OUTLINED BELOW.
2. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE PERMIT AND ITS PROVISIONS ON SITE AT ALL TIMES.
3. INSTALL ABOVE GROUND UTILITY MARKERS PER SHEET C704 DETAIL 5 AT 100' INTERVALS FROM STA 175+00 TO STA 180+00.
8. SUBMIT CERTIFICATES OF INSURANCE TO THE SBCFCD FOR REVIEW AND APPROVAL PRIOR TO BEGINNING WORK WITHIN THE FLOOD DISTRICT ROW.
9. PROTECT ALL DISTRICT FACILITIES AND RESTORE IMPROVEMENTS TO EQUAL OR BETTER CONDITION.
10. PROVIDE CONTINUOUS DUST CONTROL AND COMPLY WITH SCAQMD FUGITIVE DUST RULE 403.
11. COMPLY WITH COUNTY STORMWATER ORDINANCE 3588 AND ALL APPLICABLE NPDES REQUIREMENTS SUCH THAT NO SEDIMENT, CONCRETE WASHOUT, FUELS, OILS, OR OTHER POLLUTANTS ARE DISCHARGED TO STORM DRAINS OR FLOOD CONTROL CHANNELS.
12. COORDINATE WITH AND FOLLOW INSTRUCTION OF THE FLOOD CONTROL ENGINEER OR FLOOD DISTRICT INSPECTOR AS REQUIRED WITHIN THE FLOOD DISTRICT ROW.

CDFW STREAM BED ALTERATION NOTE

1. THE CONTRACTOR SHALL NOT PERFORM GRADING, STAGING, ACCESS, OR ANY OTHER CONSTRUCTION ACTIVITIES OUTISDE THE WORK ZONE BUFFER AND AS NOTED WITHIN THE STREAMBED ALTERATION PERMIT.

REVISION: BID SET
DESN: J. NELSON / D. MCKAY
DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER
JARED P. NELSON
No. C89673
Exp. 3/31/27
CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

ZONE B TRANSMISSION MAIN STA 170+00 TO STA 180+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

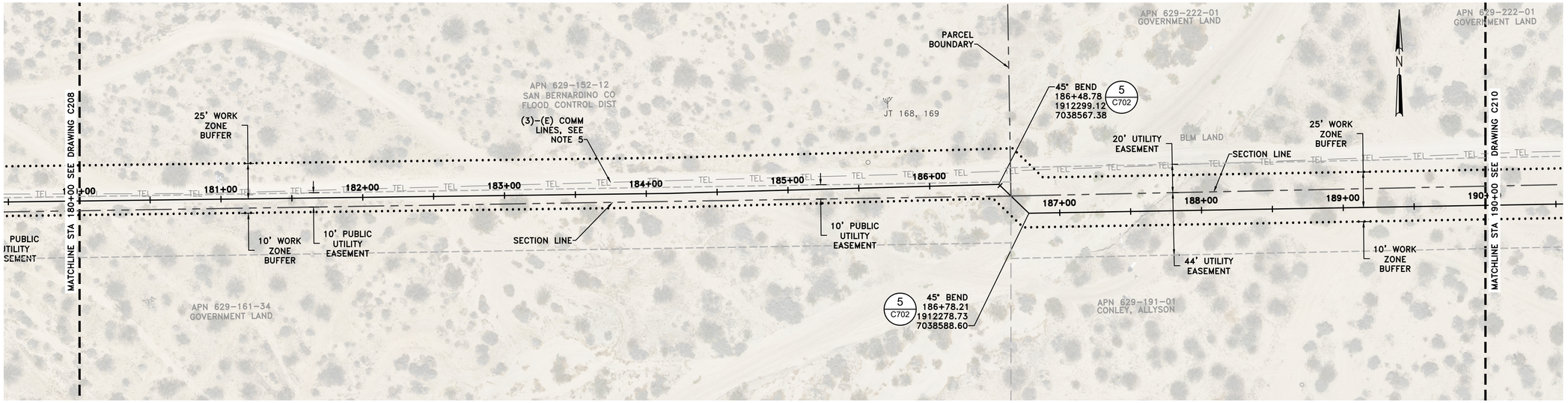
DATE: SEPTEMBER 2026

DRAWING NUMBER
C208
8 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

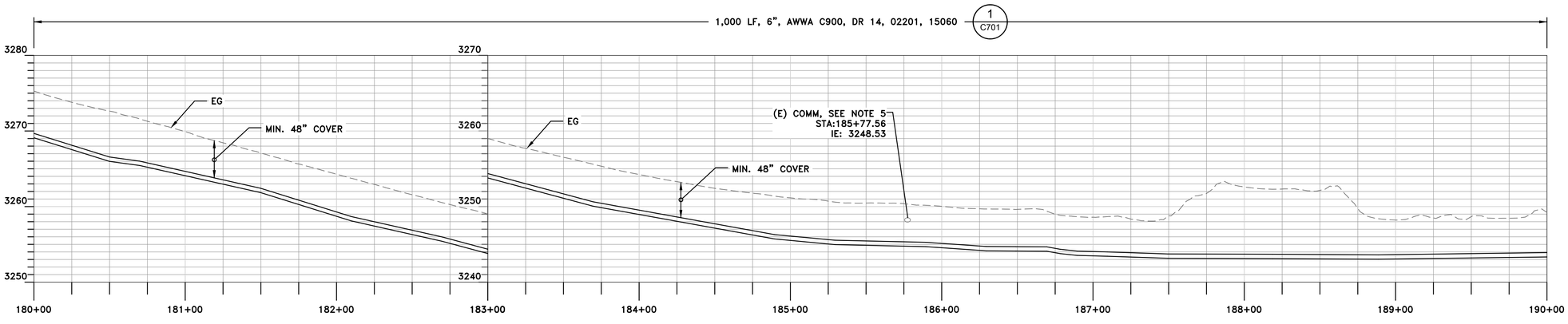
0 1"

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PLAN
SCALE: 1" = 40'

1"=40' 0 40' 80'



PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1"=8'

GENERAL SHEET NOTES

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   B. NO GRADING, EXCAVATION, SPOILS, EQUIPMENT PARKING, REFUELING, OR MATERIAL STORAGE WITHIN FENCED TREE PROTECTION ZONES.
   C. REMOVAL OF ANY WESTERN JOSHUA TREE AUTHORIZED FOR TAKE SHALL BE PERFORMED OR DIRECTLY SUPERVISED BY A DESERT NATIVE PLANT SPECIALIST IN ACCORDANCE WITH THE PROJECT'S WJTCA ITP. DISPOSAL OR RETENTION OF TREE MATERIAL SHALL CONFORM TO PERMIT CONDITIONS; NO POSSESSION OR USE OF TREE MATERIAL BY CONTRACTOR OR ITS EMPLOYEES IS ALLOWED EXCEPT AS EXPRESSLY AUTHORIZED.
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VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

ZONE B TRANSMISSION MAIN STA 180+00 TO STA 190+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

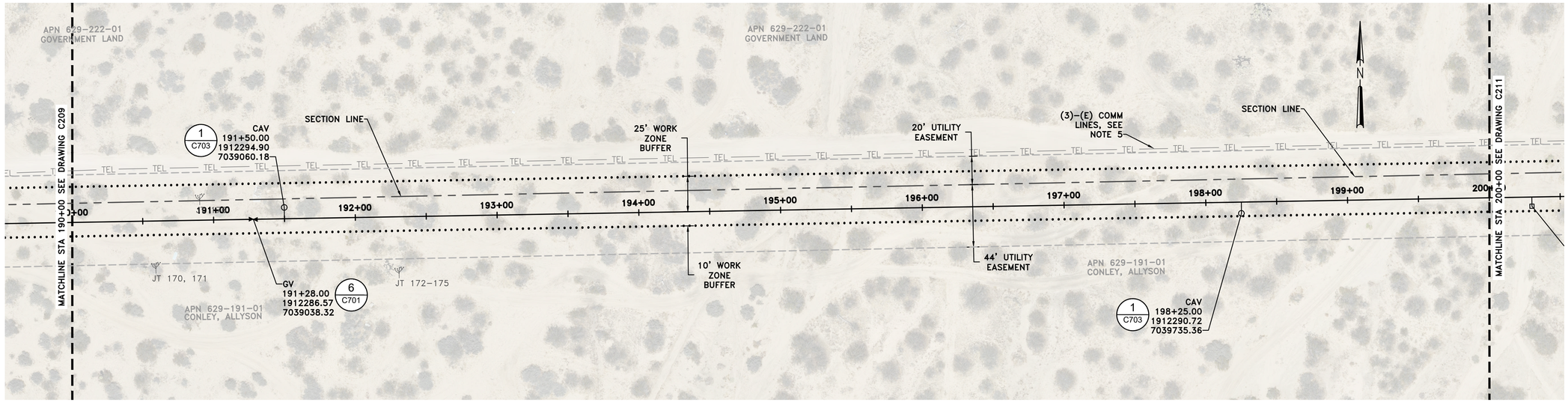
DATE: SEPTEMBER 2026

DRAWING NUMBER
C209
9 / 32

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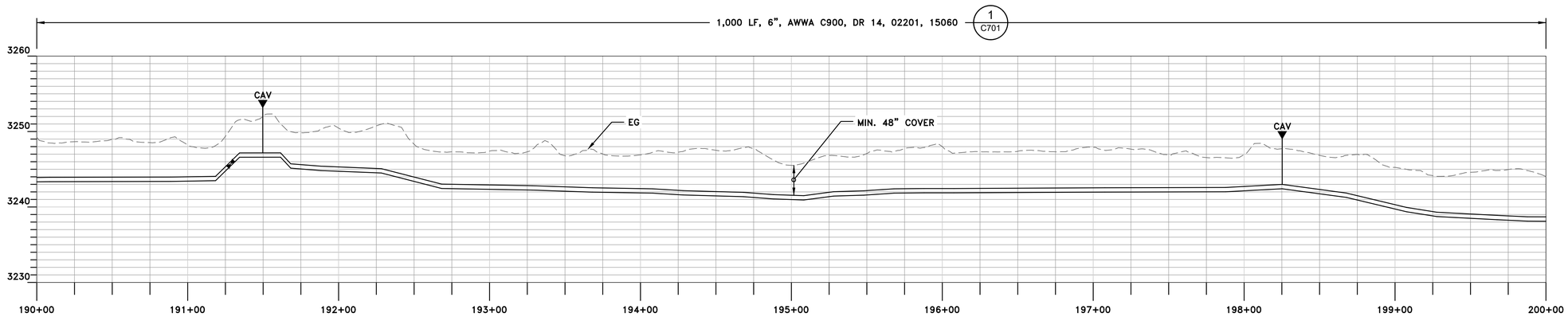
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PROFILE
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VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

ZONE B TRANSMISSION MAIN STA 190+00 TO STA 200+00

CALIFORNIA RURAL WATER ASSOCIATION

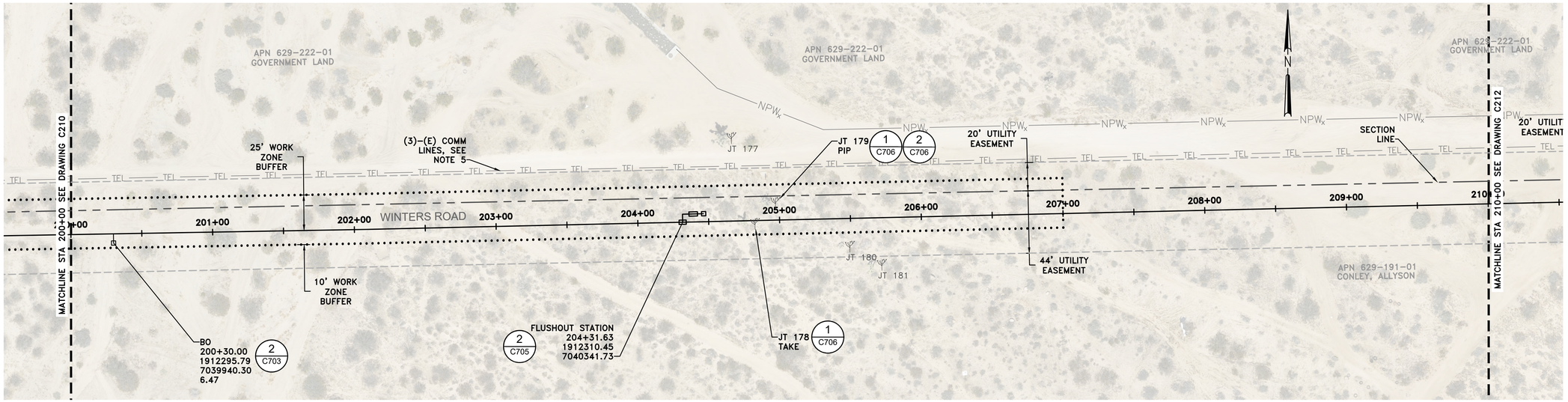
BIGHORN Desert View WATER AGENCY

PROJECT: 072-01
DATE: SEPTEMBER 2026
DRAWING NUMBER
C210
10 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

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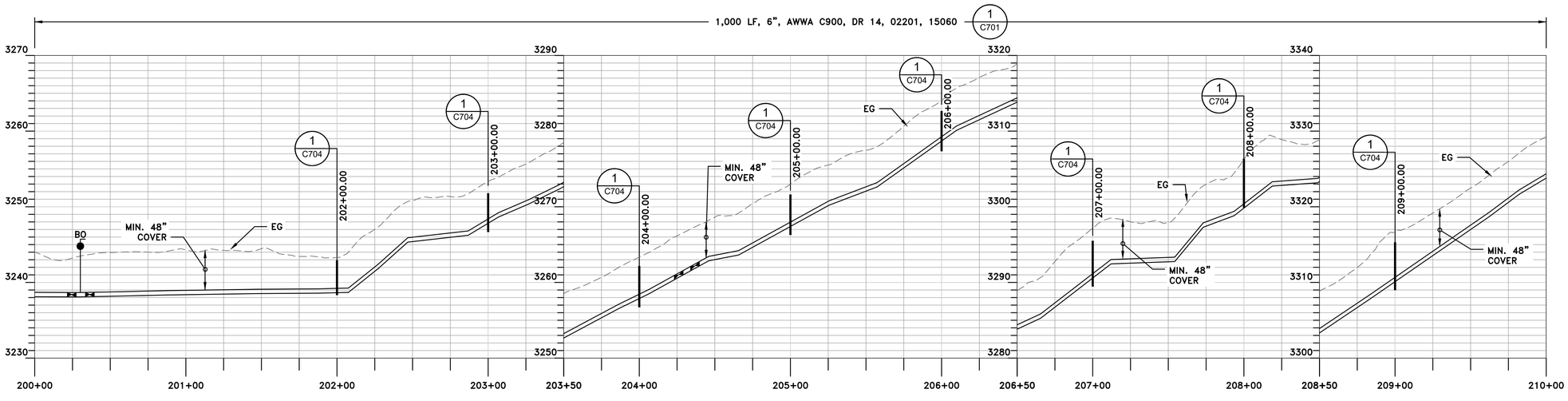
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PLAN

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PROFILE

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CDFW STREAM BED ALTERATION NOTE

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REGISTERED PROFESSIONAL ENGINEER
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No. C89673
Exp. 3/31/27
CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

ZONE B TRANSMISSION MAIN STA 200+00 TO STA 210+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

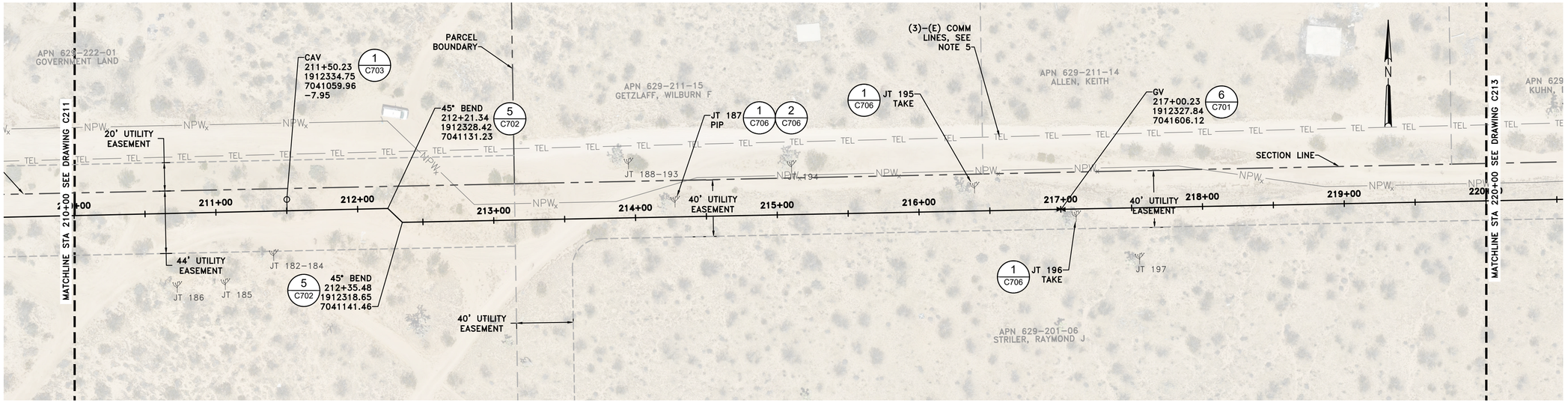
DATE: SEPTEMBER 2026

DRAWING NUMBER
C211
11 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

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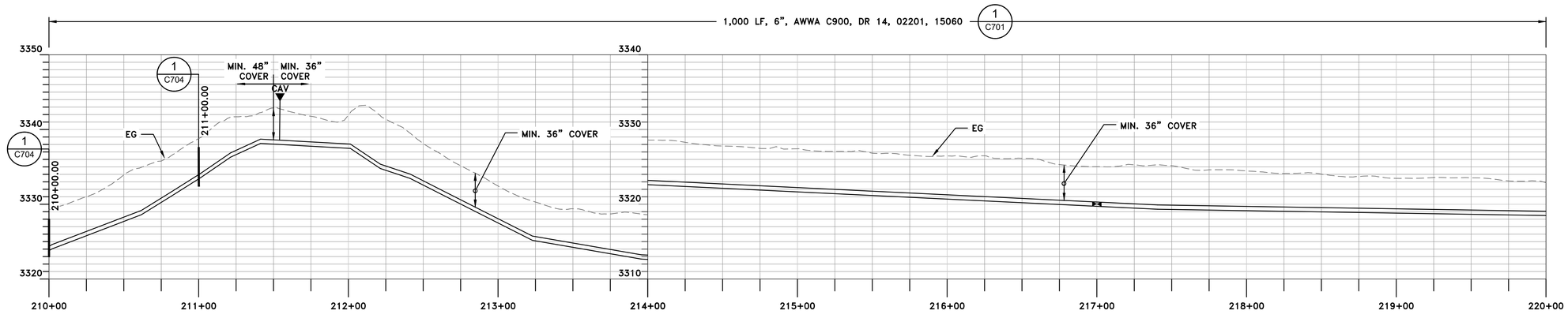
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PLAN

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PROFILE

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VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

ZONE B TRANSMISSION MAIN STA 210+00 TO STA 220+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

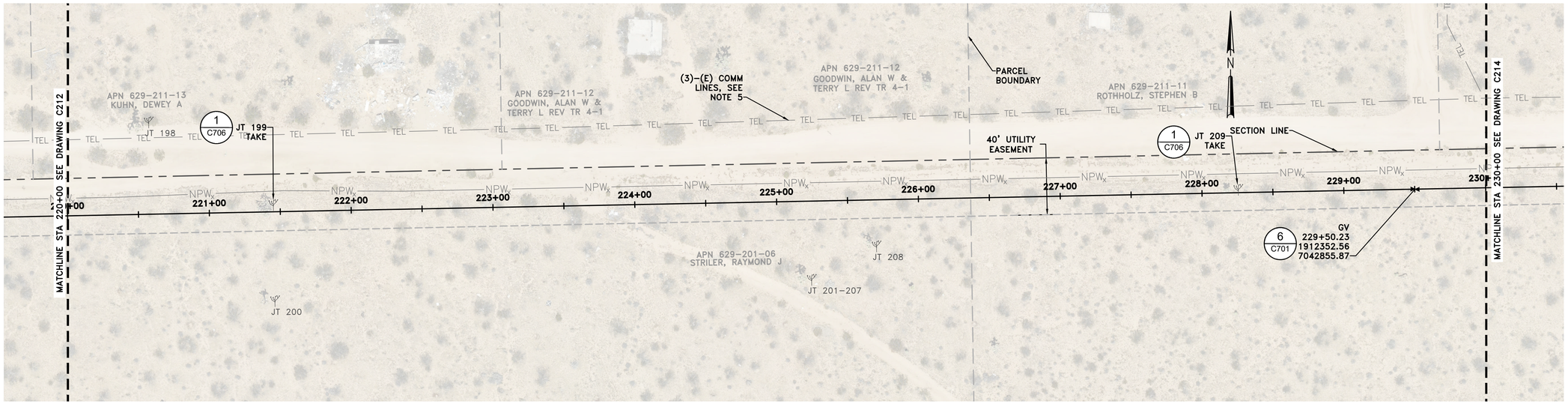
DATE: SEPTEMBER 2026

DRAWING NUMBER
C212
12 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

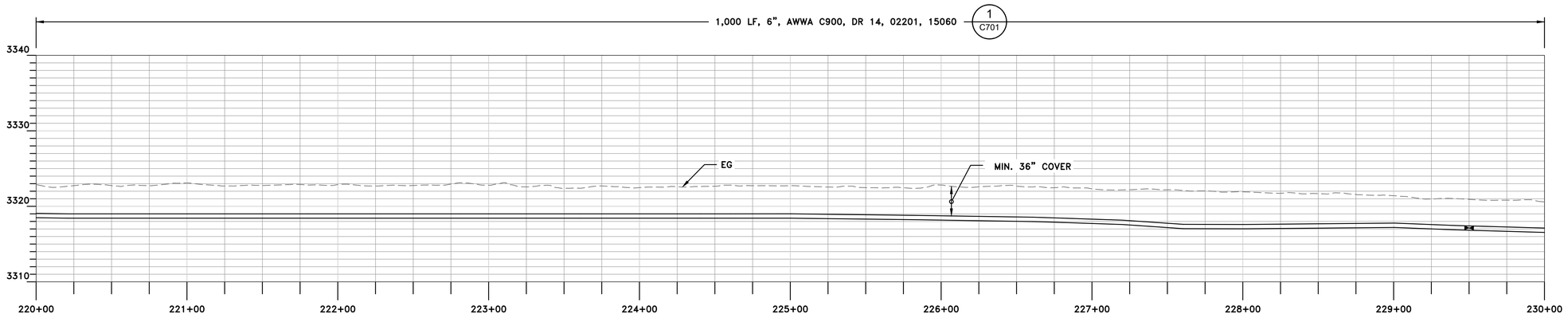
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STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

ZONE B TRANSMISSION MAIN STA 220+00 TO STA 230+00

CALIFORNIA RURAL WATER ASSOCIATION

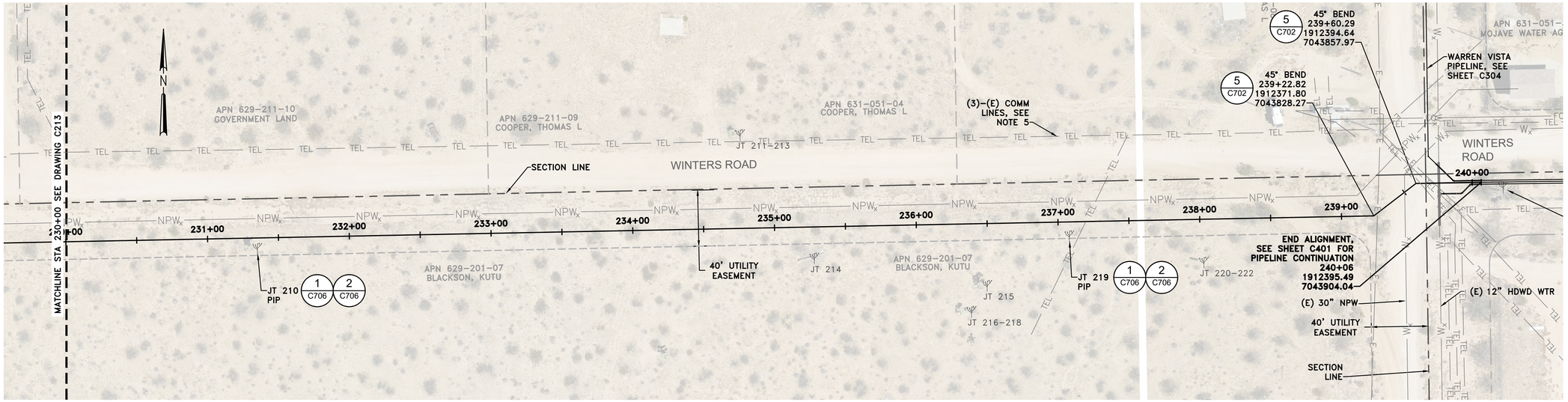
BIGHORN Desert View WATER AGENCY

PROJECT:
072-01
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C213
13 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

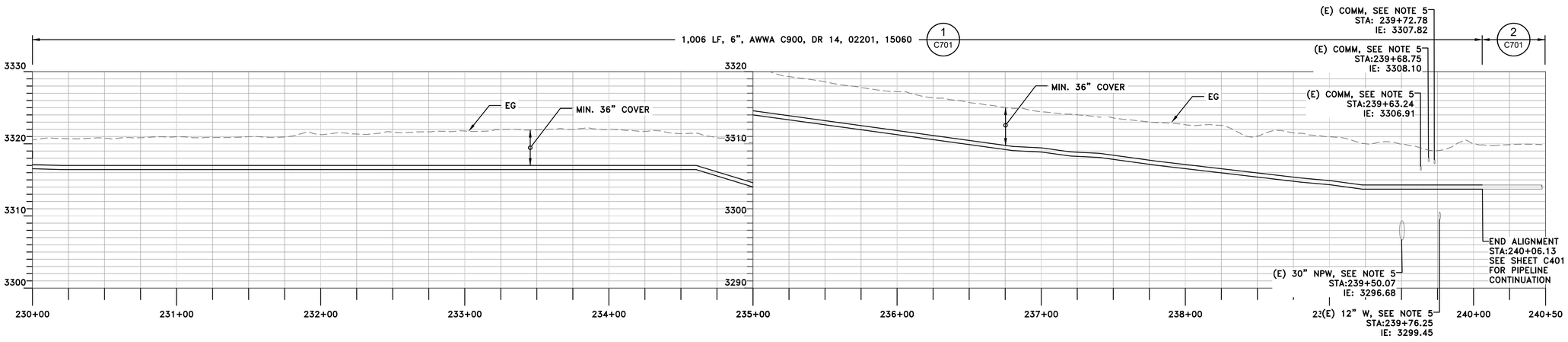
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PLAN
SCALE: 1" = 40'

1"=40' 0 40' 80'



PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1"=8'

GENERAL SHEET NOTES

1. THE CONTRACTOR SHALL LIMIT ALL WORK, DISTURBANCE, STAGING, AND SPOILS STOCKPILING TO THE PUBLIC R/W AND RECORDED EASEMENT LIMITS SHOWN. NO OFF-EASEMENT ACCESS OR DISTURBANCE ON PRIVATE PROPERTY IS PERMITTED WITHOUT WRITTEN AUTHORIZATION AND/OR OBTAINING SEPARATE TEMPORARY RIGHTS.
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REVISION
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DESN
J. NELSON / D. MCKAY
DRW
D. MCKAY
CHECK
M. CAREY
DATE
9/4/2026

REGISTERED PROFESSIONAL ENGINEER
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Exp. 3/31/27
CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

ZONE B TRANSMISSION MAIN STA 230+00 TO STA 240+00

CALIFORNIA RURAL WATER ASSOCIATION

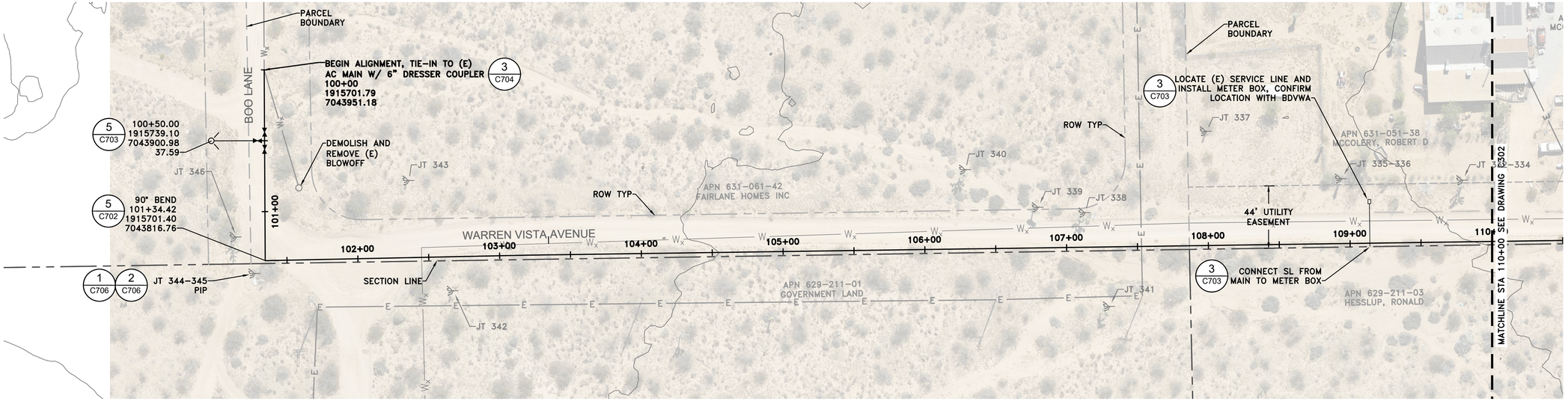
BIGHORN Desert View WATER AGENCY

PROJECT:
072-01
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C214
14 / 32

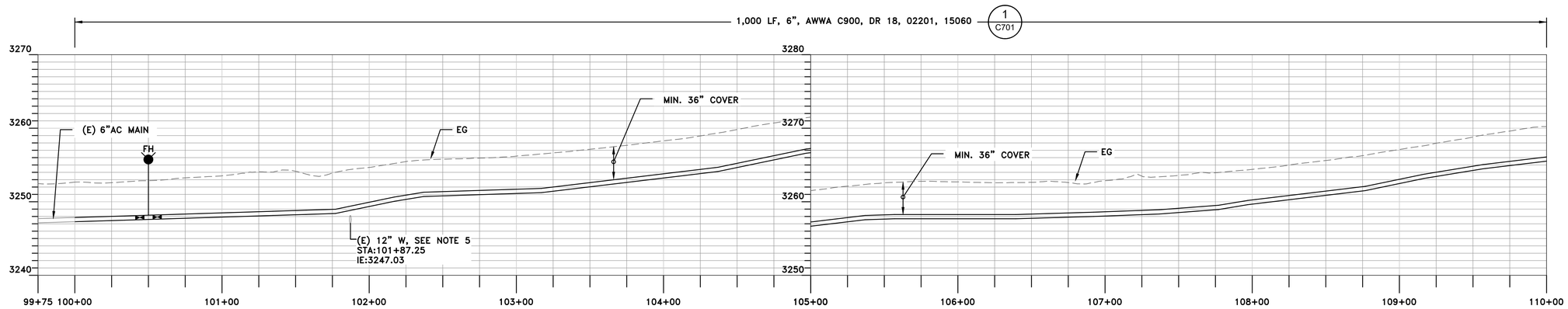
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DRW
D. MCKAY
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M. CAREY
DATE
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No. C89673
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STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

WARREN VISTA PIPELINE STA 100+00 TO STA 110+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT:
072-01

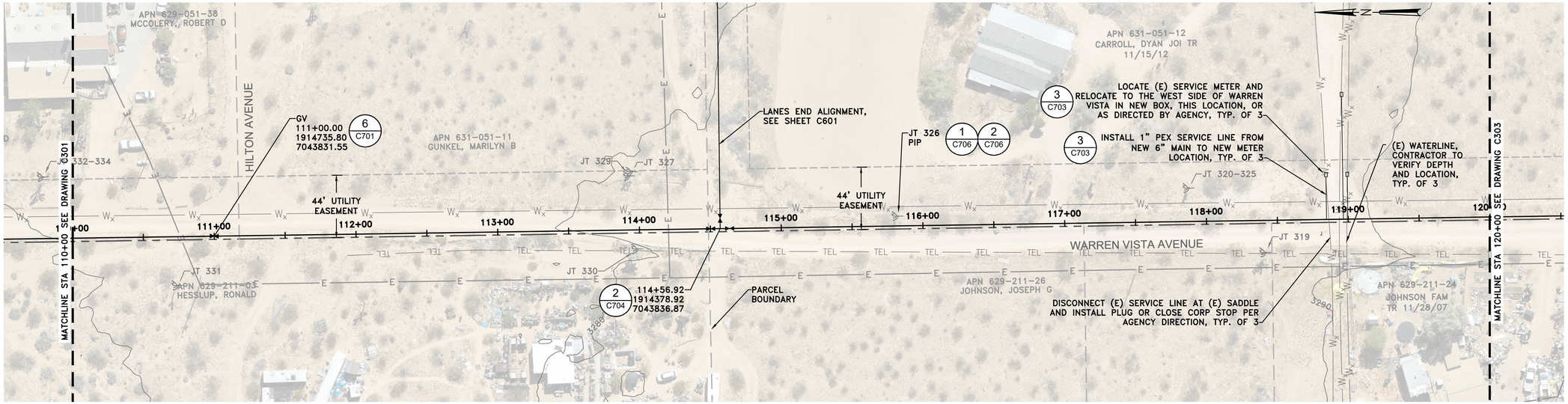
DATE:
SEPTEMBER 2026

DRAWING NUMBER
C301
15 / 32

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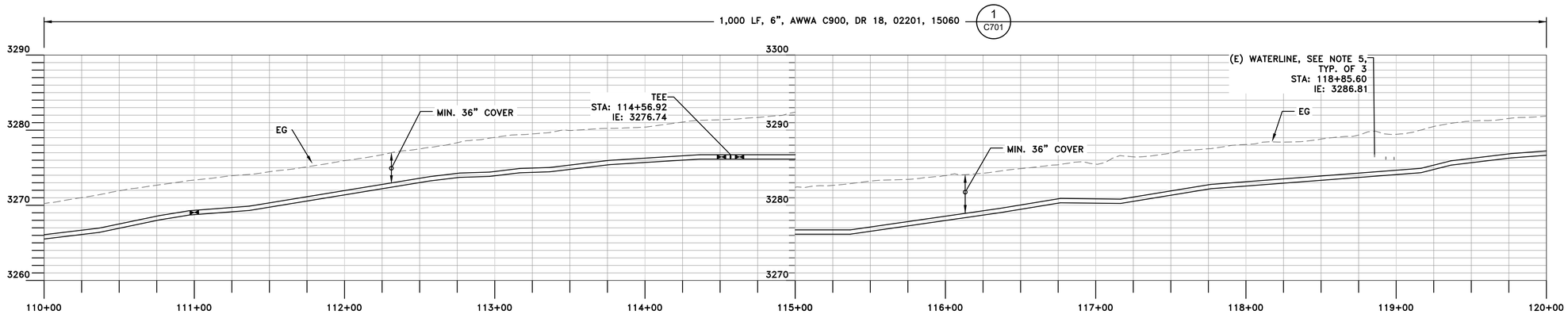
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VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

WARREN VISTA PIPELINE STA 110+00 TO STA 120+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT:
072-01

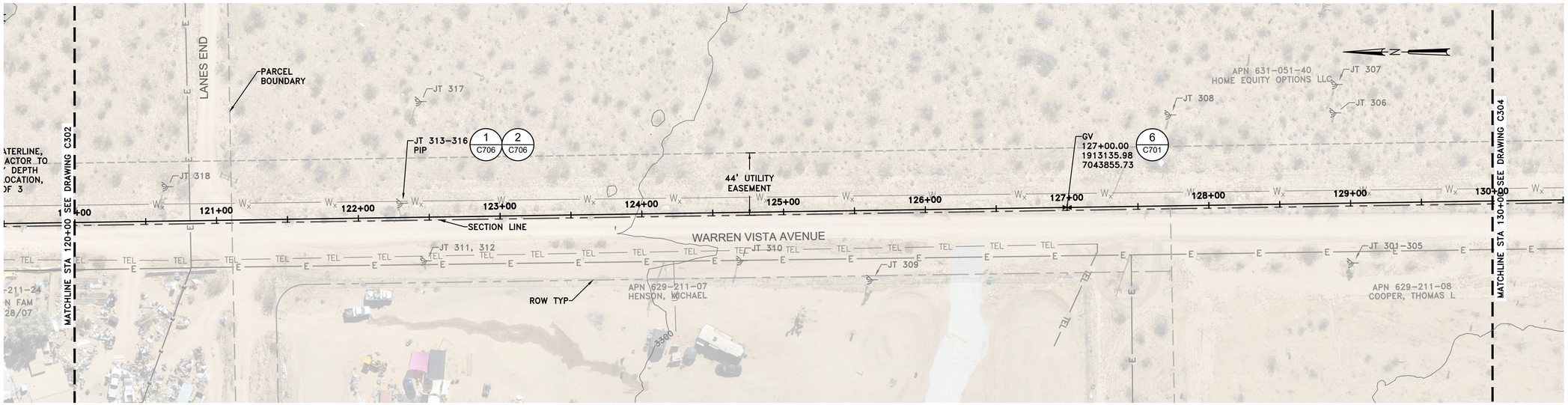
DATE:
SEPTEMBER 2026

DRAWING NUMBER
C302
16 / 32

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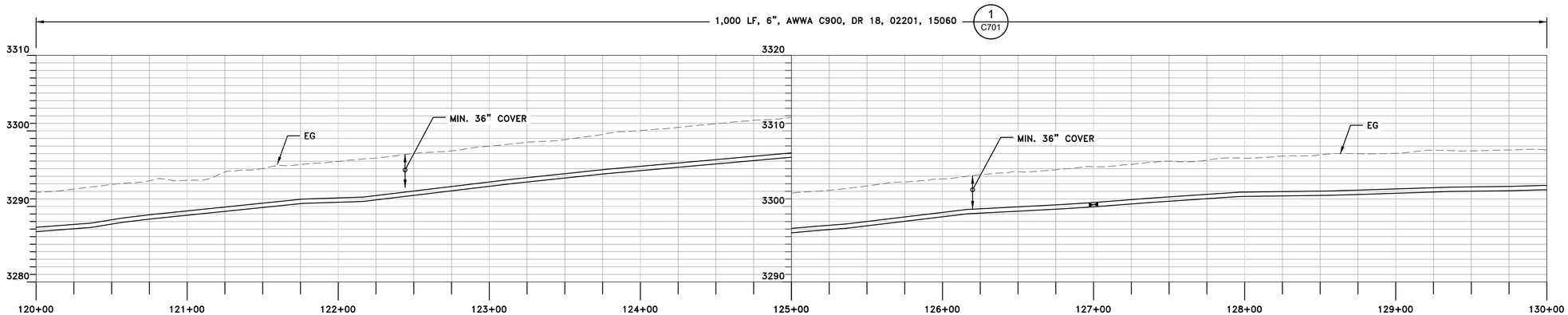
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REGISTERED PROFESSIONAL ENGINEER JARED P. NELSON No. C89673 Exp. 3/31/27 CIVIL STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

WARREN VISTA PIPELINE STA 120+00 TO STA 130+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

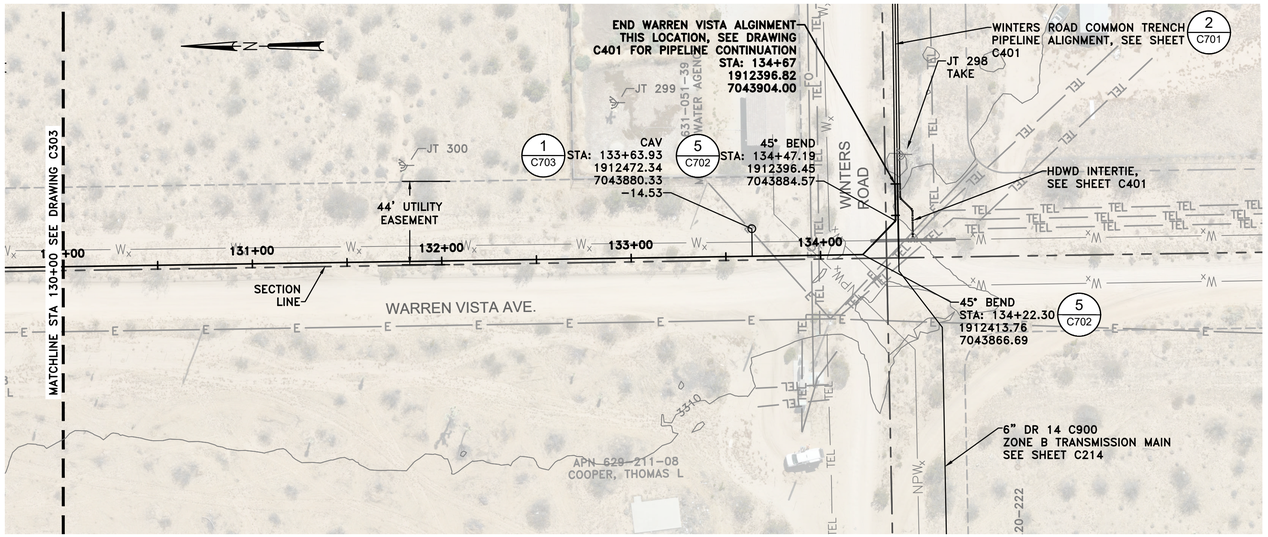
DATE: SEPTEMBER 2026

DRAWING NUMBER
C303
17 / 32

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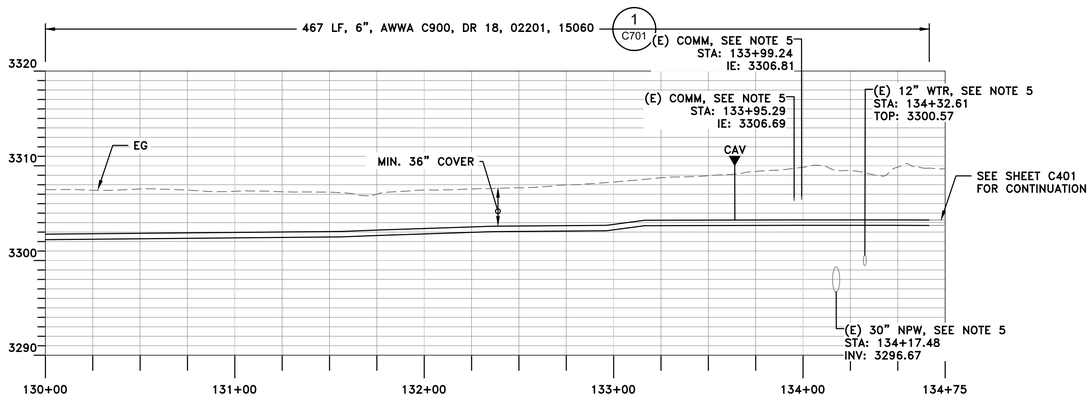
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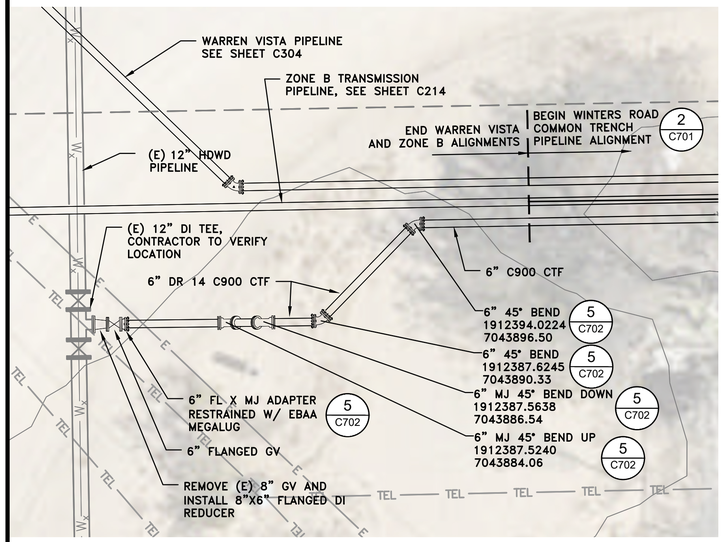
DATE: SEPTEMBER 2026

DRAWING NUMBER
C304
18 / 32

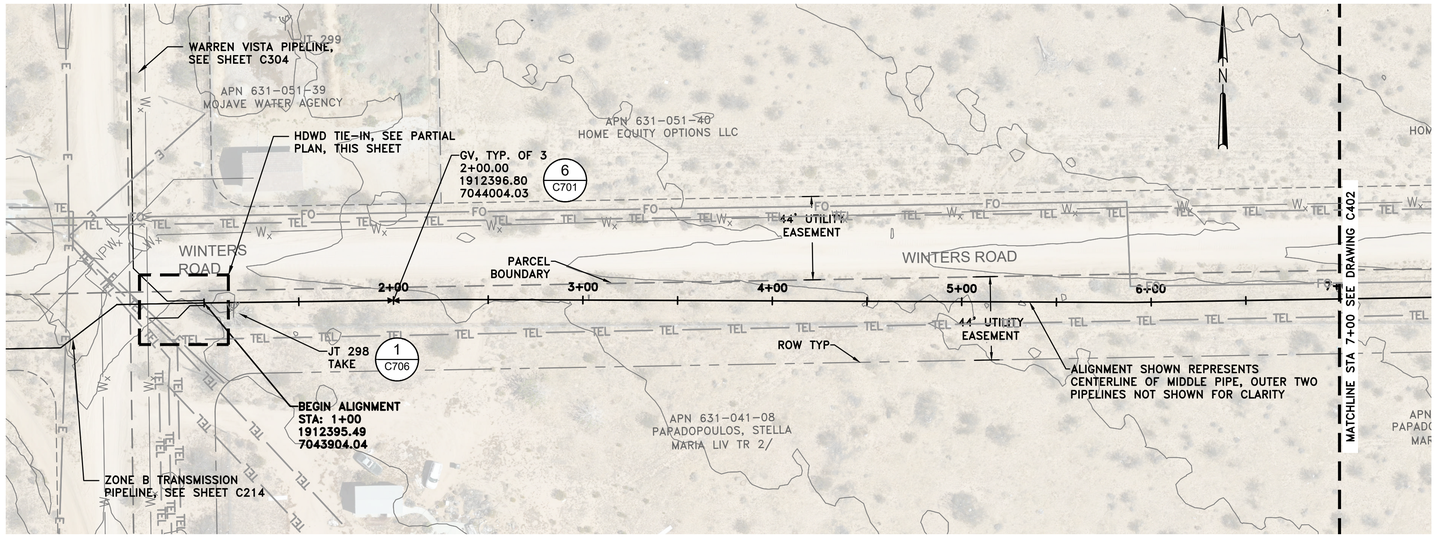
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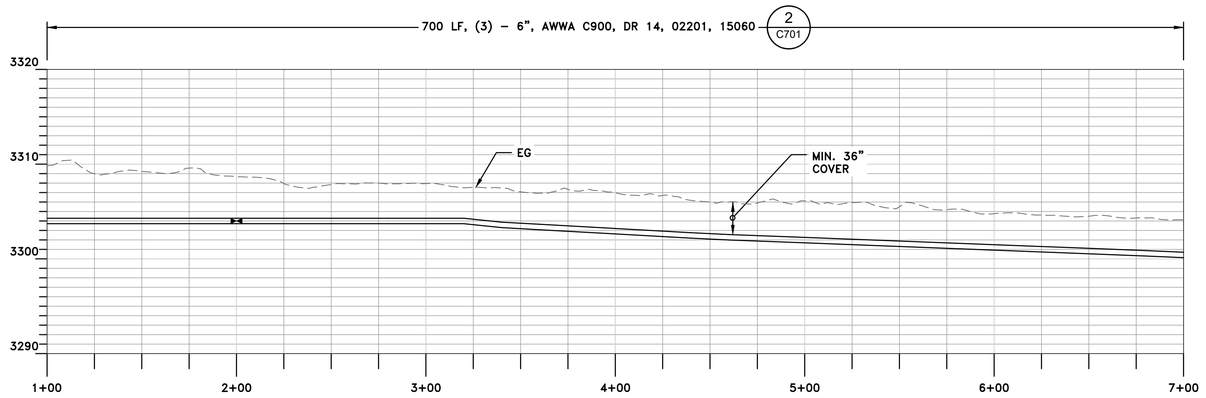


PARTIAL PLAN
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REVISION
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DESN
J. NELSON / D. MCKAY
DRW
D. MCKAY
CHECK
M. CAREY
DATE
9/4/2026

REGISTERED PROFESSIONAL ENGINEER
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No. C89673
Exp. 3/31/27
CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT
WINTERS ROAD COMMON TRENCH PIPELINES STA 1+00 TO STA 7+00

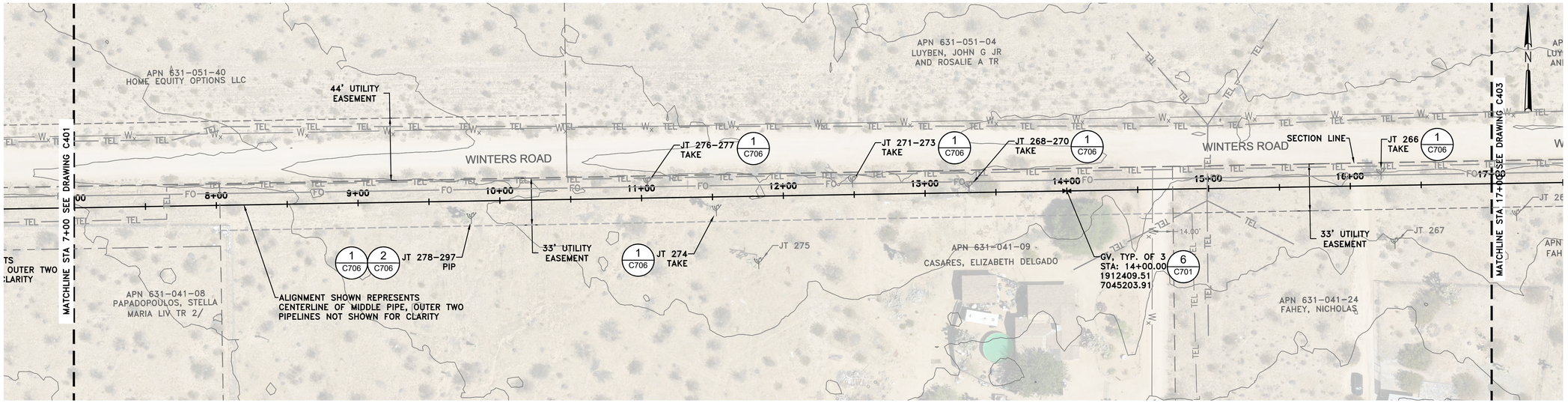
CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT:
072-01
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C401
19 / 32

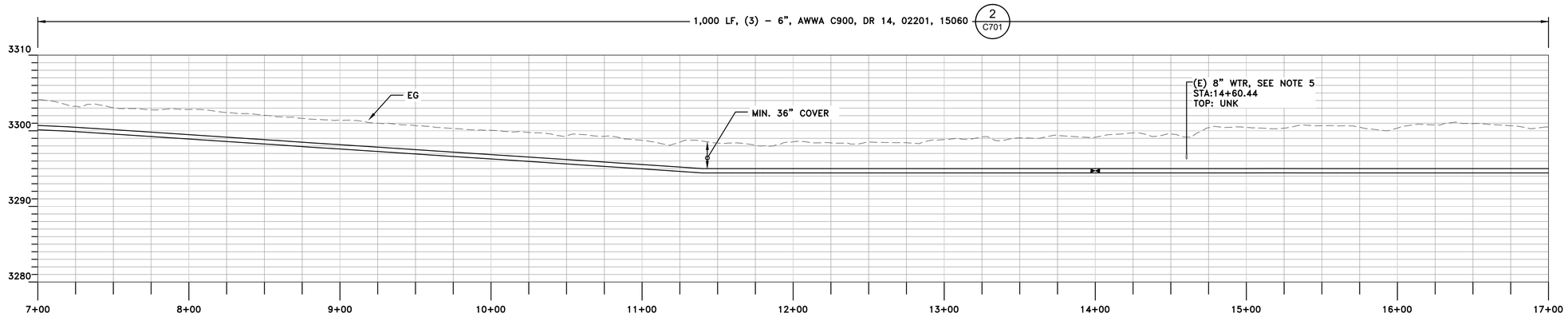
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0 1"

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PLAN
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1"=40' 0 40' 80'



PROFILE
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CALIFORNIA RURAL WATER ASSOCIATION

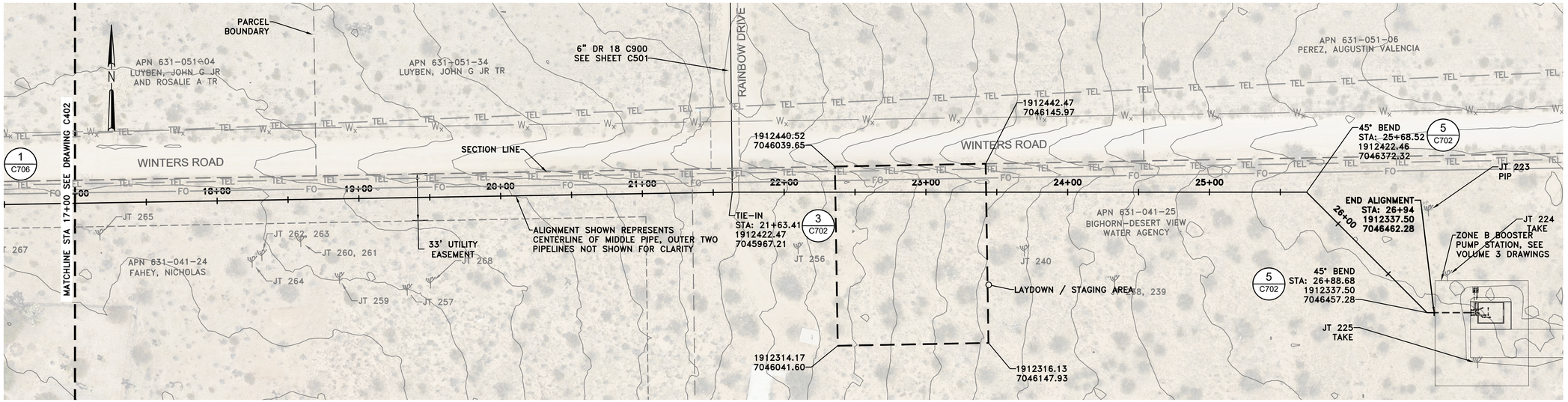
BIGHORN Desert View WATER AGENCY

PROJECT:
072-01
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C402
20 / 32

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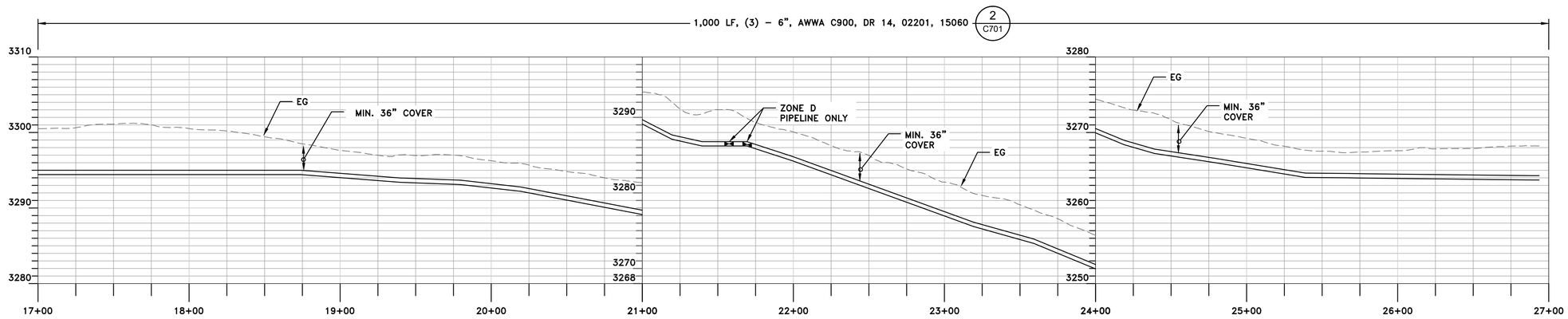
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PLAN
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PROFILE
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VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

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CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT:
072-01

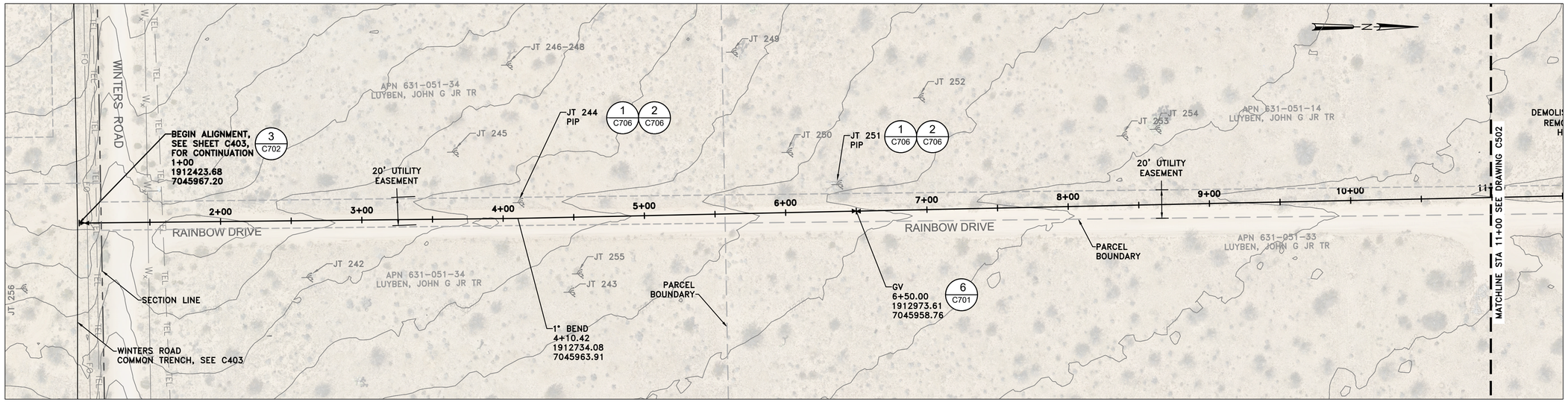
DATE:
SEPTEMBER 2026

DRAWING NUMBER
C403
21 / 32

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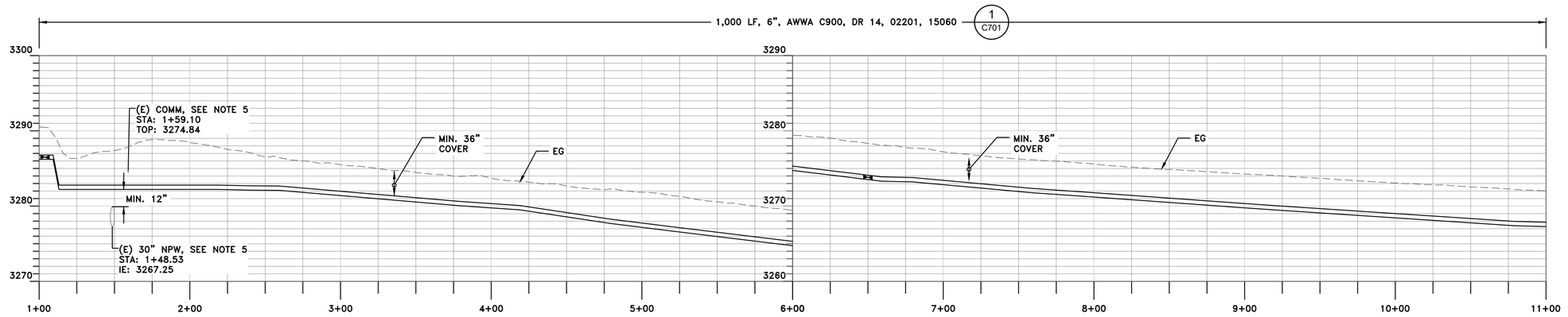
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REVISION: BID SET
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DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER JARED P. NELSON No. C89673 Exp. 3/31/27 CIVIL STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

RAINBOW DRIVE PIPELINE STA 1+00 TO STA 11+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

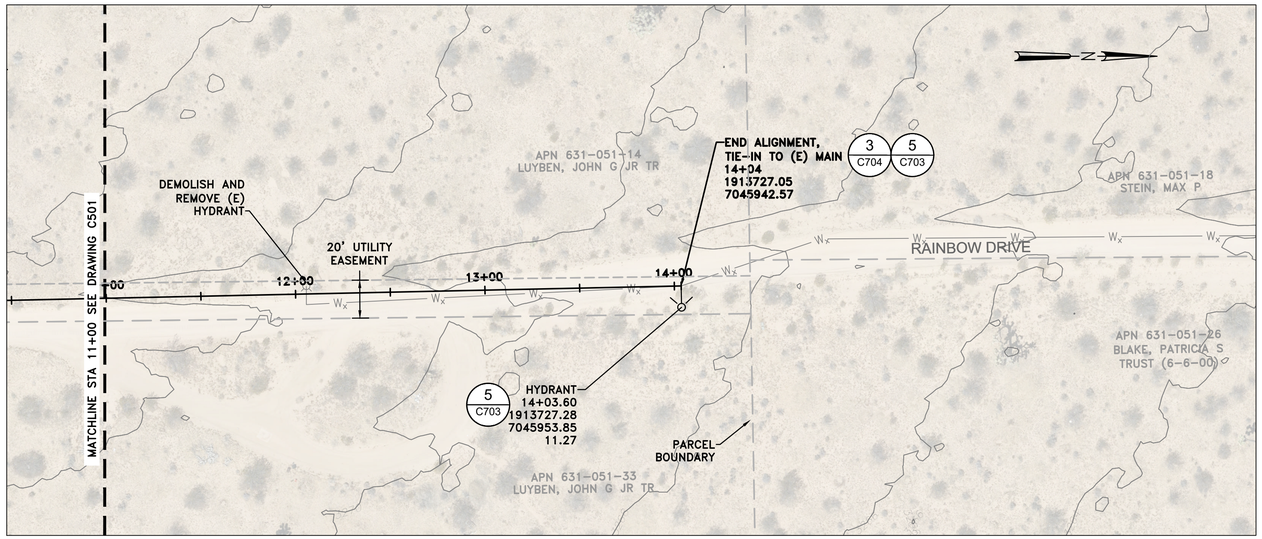
DATE: SEPTEMBER 2026

DRAWING NUMBER
C501
22 / 32

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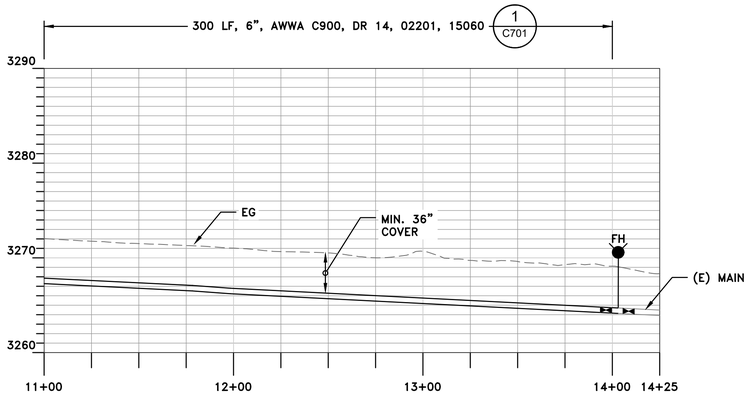
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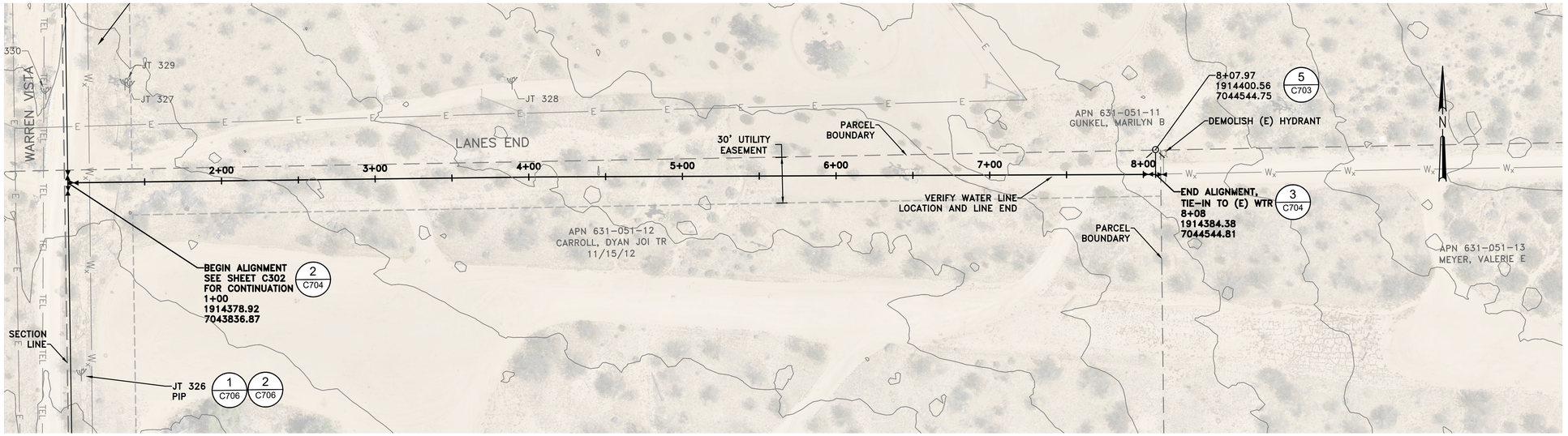
BIGHORN Desert View WATER AGENCY

PROJECT:
072-01
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C502
23 / 32

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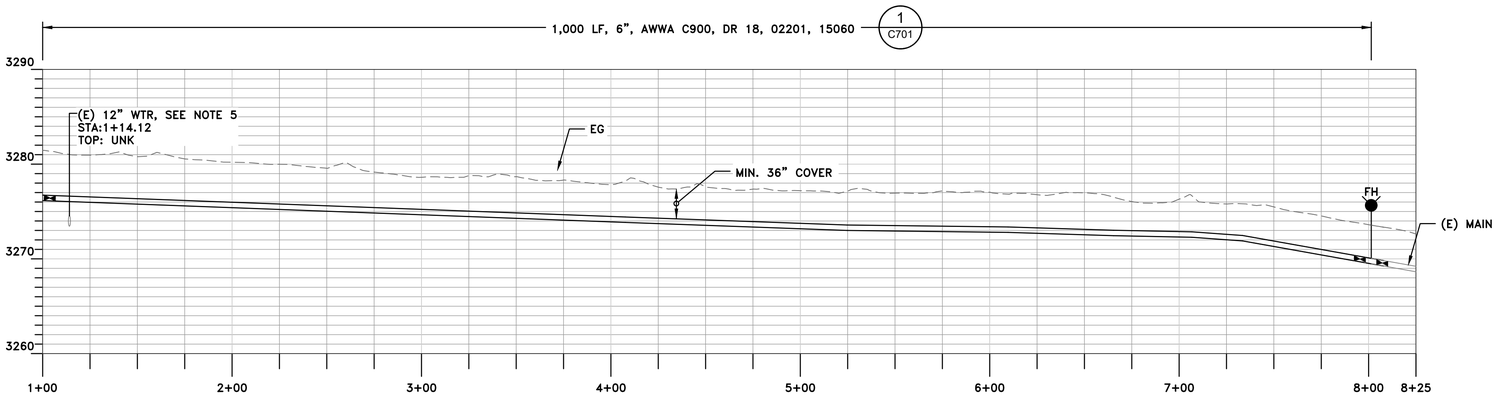
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VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES
LANES END PIPELINE STA 0+00 TO STA 10+00

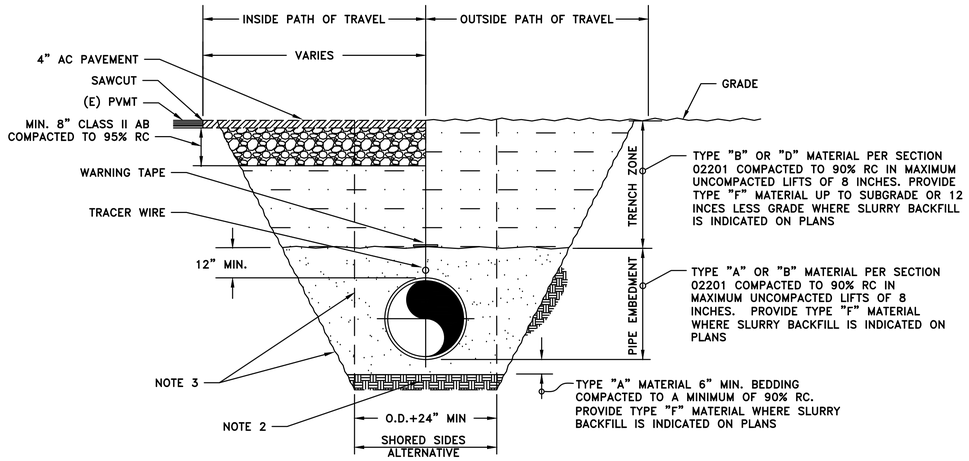
CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT:
072-01
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C601
24 / 32

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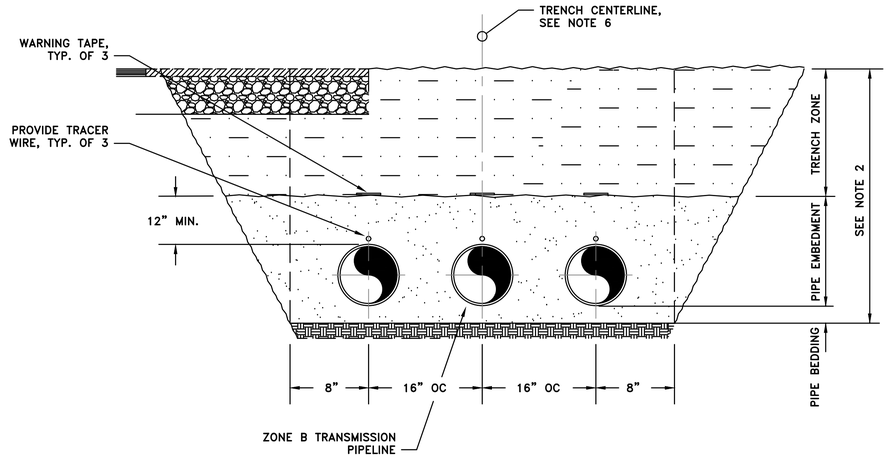
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NOTES:

1. MINIMUM COVER PER PLAN.
2. OVER EXCAVATE BY A MIN. OF 6" AND REPLACE PIPE BEDDING MATERIALS IN AREAS WHERE INADEQUATE MATERIALS ARE FOUND AS DETERMINED BY THE ENGINEER OR GEOTECHNICAL REPRESENTATIVE. IF REQUIRED PER ENGINEER OR THE GEOTECH'S DIRECTION USE 3/4" CRUSHED ROCK WRAPPED IN APPROVED GEO FABRIC.
3. OPEN-TRENCH STABILITY SHALL CONFORM TO THE OSHA REQUIREMENTS OUTLINED IN PART 8.4 OF GEOTECHNICAL REPORT.
4. (E) AGGREGATE BASE IN UNPAVED AREAS SHALL BE REPLACED IN KIND.
5. WHERE SLURRY BACKFILL IS INDICATED ON PLANS PROVIDE CLSM TYPE "F" MATERIAL PER SECTION 02201. PLACE MATERIAL TO SUBGRADE OF BASE MATERIAL WITHIN THE PATCH OF TRAVEL. FOR LOCATIONS OUTSIDE PATH OF TRAVEL PLACE TO 12" BELOW FINISHED GRADE.
6. IN LOCATIONS WHERE THE COVER IS 12 INCHES OR LESS THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND INSTALLATION OF A 6" SLAB W/ #4 REINFORCEMENT WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.
7. PLACE WARNING TAPE 12 BELOW FINISHED GRADE OR 6" BELOW PAVEMENT BASE.
8. INSTALL TRACER WIRE PER SECTION 02201.

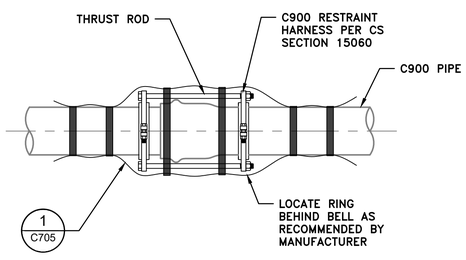
1 VAR. PIPE TRENCH
NTS



NOTES:

1. MINIMUM COVER PER PLAN.
2. CONFORM TO PIPE BEDDING, PIPE EMBEDMENT, AND TRENCH ZONE MATERIALS SPECIFIED IN DETAIL 1.
3. OPEN-TRENCH STABILITY SHALL CONFORM TO THE OSHA REQUIREMENTS OUTLINED IN PART 8.4 OF GEOTECHNICAL REPORT.
4. (E) AGGREGATE BASE IN UNPAVED AREAS SHALL BE REPLACED IN KIND.
5. MOISTURE CONTENT SHALL BE MAINTAINED WITHIN 2% OF OPTIMUM.
6. TRENCH CENTERLINE CENTERED ON ZONE B TRANSMISSION PIPELINE. THE ALIGNMENT WITHIN PLAN DRAWINGS, ARE REPRESENTATIVE OF THE TRENCH CENTERLINE LOCATION ON SHEETS C401, C402, AND C403.

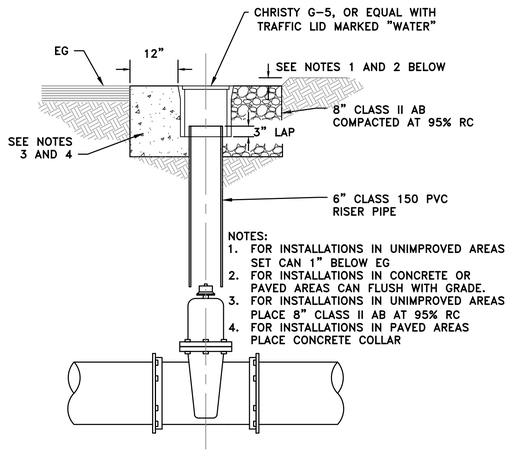
2 VAR. COMMON PIPE TRENCH
NTS



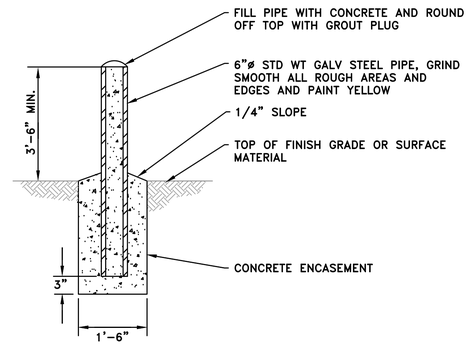
NOTES

1. PRESSURE RATING SHALL BE EQUAL TO OR EXCEED THE RATING OF THE PIPE BEING RESTRAINED UNLESS NOTED OTHERWISE.
2. SEE DETAIL 5 SHEET C702 FOR MINIMUM RESTRAINT LENGTHS

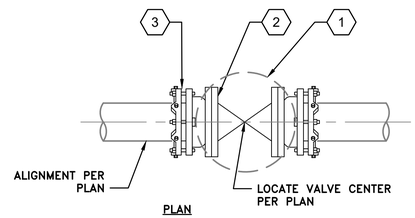
3 VAR. PVC PIPE RESTRAINT
NTS



4 VAR. VALVE BOX
NTS



5 VAR. TRAFFIC BOLLARD
NTS



PLAN

KEYNOTES

1. CHRISTY G-5 BOX NOT SHOWN FOR CLARITY. INSTALL CHRISTY G-5 BOX PER DETAIL 4, THIS SHEET.
2. MJ X MJ GATE VALVE PER CS 15100, MATCH MAINLINE DIAMETER.
3. CONTRACTOR SHALL RESTRAIN EACH SIDE W/ EBAA MEGALUGS. THE CONTRACTOR MAY ALSO USE A FLANGED GATE VALVE W/ FL X MJ ADAPTERS. MINIMUM RESTRAINT LENGTH FOR DEAD END SHEET C702 DETAIL 5.
4. POLY WRAP ALL FITTINGS PER DETAIL 1 SHEET C705.

6 VAR. ISOLATION VALVE
NTS

REVISION
BID SET
DESN
J. NELSON / D. MCKAY
DRW
D. MCKAY
CHECK
M. CAREY
DATE
9/4/2026

REGISTERED PROFESSIONAL ENGINEER
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Exp. 3/31/27
CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

CIVIL DETAILS - 1

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT:
072-01

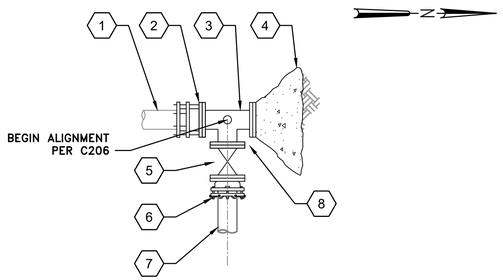
DATE:
SEPTEMBER 2026

DRAWING NUMBER
C701
25 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

0 1"

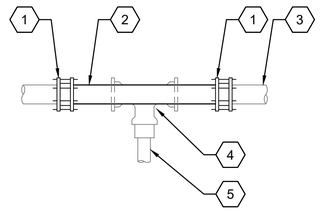
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DETAIL KEYNOTES

1. (E) 6" AC MAIN, CONTRACTOR TO VERIFY DEPTH, MATERIAL, AND DIAMETER
2. 6" FCA
3. 6" FLANGED DI TEE
4. THRUST BLOCK PER DETAIL 4 SHEET C707
5. 6" FLANGED GATE VALVE, INSTALL PER DETAIL 4 SHEET C702
6. 6" FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG
7. 6" DR 14 C900 PIPE PER C206
8. POLY WRAP ALL FITTINGS PER DETAIL 1 SHEET C705
9. CONTRACTOR SHALL CONNECT TO, HANDLE, AND DISPOSE OF EXISTING AC PIPE PER CS SECTION 028213.19.

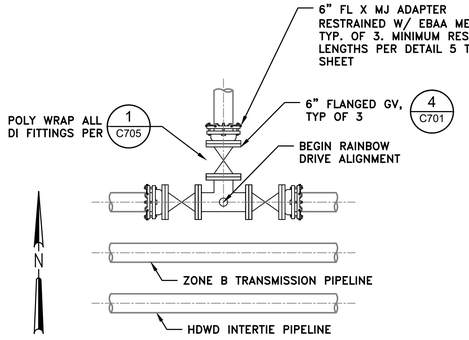
1 / C206 CAMBRIA ROAD TIE-IN
NTS



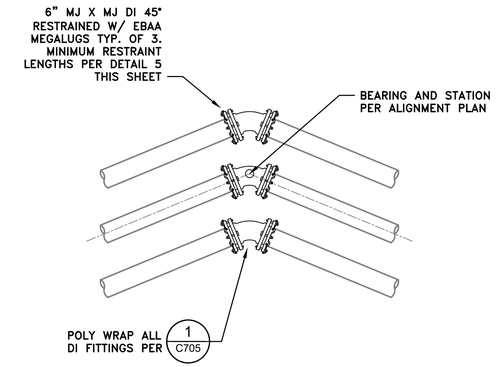
DETAIL KEYNOTES

1. 6" DRESSER COUPLER
2. 6" X 6'-0" DR 14 C900 PVC PIPE
3. (E) 6" AC PIPE
4. DEMOLISH AND REMOVE (E) 6" DI TEE
5. (E) 4" AC PIPE, DEMOLISH AND REMOVE; CONTRACTOR SHALL CONNECT TO, HANDLE, AND DISPOSE OF EXISTING AC PIPE PER CS SECTION 028213.19

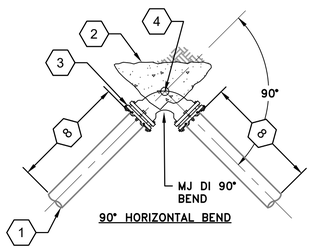
2 / C206 TEE REPLACEMENT AT CAMBRIA AND TRACY
NTS



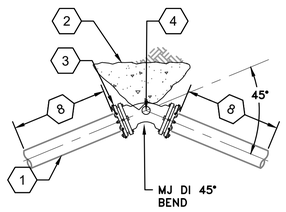
3 / VAR. RAINBOW DRIVE TIE-IN
NTS



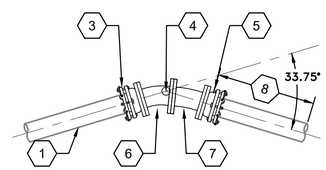
4 / C403 COMMON TRENCH 45°
NTS



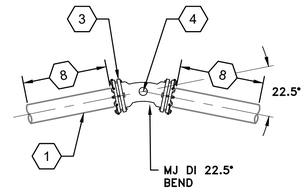
90° HORIZONTAL BEND



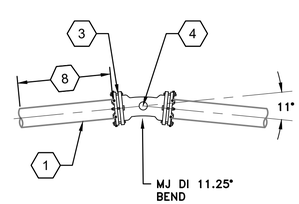
45° HORIZONTAL BEND



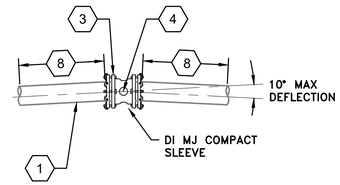
34° HORIZONTAL BEND



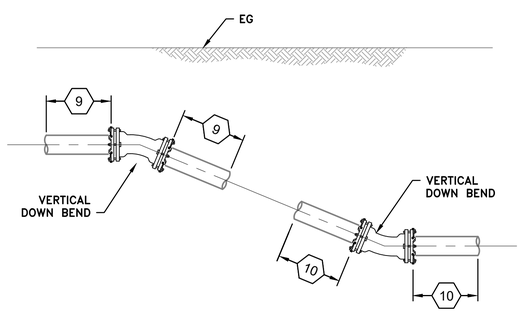
22.5° HORIZONTAL BEND



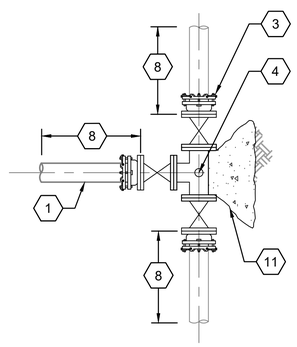
11° HORIZONTAL BEND



2°–10° BEND



VERTICAL BENDS



HORIZONTAL TEE / DEAD END

TABLE 1–MINIMUM RESTRAINT LENGTHS (FT)			
FITTING	A	B	C
2° – 11°	3	4	2
22.5°	6	8	4
34°	9	15	6
45°	12	30	12
90°	27	60	24
DEAD END	27	–	–

TABLE 1 NOTES

1. RESTRAINT LENGTHS FOR HORIZONTAL 45°, 90, BENDS AND TEE ARE ONLY VALID WITH THE INSTALLATION OF THE CONCRETE THRUST BLOCKS REFERENCED ON THIS SHEET HEREIN
2. POLY WRAP ALL DI FITTINGS PER DETAIL 1 SHEET C704.

DETAIL KEYNOTES

1. PIPE DIAMETER AND MATERIAL PER PLAN.
2. HORIZONTAL THRUST BLOCK PER DETAIL 1 SHEET C707.
3. EBAA MEGALUG RESTRAINT, EA. MJ
4. PI LOCATION PER PLAN
5. FL X MJ ADAPTER TYP. OF 2
6. FLANGED DI 22.5°
7. FLANGED DI 11.25° BEND
8. RESTRAIN ALL HORIZONTAL BEND FITTINGS FROM EACH END OF FITTING TO THE DISTANCES SPECIFIED IN COLUMN "A" OF TABLE 1 THIS DETAIL. RESTRAIN BELL AND SPIGOT CONNECTIONS PER SHEET C701 DETAIL 3.
9. RESTRAIN ALL VERTICAL DOWN BEND FITTINGS FROM EACH END OF FITTING TO THE DISTANCES SPECIFIED IN COLUMN "B" OF TABLE 1 THIS DETAIL. RESTRAIN BELL AND SPIGOT CONNECTIONS PER SHEET C701 DETAIL 3.
10. RESTRAIN ALL VERTICAL UP BEND FITTINGS FROM EACH END OF FITTING TO THE DISTANCES SPECIFIED IN COLUMN "C" OF TABLE 1 THIS DETAIL. RESTRAIN BELL AND SPIGOT CONNECTIONS PER SHEET C701 DETAIL 3.
11. HORIZONTAL THRUST BLOCK PER DETAIL 4 SHEET C707.

5 / VAR. MINIMUM MECHANICAL RESTRAINT LENGTHS
NTS

NOTE: WRAP ALL DI FITTINGS PER 1 / C704

REVISION: BID SET
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DATE: 9/4/2026

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STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

CIVIL DETAILS - 2

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

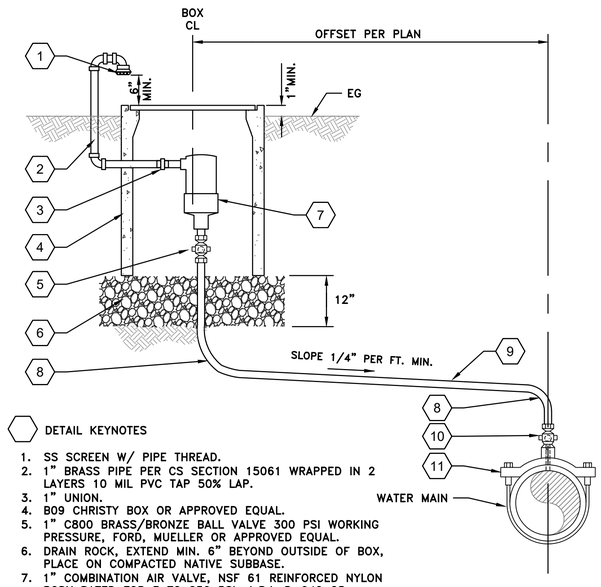
DATE: SEPTEMBER 2026

DRAWING NUMBER
C702
26 / 32

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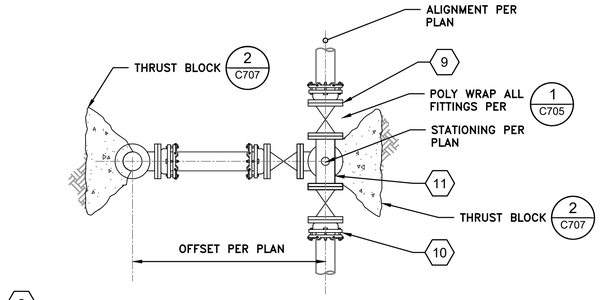
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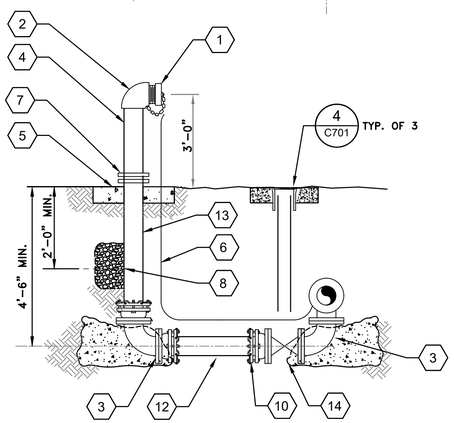
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DETAIL KEYNOTES

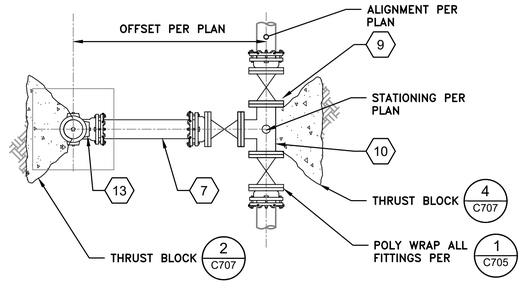
1. SS SCREEN W/ PIPE THREAD.
2. 1" BRASS PIPE PER CS SECTION 15061 WRAPPED IN 2 LAYERS 10 MIL PVC TAP 50% LAP.
3. 1" UNION.
4. B09 CHRISTY BOX OR APPROVED EQUAL.
5. 1" C800 BRASS/BRONZE BALL VALVE 300 PSI WORKING PRESSURE, FORD, MUELLER OR APPROVED EQUAL.
6. DRAIN ROCK, EXTEND MIN. 6" BEYOND OUTSIDE OF BOX, PLACE ON COMPACTED NATIVE SUBBASE.
7. 1" COMBINATION AIR VALVE, NSF 61 REINFORCED NYLON BODY RATED FOR 3 TO 250 PSI. A.R.I. D-040 OR APPROVED EQUAL.
8. MINIMUM RADIUS 8".
9. INSTALL 1" TYPE "K" SEAMLESS COPPER TUBE WITH CONTINUOUS SLOPE TO VALVE, SAGS OR LOW SPOTS SHALL NOT BE PERMITTED.
10. 1" C800 BRASS/BRONZE BALL VALVE TYPE CORPORATION STOP W/ 1" CTS COMPRESSION OUTLET 300 PSI WORKING PRESSURE, FORD, MUELLER OR APPROVED EQUAL.
11. DOUBLE STRAP SERVICE SADDLE, TAP AT TOP OF PIPE, MINIMUM WORKING PRESSURE 250PSI, ROMAC 202NS OR APPROVED EQUAL.



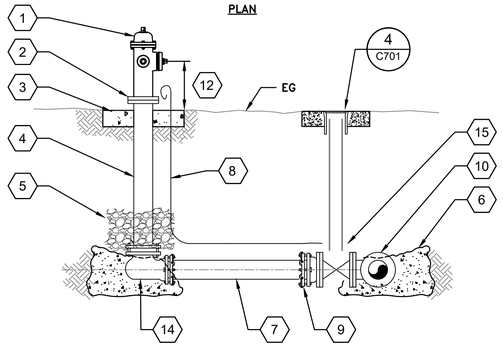


DETAIL KEYNOTES:

1. BRASS THREADED REDUCER AND CAP WITH CHAIN
2. SCR. ELL.
3. 4" FLANGED DI REDUCER 90°
4. 4" SCH 40 GALVANIZED STEEL RISER
5. 3'X3'X6" NON SLIP CONCRETE PAD W/ NO. 4 BARS
6. TRACER WIRE PER CS
7. PROVIDE BREAKAWAY BOLTS DESIGNED TO FAIL UNDER LATERAL IMPACT.
8. DRILL 1/4" HOLE 1 CU. FT GRAVEL
9. 6" FLANGED GV, TYP. OF 2
10. FL X MJ DI ADAPTER RESTRAINED W/ EBAA MEGALUG, TYP. OF 5
11. 6" FLANGED DI TEE
12. 4" DR 14 C900 PVC PIPE, FULLY RESTRAINED
13. 4" FL X PE DI PIPE
14. 4" FLANGED GATE VALVE



PLAN



SECTION

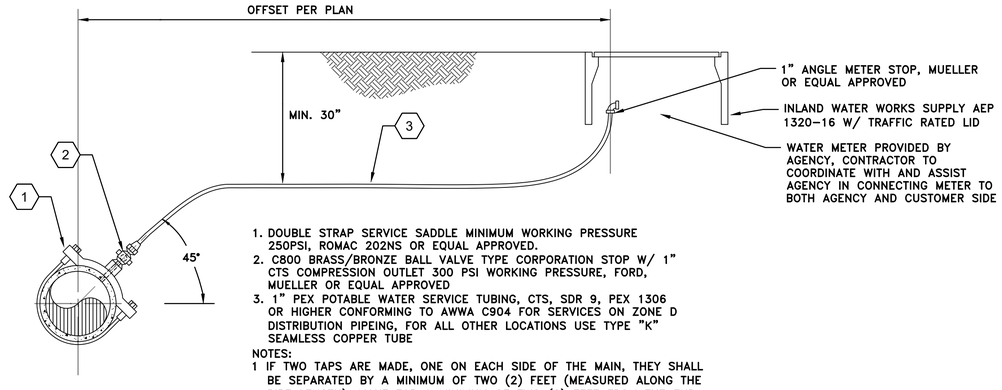
DETAIL KEYNOTES

1. MUELLER SUPER CENTURION DRY BARREL HYDRANT W/ (2) 2 1/2", AND (1)-4" OUTLET, OR APPROVED EQUAL.
2. BREAKAWAY FLANGE.
3. 3'X3'X6" NON SLIP CONCRETE PAD REINFORCED W/ #4 REINFORCEMENT 12" O.C.
4. SIZE LOWER BARREL TO ACCOMMODATE ADJACENT MAINLINE DEPTH, MIN. COVER 36".
5. 4 CF DRAIN ROCK, PLACE AROUND DRAIN RING.
6. THRUST BLOCK PER SHEET C707 DETAIL 4.
7. 6" DR 14 C900 PIPE, RESTRAIN ALL JOINTS FROM MAIN TO HYDRANT.
8. TRACER WIRE PER CS SECTION 02201.
9. 6" FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG
10. 6" FLANGED DI TEE.
11. RESTRAIN W/ EBAA MEGALUG.
12. PUMPER NOZZLE 18" TO 24" ABOVE GRADE.
13. ORIENT PUMPER NOZZLE TOWARDS NEAREST PATH OF TRAVEL.
14. MJ SHOE RESTRAINED W/ EBAA MEGALUG
15. FLANGED GATE VALVE, TYP. OF 3

1 VAR. CAV ASSEMBLY
NTS

2 VAR. BLOWOFF ASSEMBLY
NTS

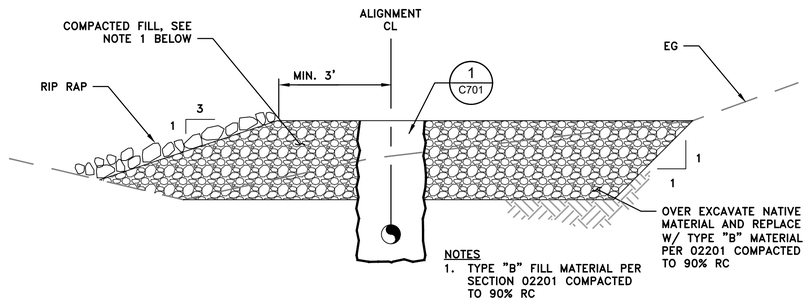
5 VAR. DRY BARREL HYDRANT
NTS



1. DOUBLE STRAP SERVICE SADDLE MINIMUM WORKING PRESSURE 250PSI, ROMAC 202NS OR EQUAL APPROVED.
2. C800 BRASS/BRONZE BALL VALVE TYPE CORPORATION STOP W/ 1" CTS COMPRESSION OUTLET 300 PSI WORKING PRESSURE, FORD, MUELLER OR EQUAL APPROVED
3. 1" PEX POTABLE WATER SERVICE TUBING, CTS, SDR 9, PEX 1306 OR HIGHER CONFORMING TO AWWA C904 FOR SERVICES ON ZONE D DISTRIBUTION PIPEING, FOR ALL OTHER LOCATIONS USE TYPE "K" SEAMLESS COPPER TUBE

NOTES:
1 IF TWO TAPS ARE MADE, ONE ON EACH SIDE OF THE MAIN, THEY SHALL BE SEPARATED BY A MINIMUM OF TWO (2) FEET (MEASURED ALONG THE PIPE LENGTH). MAKE TAP A MINIMUM OF TWO (2) FEET FROM THE END OF THE PIPE.

3 VAR. SERVICE CONNECTION
NTS



NOTES

1. TYPE "B" FILL MATERIAL PER SECTION 02201 COMPACTED TO 90% RC

A C207 SECTION
NTS

REVISION: BID SET
DESN: J. NELSON / D. MCKAY
DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER — JARED P. NELSON — No. C89673 — Exp. 3/31/27 — CIVIL — STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

CIVIL DETAILS - 3

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

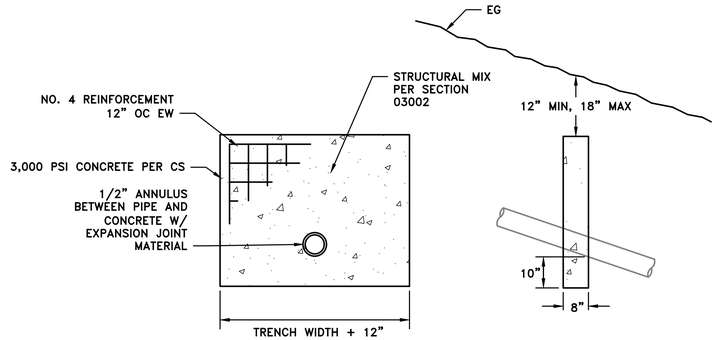
DATE: SEPTEMBER 2026

DRAWING NUMBER
C703
27 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

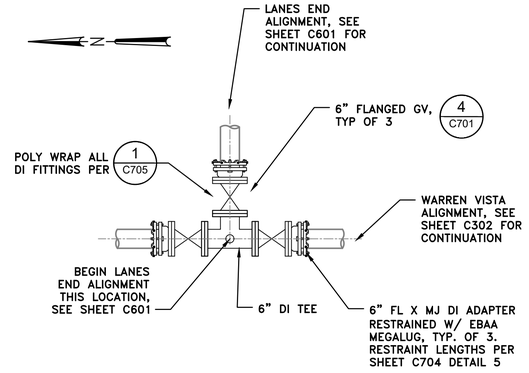
0 1"

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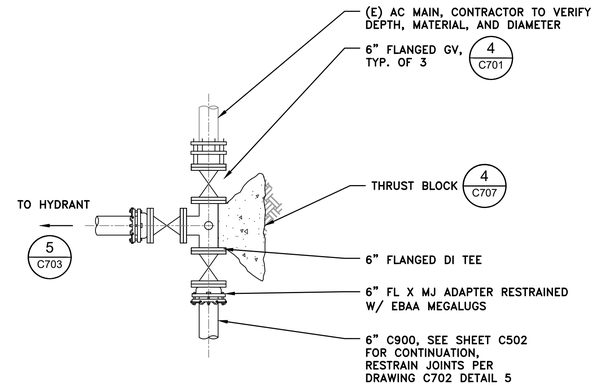


DETAIL NOTES
1. CUTOFF WALL TO EXTEND MIN. 6" INTO UNDISTURBED TRENCH WALLS.
2. POSITION CUTOFF WALL PERPENDICULAR TO PIPE.

1 VAR. CUTOFF WALL
NTS

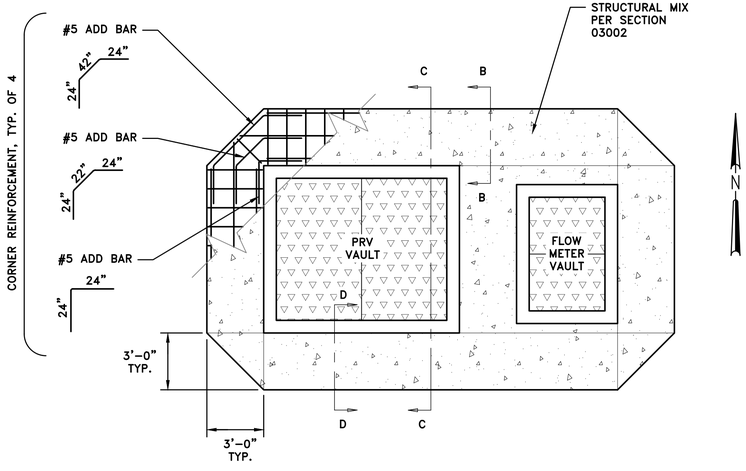


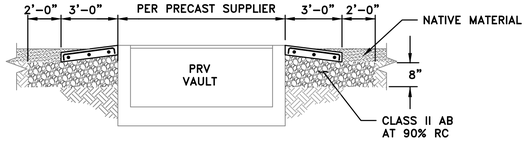
2 VAR. LANES END TIE-IN AT WARREN VISTA
NTS



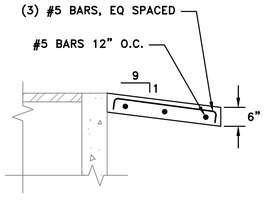
NOTE:
CONTRACTOR SHALL CONNECT TO, HANDLE, AND DISPOSE OF EXISTING AC PIPE PER CS SECTION 028213.19

3 VAR. TIE-IN W/ HYDRANT
NTS

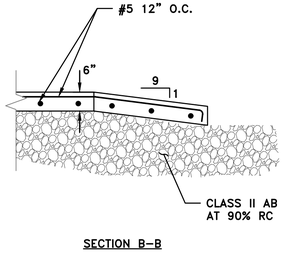




SECTION C-C

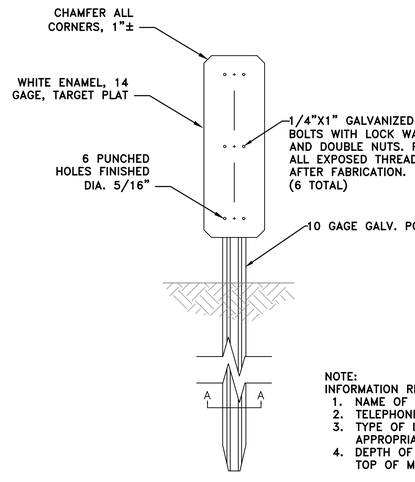


SECTION D-D

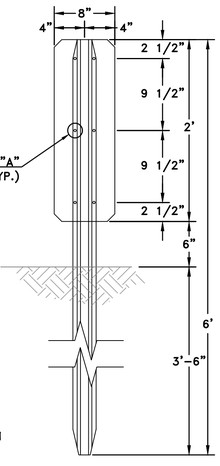


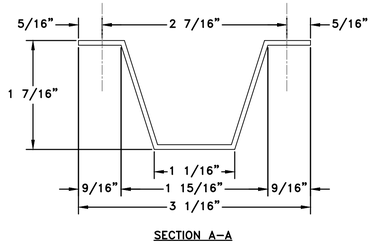
SECTION B-B

4 C708 VAULT APRON
NTS

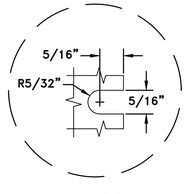


NOTE:
INFORMATION REQUIRED ON PLATE:
1. NAME OF OWNER.
2. TELEPHONE NO.
3. TYPE OF INSTALLATION WITH APPROPRIATE SIGN.
4. DEPTH OF INSTALLATION FROM TOP OF MARKER.





SECTION A-A



DETAIL "A"

5 VAR. UNDERGROUND UTILITY MARKER
NTS

REVISION: BID SET
DESN: J. NELSON / D. MCKAY
DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER JARED P. NELSON No. C89673 Exp. 3/31/27 CIVIL STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

CIVIL DETAILS - 4

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

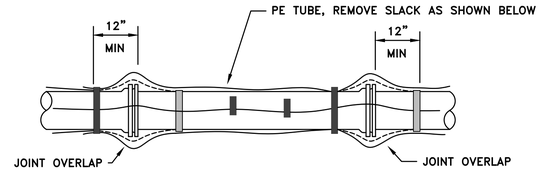
DATE: SEPTEMBER 2026

DRAWING NUMBER
C704
28 / 32

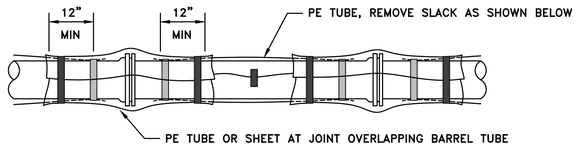
VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

0 1"

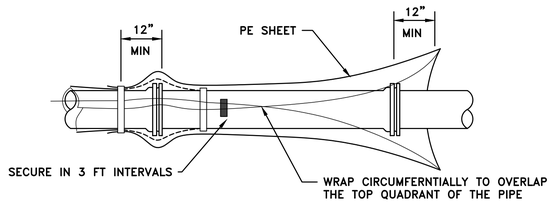
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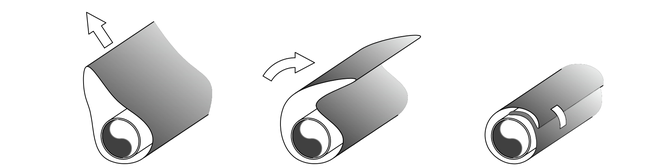
AWWA C105 - INSTALLATION METHOD "A"



AWWA C105 - INSTALLATION METHOD "B"



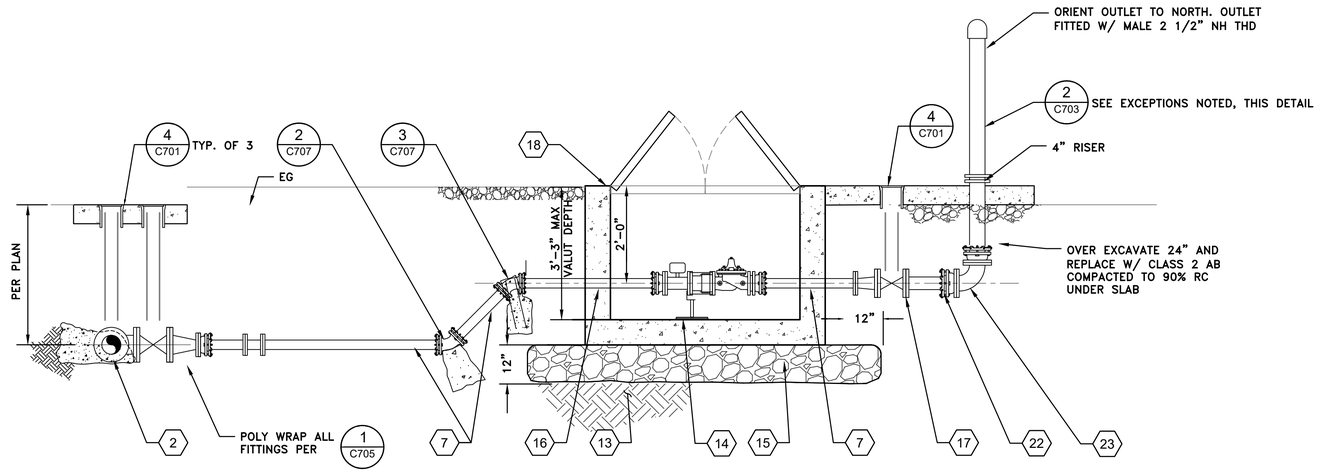
AWWA C105 - INSTALLATION METHOD "C"



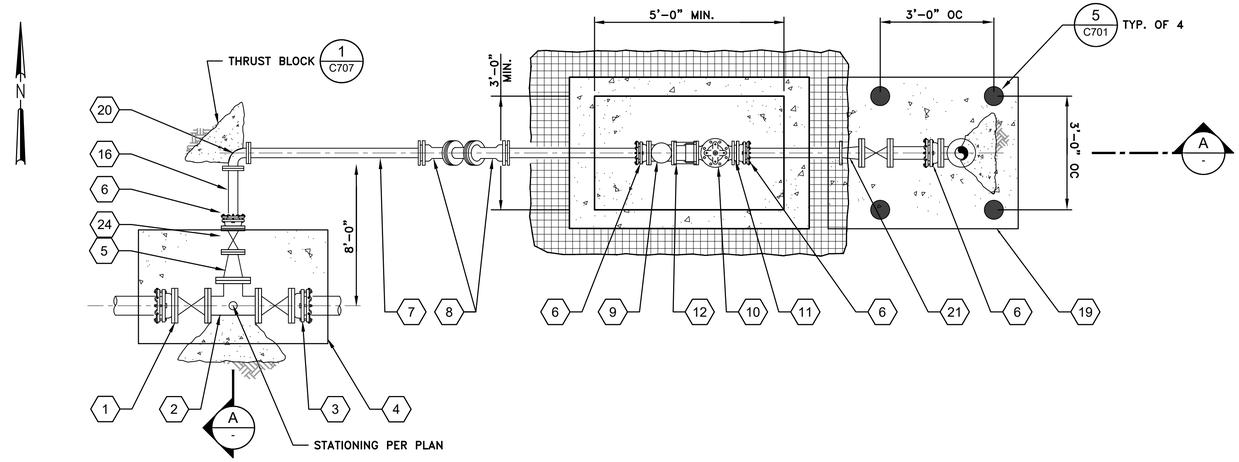
AWWA C105 - SLACK REDUCTION

NOTES:
1. CONTRACTOR SHALL FOLLOW ONE OF THE THREE PE ENCASEMENT INSTALLATION METHODS SHOWN ABOVE FOR ALL SUBGRADE DI PIPE AND FITTINGS. PE PRODUCT SHALL CONSIST OF EITHER 4 MIL HDPE OR 8 MIL LDPE FEATURING "ANSI/AWWA C105/A21.5" MARKINGS.
2. BEND, REDUCERS, OFFSETS, AND OTHER APPURTENANCES SHALL BE ENCASED IN PE IN THE SAME MANNER AS ADJACENT PIPE.
3. INSTALLATION REQUIREMENTS ARE NOT LIMITED TO THIS DETAIL, THE CONTRACTOR SHALL INSTALL ALL PE ENCASEMENT AS RECOMMENDED BY AWWA C105 UNO.
4. REMOVAL OF INSTALLED PIPE DUE TO REPAIR OR REMEDY IMPROPER INSTALLATION OF PE ENCASEMENT, OR LACK THEREOF, SHALL BE COMPLETED BY THE CONTRACTOR AT NO ADDITIONAL CONTRACT COST OR TIMES.

1 / VAR. POLYETHYLENE ENCASEMENT OF DI PIPE AND FITTINGS
NTS



A - SECTION
NTS



DETAIL KEYNOTES

1. 6" FLANGED GV, TYP. OF 2
2. 6" FLANGED DI TEE
3. 6" FL X MJ ADAPTERS RESTRAINED W/ EBAA MEGALUG, TYP. OF 2
4. 6" X 3' X 5' SLAB W/ #4 REINFORCEMENT 12" OC EW
5. 6" X 3" FLANGED REDUCER
6. 3" FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG
7. 3" DR 14 C900 CTF
8. 3" MJ X MJ DI 45° RESTRAINED W/ EBAA MEGALUG
9. 3" BATTERY POWERED MAGNETIC FLOW METER PER CS 10442
10. 3" FLUSHOUT PRV PER CS
11. 1.8" BORE ORIFICE PLATE
12. 3" DISMANTLING JOINT
13. CONTRACTOR SHALL VERIFY SUBGRADE CONDITIONS W/ GEOTECHNICAL REPRESENTATIVE PRIOR TO PLACING AB
14. PIPE SUPPORT
15. CLASS 2 AB COMPACTED TO 90% RC BURRITO WRAPPED IN GEOTEXTILE FABRIC
16. 3" DI PIPE CTF
17. 4" FLANGED GV
18. PRECAST CONCRETE VAULT AND HATCH PER CS 02531
19. 6" X 5' X 4' SLAB W/ #4 REINFORCEMENT 12" OC EW
20. 3" FL X FL DI 90°
21. 3" X 4" FLANGED REDUCER
22. 4" FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG, TYP. OF 2
23. 4" FL X FL DI 90°
24. 3" FLANGED GV

PLAN

2 / C211 FLUSHOUT STATION
NTS

REVISION	BID SET
DESN	J. NELSON / D. MCKAY
DRW	D. MCKAY
CHECK	M. CAREY
DATE	9/4/2026

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CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

CIVIL DETAILS - 5

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

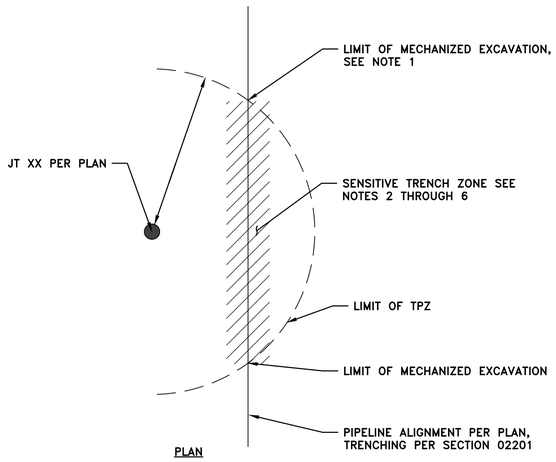
DATE: SEPTEMBER 2026

DRAWING NUMBER
C705
29 / 32

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0 1"

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1. LIMITS OF MECHANIZED EXCAVATION SHALL BE LOCATED 10 RADIAL FEET FROM JOSHUA TREE TRUNK OR AS DIRECTED BY PROJECT BIOLOGIST. USE OF EXCAVATOR BUCKET, RIPPING, TRENCHER SHALL NOT BE USED BEYOND THIS POINT.

2. EXCAVATION WITHIN SENSITIVE ZONE: USE HAND TOOLS OR VACUUM EXCAVATION ONLY. NO RIPPING OR ROCKWHEEL USE IN THIS ZONE. EXCAVATION SHALL BE PERFORMED UNDER DIRECTION OF PROJECT BIOLOGIST OR DESERT NATIVE PLANT SPECIALIST.

3. ROOT HANDLING: EXPOSE ROOTS CAREFULLY; DO NOT TEAR ROOTS WITH MACHINERY. ROOTS 2 INCHES DIAMETER AND SMALLER MAY BE CLEANLY CUT WITH SHARP HAND TOOLS ONLY WHEN UNAVOIDABLE; CUT SURFACES SHALL BE CLEAN AND SMOOTH. ROOTS LARGER THAN 2 INCHES DIAMETER SHALL NOT BE CUT WITHOUT PRIOR WRITTEN APPROVAL FROM PROJECT BIOLOGIST OR DESERT NATIVE PLANT SPECIALIST. PROTECT EXPOSED ROOTS FROM DRYING (E.G., DAMP BURLAP) AND BACKFILL SAME DAY WHERE FEASIBLE.

4. PIPE / ROOT CLEARANCE: WHEN SIGNIFICANT ROOTS ARE ENCOUNTERED AT OR BELOW PIPE INVERT, CONTRACTOR SHALL NOTIFY ENGINEER AND PROJECT BIOLOGIST IMMEDIATELY. ENGINEER AND BIOLOGIST MAY DIRECT MINOR PIPE GRADE ADJUSTMENTS OR LOCALIZED ALIGNMENT SHIFTS WHERE FEASIBLE TO AVOID CUTTING MAJOR ROOTS.

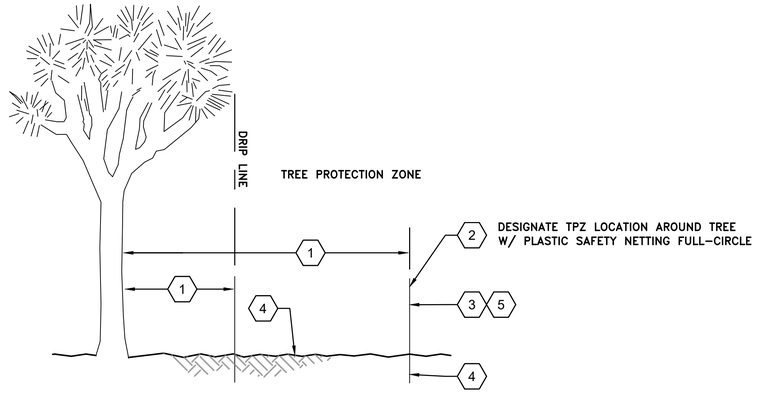
5. BACKFILL WITHIN SENSITIVE TRENCH ZONE: BACKFILL AROUND EXPOSED ROOTS WITH NATIVE SOIL OR APPROVED FINE-GRAINED MATERIAL FREE OF DEBRIS AND LARGE ROCK. PLACE BACKFILL IN THIN LIFTS AND COMPACT WITH HAND TAMPERS ONLY WITHIN SENSITIVE ZONE. NO PLATE COMPACTORS OR ROLLERS WITHIN TPZ UNLESS APPROVED BY ENGINEER.

6. SURFACE RESTORATION AND WATERING: RESTORE FINISHED GRADE TO APPROXIMATE PRE-CONSTRUCTION CONDITION AND MAINTAIN EXISTING DRAINAGE PATTERNS AWAY FROM TREE TRUNK. LIGHTLY WATER SOIL IN SENSITIVE ZONE AFTER BACKFILL AS NEEDED TO REDUCE SETTLEMENT AND DUST, AVOIDING PONDED WATER AT TRUNK.

7. CONSTRUCTION LOADS: NO CRANES, TRUCKS, OR TRACKED EQUIPMENT SHALL OPERATE WITHIN TPZ OR CLOSER TO TREE TRUNK THAN THE MINIMUM CLEARANCE DISTANCE SHOWN ON PLANS. ANY TEMPORARY BRIDGING REQUIRED FOR ACCESS OVER ROOT ZONE SHALL BE DESIGNED AND LOCATED TO AVOID DIRECT LOADING ON ROOT-BEARING SOILS AND SHALL BE SUBMITTED TO ENGINEER FOR REVIEW.

8. MONITORING AND STOP-WORK AUTHORITY: ALL WORK WITHIN 10 FEET OF A PROTECTED WESTERN JOSHUA TREE (DISTANCE PER PLANS) SHALL BE SUBJECT TO BIOLOGICAL MONITORING. PROJECT BIOLOGIST SHALL HAVE AUTHORITY TO HALT WORK IMMEDIATELY IF EXCAVATION, BACKFILL, OR COMPACTION PRACTICES RISK NON-COMPLIANCE WITH WESTERN JOSHUA TREE PERMIT OR PROJECT MITIGATION MEASURES.

1 VAR. TRENCHING WITHIN TPZ
NTS



DETAIL KEYNOTES

1. THE TREE PROTECTION ZONE SHALL BE DEFINED AS NO LESS THAN THE DRIPLINE RADIUS OF THE TREE OR A MINIMUM OF 10 FEET FROM THE TRUNK, WHICHEVER IS GREATER. WITHIN THE FOLLOWING SHALL BE PROHIBITED: VEHICLE OR EQUIPMENT ACCESS; STOCKPILING OF SOIL, AGGREGATE, OR MATERIALS; OR FUELING, EQUIPMENT MAINTENANCE.

2. ORANGE PLASTIC SAFETY NETTING SHALL BE HIGH-VISIBILITY, UV-STABILIZED POLYETHYLENE OR POLYPROPYLENE CONSTRUCTION SAFETY FENCE, MINIMUM 4 FT HEIGHT, FLUORESCENT ORANGE COLOR, WITH MESH OPENINGS APPROXIMATELY 1-1/2 IN BY 4 IN. SUPPORT FENCE ON 1.33 LB/FT STEEL T-POSTS (OR APPROVED EQUAL) SPACED 8 FT MAXIMUM. DRIVE POSTS A MINIMUM OF 18 IN INTO UNDISTURBED SOIL.

3. ATTACH FENCE TO POSTS WITH UV-STABLE PLASTIC CABLE TIES OR 14 GA GALVANIZED WIRE AT 12 IN VERTICAL SPACING (TOP, MID-HEIGHT, AND BOTTOM OF FENCE). PROVIDE MINIMUM 6" CLEARANCE BETWEEN EXISTING GRADE AND BOTTOM OF SAFETY NETTING.

4. EXISTING GROUND SURFACE WITHIN THE TPZ SHALL BE PROTECTED AND LEFT UNDISTURBED. NO CUT OR FILL GREATER THAN 2 INCHES SHALL BE ALLOWED WITHOUT WRITTEN APPROVAL FROM THE PROJECT BIOLOGIST.

5. ATTACH MINIMUM OF ONE 12" X 18" SIGN TO TPZ FENCING. SIGNS SHALL CONSIST OF RIGID PANELS FABRICATED FROM 4 MM CORRUGATED PLASTIC (COROPLAST) OR 0.040 IN THICK ALUMINUM, UV-STABILIZED INK OR VINYL GRAPHICS. BACKGROUND FLUORESCENT ORANGE OR YELLOW WITH MINIMUM 1-1/2 IN HIGH BLACK LETTERING STATING:

   "TREE PROTECTION AREA – DO NOT ENTER. NO GRADING, TRENCHING, STOCKPILING, OR PARKING."

   ATTACH SIGNS TO TREE PROTECTION FENCING WITH UV-STABLE PLASTIC CABLE TIES AT TOP AND SIDES.

2 VAR. TREE PROTECTION ZONE (TPZ)
NTS

REVISION: BID SET
DESN: J. NELSON / D. MCKAY
DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER
JARED P. NELSON
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CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

CIVIL DETAILS - 6

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

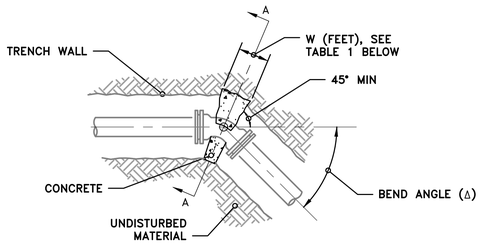
DATE: SEPTEMBER 2026

DRAWING NUMBER
C706
30 / 32

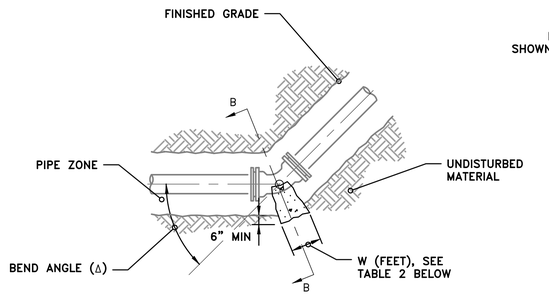
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0 1"

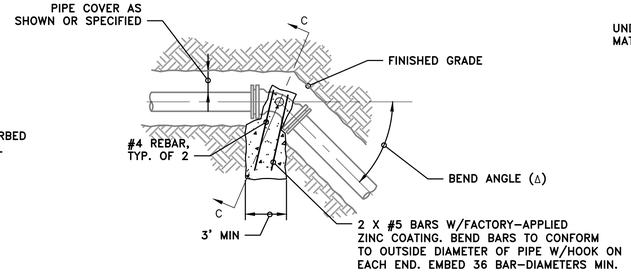
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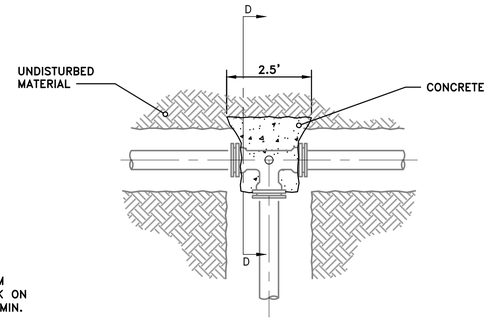
PLAN



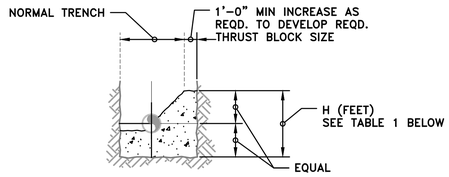
ELEVATION



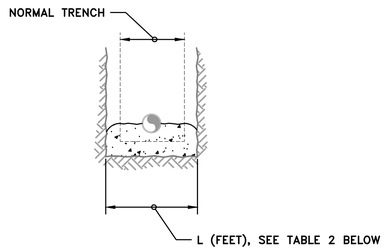
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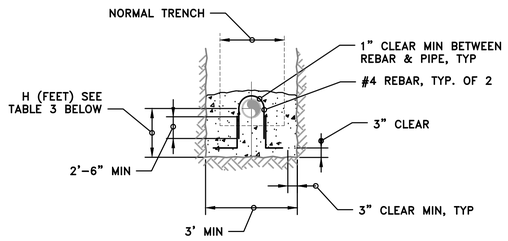
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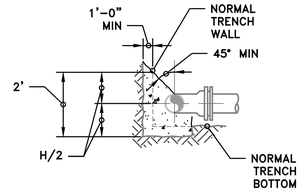
SECTION A



SECTION B



SECTION C



SECTION D

TEE FITTING
NTS

TABLE 1 – HORIZONTAL THRUST BLOCK DIMENSIONS		
BEND	W (FT)	H (FT)
2° – 11°	1	2
22.5°	1	2
34°	1	2
45°	1.7	2
90°	3.2	2

TABLE 2 – VERTICAL BEND UP THRUST BLOCK DIMENSIONS		
BEND	W (FT)	L (FT)
2° – 11°	1	3
22.5°	1	3
34°	1.0	3
45°	1.15	3
90°	2.10	3

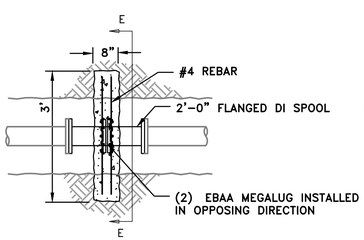
TABLE 3 – VERTICAL BEND DOWN ANCHOR BLOCK DIMENSIONS	
BEND	H (FT)
2° – 11°	1.5
22.5°	2.5
34°	3.5
45°	4
90°	5

1 VAR. HORIZONTAL BEND
NTS

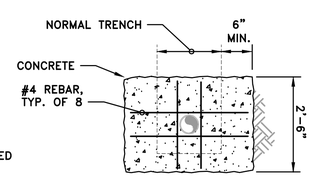
2 VAR. VERTICAL UP BEND
NTS

3 VAR. VERTICAL DOWN BEND
NTS

4 VAR. TEE FITTING / DEAD END
NTS



PLAN



SECTION E

5 VAR. THRUST WALL
NTS

GENERAL SHEET NOTES
1. KEEP CONCRETE CLEAR OF JOINT AND JOINT ACCESSORIES.
2. POUR CONCRETE AGAINST UNDISTURBED SOIL.
3. AT LOCATIONS WHERE GROUNDWATER IS PRESENT NOTIFY THE ENGINEER AND, AT A MINIMUM INCREASE BEARING AREAS BY A FACTOR OF 2.
4. AT LOCATIONS WHERE THRUST BLOCK IS LOCATED BELOW HIGH WATER LINE OF CREEKS, CHANNELS, OR OTHER ACTIVE DRAINAGE INCREASE TABLE VALUES OF L AND H PROPORTIONALLY TO INCREASE BEARING AREA BY A FACTOR OF 2.67.
5. THRUST BLOCK CONCRETE PER CS 03002 PART 2.3.

REVISION
BID SET
DESN
J. NELSON / D. MCKAY
DRW
D. MCKAY
CHECK
M. CAREY
DATE
9/4/2026

REGISTERED PROFESSIONAL ENGINEER
JARED P. NELSON
No. C89673
Exp. 3/31/27
CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

CIVIL DETAILS - 7

CALIFORNIA RURAL WATER ASSOCIATION

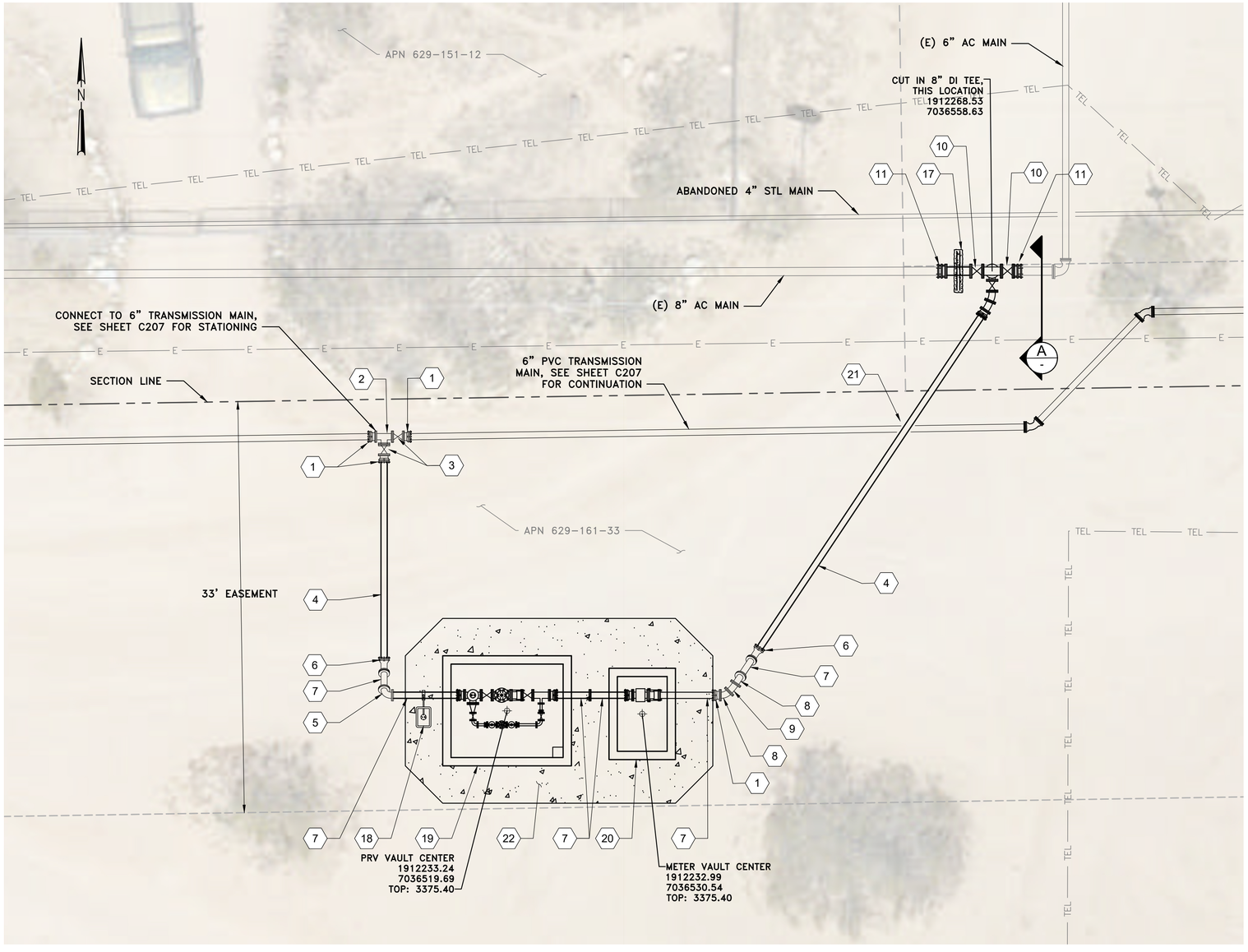
BIGHORN Desert View WATER AGENCY

PROJECT:
072-01
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C707
31 / 32

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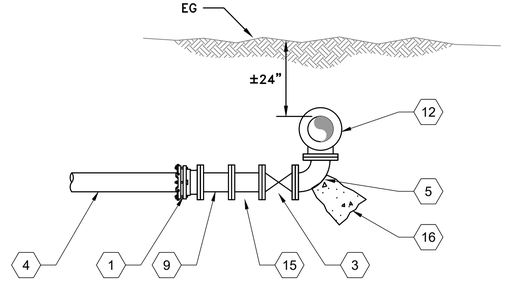
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1 C-07 PRV STATION 1 PLAN
SCALE: 1" = 5'

1"=5' 0 5' 10'



A - SECTION
NTS

SHEET KEYNOTES

1. 6" DI FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG
2. 6" DI FLANGED TEE
3. 6" FLANGED GATE VALVE
4. 6" DR 14 C900 PVC PIPE INSTALLED PER DETAIL 1 SHEET C701, RESTRAIN ALL FITTINGS
5. 6" DI FLANGED 90°
6. 6" DI MJ X MJ 45° RESTRAINED W/ EBAA MEGALUGS
7. 6" DI FL X PE PIPE CTF
8. 6" DI FLANGED 45°
9. 6" DI FLANGED 11°
10. 8" FLANGED GATE VALVE
11. 8" FCA
12. 8" DI FLANGED TEE W/ 6" BRANCH
13. [NOT USED]
14. [NOT USED]
15. 6" DI FLANGED 22°
16. THRUST BLOCK PER DETAIL 2 SHEET C707
17. THRUST WALL PER DETAIL 1 SHEET C707
18. CAV ASSEMBLY PER DETAIL 1 SHEET C703
19. INSTALL PRV STATION PER VOLUME 2 DRAWINGS DETAIL 1 SHEET C-24
20. INSTALL FLOW METER STATION PER VOLUME 2 DRAWINGS DETAIL 3 SHEET C-24
21. MAINTAIN MINIMUM 6" CLEARANCE BETWEEN BOTTOM OF PRV OUTLET PIPING AND TOP OF TRANSMISSION MAIN PIPING, SEE SHEET C207 FOR PROFILE
22. CONCRETE APRON PER DETAIL 4 SHEET C704

REVISION: BID SET
DESN: J. NELSON / D. MCKAY
DRW: D. MCKAY
CHECK: M. CAREY
DATE: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER
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No. C89673
Exp. 3/31/27
CIVIL
STATE OF CALIFORNIA

VOL. 1 OF 3 - TRANSMISSION AND DISTRIBUTION PIPELINES IMPROVEMENT PROJECT

PRV 1 IMPROVEMENTS - PLAN

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01

DATE: SEPTEMBER 2026

DRAWING NUMBER
C708
32 / 32

VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION.

0 1"

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