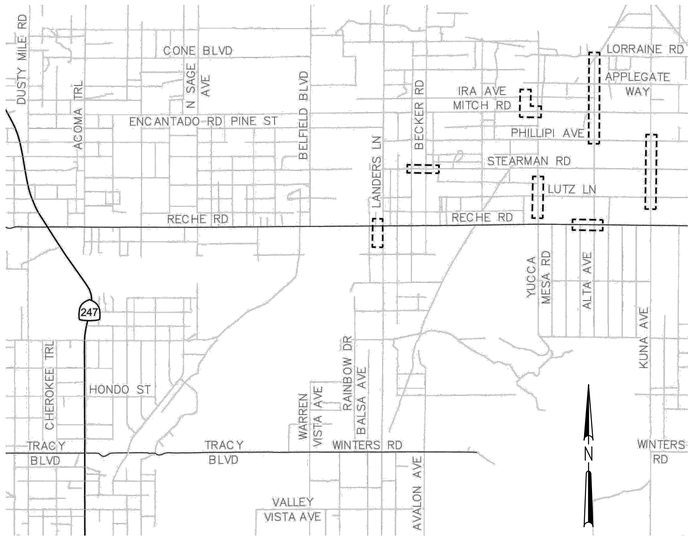
BDVWA WATER SYSTEM IMPROVEMENTS AND CONSOLIDATION PROJECTS

VOLUME 2 OF 3

CONSOLIDATION OF BDVWA AND GM SYSTEMS

BID SET



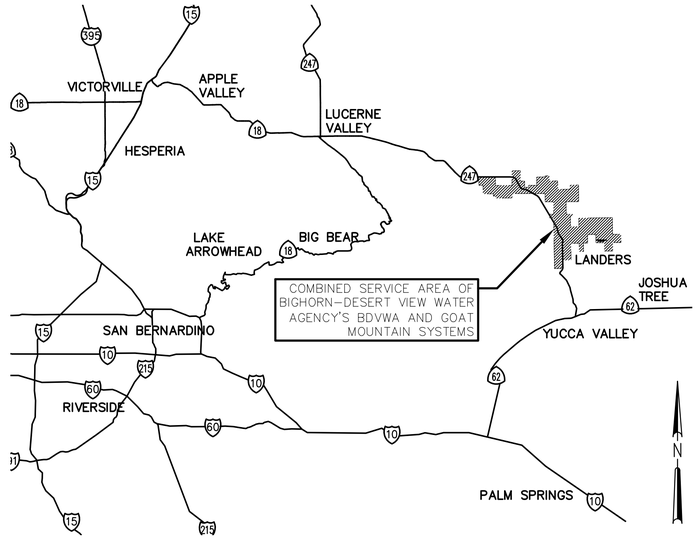
PROJECT LIMITS

VICINITY MAP

NTS

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2	G-02	NOTES LEGEND ABBREVIATIONS
3	G-03	KEY MAP & SURVEY CONTROL
4	C-01	RECHE RD AND D-1 PUMPSTATION STA 10+00 TO STA 16+04.41.01
5	C-02	STEARMAN RD. STA 20+00 TO STA 30+22.84
6	C-03	OSGOOD AVE. STA 35+00 TO STA 42+00
7	C-04	MITCH RD.–BEARING TREE RD. STA 42+00 TO STA 48+22.31
8	C-05	RECHE RD. STA 70+00 TO STA 76+82
9	C-06	ALTA AVE. ALIGN. 1 STA 80+00 TO 90+00
10	C-07	ALTA AVE. ALIGN. 1 & ALTA AVE. ALIGN. 2
11	C-08	ALTA AVE. ALIGN. 2 & ALTA AVE. ALIGN. 3
12	C-09	ALTA AVE. ALIGN. 3 STA 83+00 TO 93+22.60
13	C-10	N. KUNA AVE. ALIGN. 1 STA 100+00 TO 110+00
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15	C-12	N. KUNA AVE. ALIGN. 2 STA 106+00 TO 113+21.20
16	C-13	YUCCA MESA RD. CONNECTIONS
17	C-14	CIVIL DETAILS – 1
18	C-15	CIVIL DETAILS – 2
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24	C-21	KUNA AVE CONNECTIONS
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LOCATION MAP

NTS

DIGALERT

CALL AT LEAST SEVEN WORKING DAYS PRIOR TO EXCAVATING

1–800–227–2600

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 1–800–227–2600

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

CALIFORNIA Water Boards | State Water Resources Control Board

REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

TITLE SHEET

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

DRAWING NUMBER G-01

SHEET NUMBER 1 / 27

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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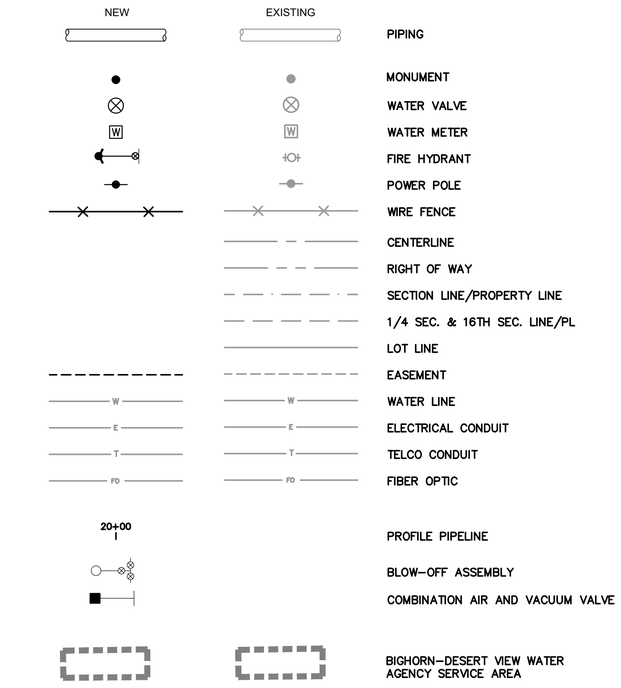
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GENERAL NOTES

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.

LEGEND

UTILITY

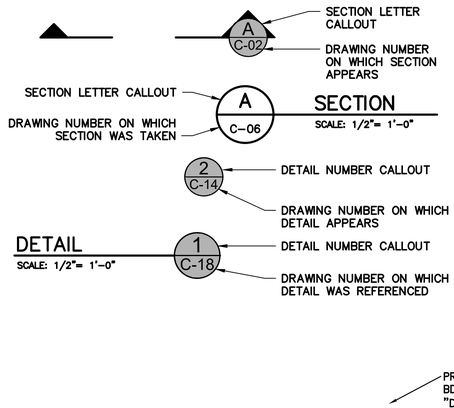


ABBREVIATIONS

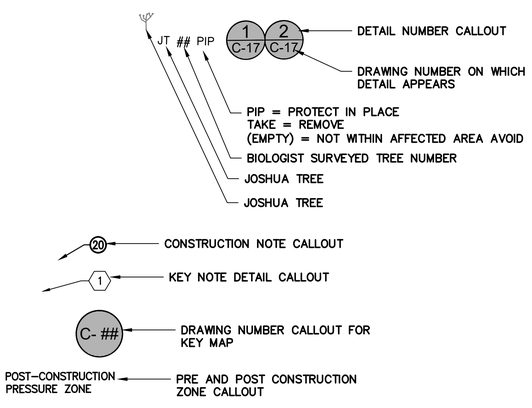
AB	AGGREGATE BASE		
AC	ASBESTOS CEMENT PIPE	JT	JOSHUA TREE
ALT	ALTERNATE	LF	LINEAR FEET
ANG	ANGLE	LDPE	LOW DENSITY POLYETHYLENE
APPROX	APPROXIMATE		
AWWA	AMERICAN WATER WORKS ASSOCIATION	MAX	MAXIMUM
		MFG	MANUFACTURER
		MIN	MINIMUM
BDVWA	BIGHORN-DESERT VIEW WATER AGENCY	MIP	MALLEABLE IRON PIPE
		MJ	MECHANICAL JOINT
BF	BLIND FLANGE		
		N	NORTH
CA	CALIFORNIA	No. (OR #)	NUMBER
CAV	COMBINATION AIR AND VACUUM VALVE	NTS	NOT TO SCALE
		O.D.	OUTSIDE DIAMETER
CL	CENTERLINE	OH	OVERHEAD
CONC	CONCRETE	OE	OVERHEAD ELECTRICAL
CONN	CONNECT/CONNECTION	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
CMP	CORRUGATED METAL PIPE		
CY	CUBIC YARDS	PC	POINT OF CURVATURE
CMRS	COUNTY MAINTENANCE ROAD SYSTEM	PCC	POINT OF COMPOUND CURVE
		PE	PLAIN END/POLYETHYLENE WRAP
CS	CONSTRUCTION SPECIFICATION	PH	POT HOLE
CTF	CUT TO FIT	PI	POINT OF INTERSECTION
		PIP	PROTECT IN PLACE
DEFL	DEFLECTION	PL	PROPERTY LINE
DEG	DEGREE	PO	PUSH ON
DEMO	DEMOLISH/DEMOLITION	PP	POWER POLE
DET	DETAIL	PSI	POUNDS PER SQUARE INCH
DI, DIP	DUCTILE IRON, DUCTILE IRON PIPE	PT	POINT, POINT OF TANGENCY
DIPS	DUCTILE IRON PIPE SIZE	PVC	POLYVINYL CHLORIDE
DIA	DIAMETER	PWR	POWER
DWG(S)	DRAWING(S)		
DWY	DRIVEWAY	RAD	RADIUS
		ROW	RIGHT OF WAY
E	EAST		
EA	EACH	S	SLOPE, SOUTH
EG	EXISTING GRADE	S.B.CO.	SAN BERNARDINO COUNTY
EGL	ENERGY GRADE LINE	SBCFCD	S.B.CO. FLOOD CONTROL DISTRICT
ELEC	ELECTRIC	SBCSD	SAN BERNARDINO COUNTY SPECIAL DISTRICTS
EOP	EDGE OF PAVEMENT		
ETW	EDGE OF TRAVEL WAY	SCE	SOUTHERN CALIFORNIA EDISON
EX	EXISTING	SF	SQUARE FEET
		SFT	SURVEY FEET
FCA	FLANGED COUPLING ADAPTER	SHT	SHEET
FL	FLANGE	SPEC(S)	SPECIFICATION(S)
FO	FIBER OPTIC	SST	STAINLESS STEEL
FH	FIRE HYDRANT	STA	STATION
FT (OR ')	FEET	STD	STANDARD
F&I	FURNISH AND INSTALL	STL	STEEL
		SWG	SOUTHWEST GAS
G	GAS		
GMS	GOAT MOUNTAIN SYSTEM	TB	THRUST BLOCK
GV	GATE VALVE	TEL/TELCO	TELEPHONE/TELECOMMUNICATION
		TOP	TOP OF PIPE
H, HORIZ	HORIZONTAL	TPZ	TREE PROTECTION ZONE
HDG	HOT DIP GALVANIZED	TYP	TYPICAL
HDPE	HIGH DENSITY POLYETHLYENE		
		U.S.A.	UNITED STATES OF AMERICA
ID	INSIDE DIAMETER		
IE	INVERT ELEVATION	W	WEST, WATER
IN (OR ")	INCHES		

ANNOTATION

SECTION AND DETAIL DESIGNATION



SHEET CALLOUTS



REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

NOTES LEGEND ABBREVIATIONS

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

DRAWING NUMBER: G-02

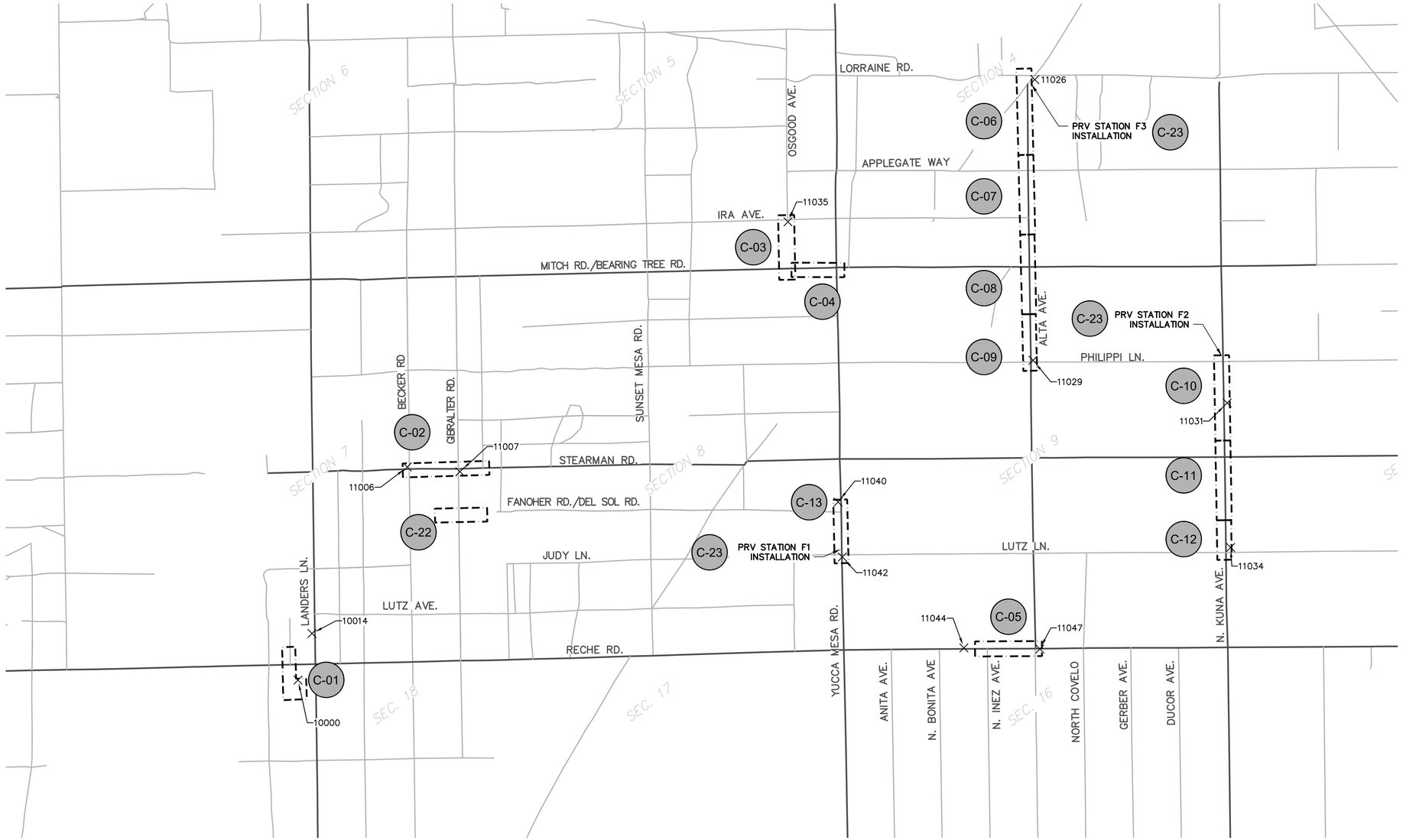
SHEET NUMBER: 2 / 27

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VERIFY SCALE! 0 1"

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KEY MAP & SURVEY CONTROL

1"=800'

GEOTECHNICAL INVESTIGATION REPORT

GEOTECHNICAL INVESTIGATION REPORT NV5 WEST (NV5)
BIGHORN–DESERT VIEW WATER AGENCY
WATER SYSTEM IMPROVEMENTS
LANDERS, CALIFORNIA
PROJECT NO. 226815–0000025.07
DATED: NOVEMBER 14, 2019

BASIS OF COORDINATES

THE COORDINATES ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 AND ARE EXPRESSED IN TERMS OF THE CALIFORNIA COORDINATE SYSTEM 1983, ZONE V, AT EPOCH 2010 AND ARE BASED ON NGS OPUS SOLUTION AT CONTROL POINT #10000, ESTABLISHED FROM CALIFORNIA CORS STATIONS "P600" (DN7434), "BMHL" (DK6384), AND "P603" (DM7569).

POINT #10000 VALUE = N–1922846.36SFT, E–7046901.24SFT.

BASIS OF BEARINGS

BEARINGS ARE REFERENCED TO GRID NORTH AS DEFINED BY THE CALIFORNIA COORDINATE SYSTEM 1983, ZONE V.

BASIS OF ELEVATION

ELEVATION ARE REFERENCED TO NAVD88 AS DETERMINED BY THE ABOVE–DESCRIBED OPUS SOLUTION AT CONTROL POINT #10000, WITH THE PUBLISHED ELEVATION OF 3090.143SFT (NAVD88 DATUM).

DATE OF INITIAL SURVEY

APRIL 16, 2019 BY NV5

CONTROL POINTS

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
10000	1922846.363	7046901.239	3090.143	CP .75IN IP W/CAP
10014	1923490.341	7047094.191	3079.851	CC SELY COR PADFX–6
11006	1925791.153	7048410.793	3037.700	FX–10 PID SW COR STRIPE WTMT
11007	1925726.044	7049137.620	3033.922	FX–11 2X2IN HUB & TACK NELY COR
11026	1931140.643	7057076.601	2876.813	FX–20 NOR COR STRIPE CONCPAD
11029	1927265.066	7057051.367	2926.001	CP HUB TACK FX–23
11031	1926676.241	7059733.168	2888.320	CP HUB TACK FX–25 NOR COR STRIPE
11034	1924679.300	7059780.708	2913.094	CP HUB TACK FX–27 NOR COR STRIPE
11035	1929177.545	7053667.048	2936.839	FX–28 NE COR STRIPE WTMT
11040	1925306.594	7054359.205	2991.482	FX–31 NOR COR STRIPE WTMT
11042	1924547.540	7054418.694	3004.534	FX–WTFH TOP NUT
11044	1923292.441	7056096.944	3000.846	CP MAG FX–34 INSIDE COR NE WHITE T
11047	1923277.219	7057146.133	2985.100	CP MAG FX–36 INSIDE SW COR T

N

0 400 800 1600 3,200
SCALE: 1"=800'

REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

KEY MAP & SURVEY CONTROL

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

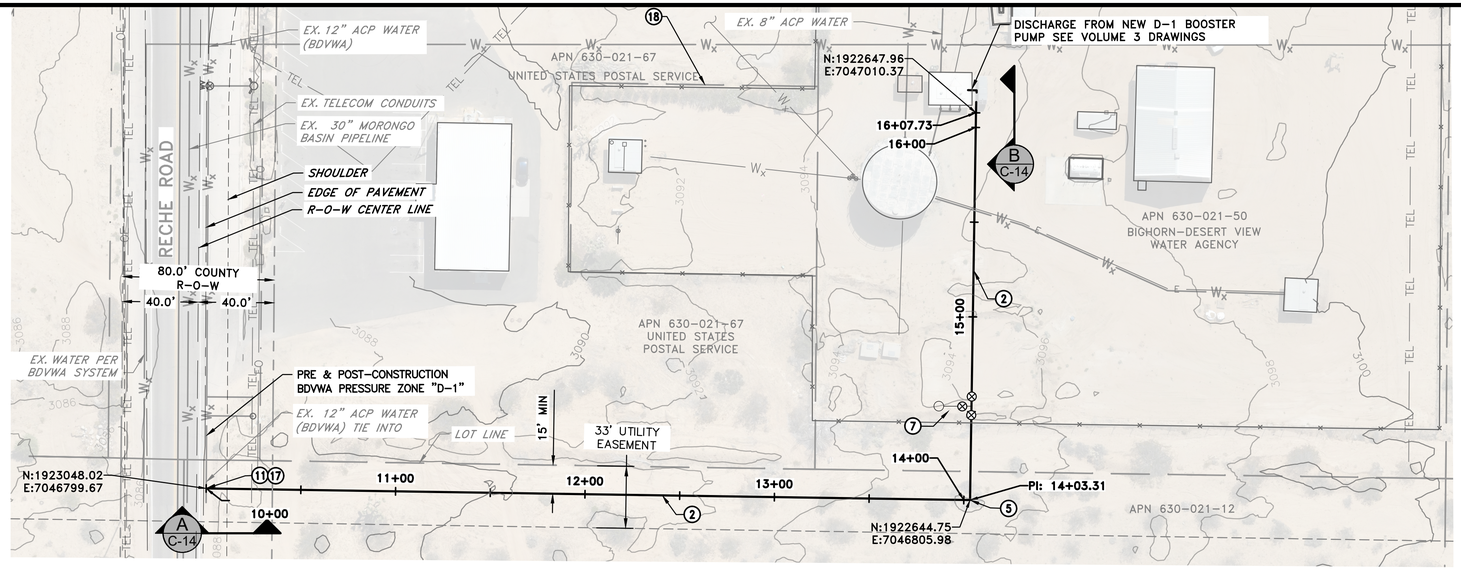
DATE: SEPTEMBER 2026

DRAWING NUMBER
G-03
SHEET NUMBER
3 / 27

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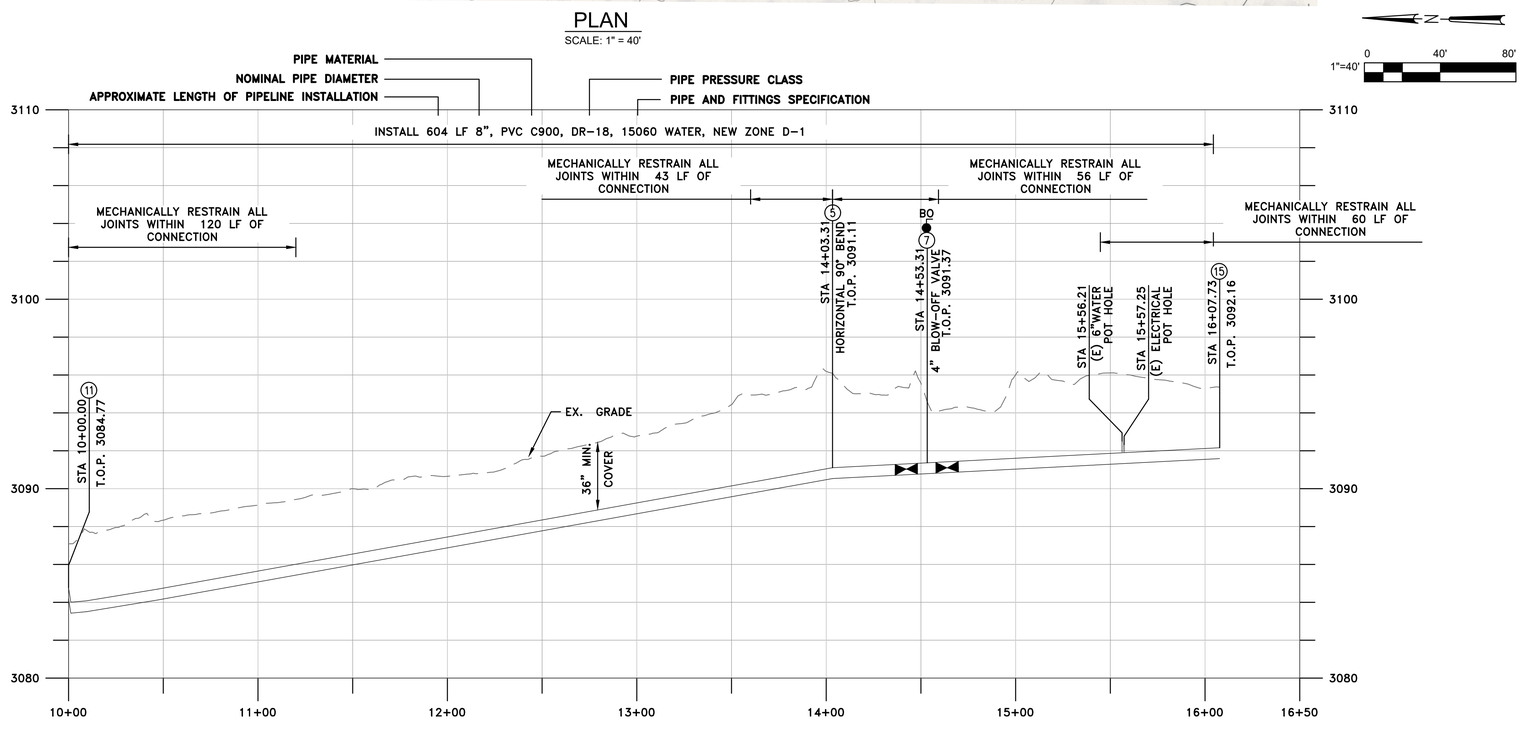
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PLAN

SCALE: 1" = 40'



MAIN PROFILE 10+00 TO 16+50

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

COUNTY EXCAVATION PERMIT NOTES:

1. CONTRACTOR SHALL CONTACT DENNIS BRHEL 48 HOURS PRIOR TO START OF WORK AT 909-387-1863 OR dbrhel@dpw.sbcounty.gov.
2. NO WORK SHALL BE PERFORMED WITHIN THE COUNTY ROW ON WEEKENDS, COUNTY HOLIDAYS, BEFORE 7AM OF AFTER 4:30PM.
3. PROVIDE A 7 WORKING DAY PUBLIC NOTIFICATION.
4. CONTRACTOR SHALL MAINTAIN A COPY OF EXCAVATION PERMIT NO. TREXC-2025-00579 ON SITE AND COMPLY WITH THE GENERAL PROVISIONS THEREIN.
5. CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIALS WITHIN COUNTY ROW BY THE END OF EACH WORKDAY UNLESS APPROVED BY COUNTY DPW INSPECTOR.
6. PIPELINE TRENCHING IS ANTICIPATED TO REMAIN OUTSIDE PAVED ROADWAY LIMITS. CONTRACTOR SHALL PROTECT EXISTING PAVEMENT AND SHALLL REPAIR AND PAVEMENT, SHOULDER, OR ROADWAY DAMAGE CAUSED BY CONTRACTOR OPERATIONS TO THE SATISFACTION OF THE COUNTY DPW.

GENERAL 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 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.
3. THE CONTRACTOR SHALL INSTALL ALL PIPELINES AT THE ELEVATIONS SHOWN ON THE PROFILE SHEETS UNLESS SPECIFICALLY NOTED OTHERWISE. MINIMUM COVER OVER ALL PIPES SHALL BE 36 INCHES.
   A. FOR ALL CONNECTIONS WITH LESS THAN 36 INCHES OF COVER, THE CONTRACTOR SHALL SLURRY BACKFILL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND GOVERNING AGENCY REQUIREMENTS.
4. THE CONTRACTOR SHALL VERIFY ALL JOSHUA TREE LOCATIONS USING THE BOTANIST REPORT PROVIDED. EXISTING TREES SHALL BE PROTECTED IN PLACE WHEREVER FEASIBLE. REMOVAL OF ANY TREE SHALL ONLY OCCUR WHEN APPROVED, PERMITTED, AND UNDER THE SUPERVISION OF THE BIOLOGIST.
5. ALL PAVEMENT AND SURFACE RESTORATION (INCLUDING FENCES) SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE REQUIREMENTS OF THE GOVERNING AGENCY.
6. THE CONTRACTOR SHALL CONFIRM EXISTING PERMITS OR OBTAIN ALL REQUIRED PERMITS FROM THE COUNTY AND OTHER GOVERNING AGENCIES PRIOR TO CONSTRUCTION.
7. 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.
8. CONTRACTOR SHALL VERIFY LOCATION OF CAV ASSEMBLIES, BLOW OFF ASSEMBLIES, FIRE HYDRANTS, SERVICES, AND OTHER APPURTENANCES WITH BDVWA STAFF PRIOR TO INSTALLATION.
9. CONTRACTOR SHALL ASSUME ALL EXISTING ASBESTOS_CEMENT (AC) PIPE ENCOUNTERED WITHIN THE PROJECT LIMITS CONTAINS REGULATED ASBESTOS MATERIAL. ALL WORK INVOLVING AC PIPE--INCLUDING DISTURBANCE, CUTTING, REMOVAL, ABANDONMENT, PACKAGING, TRANSPORT, AND DISPOSAL--SHALL BE PERFORMED IN ACCORDANCE WITH CAL/OSHA, FEDERAL REQUIREMENTS AND SECTION 028213.19 OF THE SPECIFICATIONS.
10. FOR LOCATIONS WHICH REWUIRE SLURRY BACKFILL THE CONTRACTOR SHALL USE TYPE "F" MATERIAL PER CS 02201.
11. WHERE INDICATED ON PROFILE, MECHANICALLY RESTRAIN BELL/SPIGOT CONNECTIONS PER DETAIL 3 DWG C-15.

CONSTRUCTION NOTES

(2) 8" PVC C900 DR-18 DISTRIBUTION WATER PIPE, MECHANICAL RESTRAINTS AS NOTED ON PROFILE, TRENCH BACKFILL PER DETAIL 1 ON DWG. C-15 AND RESURFACING IN KIND.

(5) 8" 90° DI HORIZONTAL BEND, MJxMJ W/ MECHANICAL RESTRAINTS AS SHOWN ON PROFILE.

(7) 4" BLOW-OFF ASSEMBLY PER DETAIL 2 ON DWG. C-15 (KEEP OUT OF WAY OF TRAVEL).

(11) TIE INTO EXISTING 12" LINE (SST III ROMAC SLEEVE (HOT TAP) 12"x12"x8" TEE FOR ACP) AND INSTALL ALL FITTINGS AND FIXTURES AS INDICATED ON SECTION A PER DWG. C-14. SLURRY BACKFILL CONNECTIONS LESS THEN 36" DEEP. (CONFIRM SLEEVE WITH ENGINEER).

(17) REPLACE PAVEMENT PER SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS GENERAL PERMIT CONDITIONS AND TRENCH SPECIFICATIONS ALSO SEE DETAIL 1 ON DWG. C-15.

(18) INSTALL PROJECT SIGN PER SHEET C-17 DETAIL 4 ON FENCE AT LOCATION DETERMINED BY BDVWA.

REVISION	BID SET
DESN	J. NELSON
DRW	R. ASBENSON
CHECK	J. NELSON
APV	9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

RECHE RD AND D-1 PUMPSTATION
STA 10+00 TO STA 16+04.41.01

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

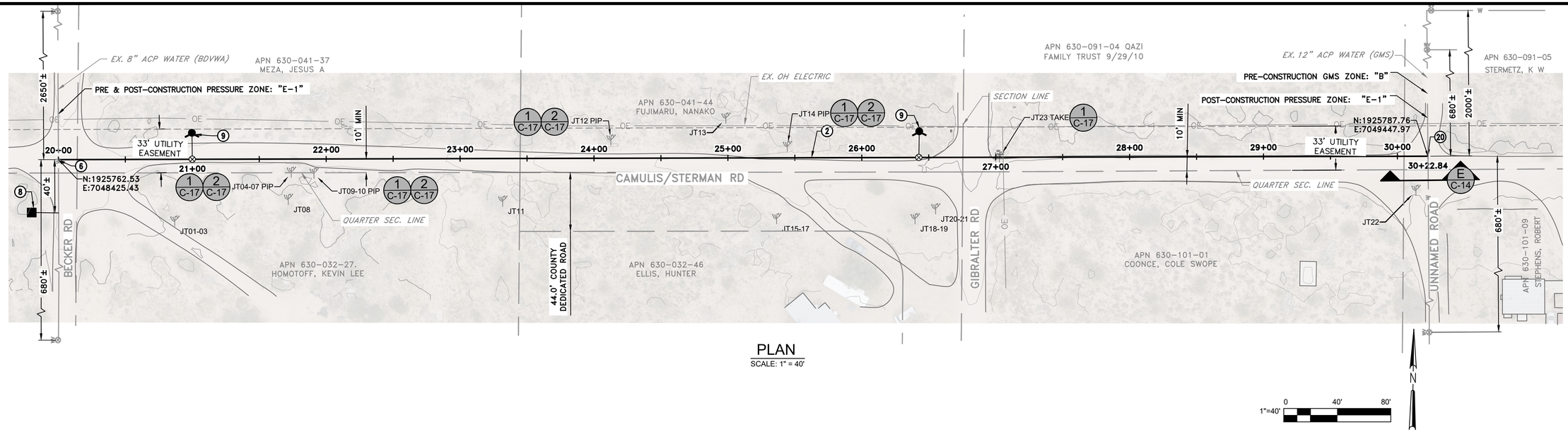
DATE: SEPTEMBER 2026

DRAWING NUMBER C-01

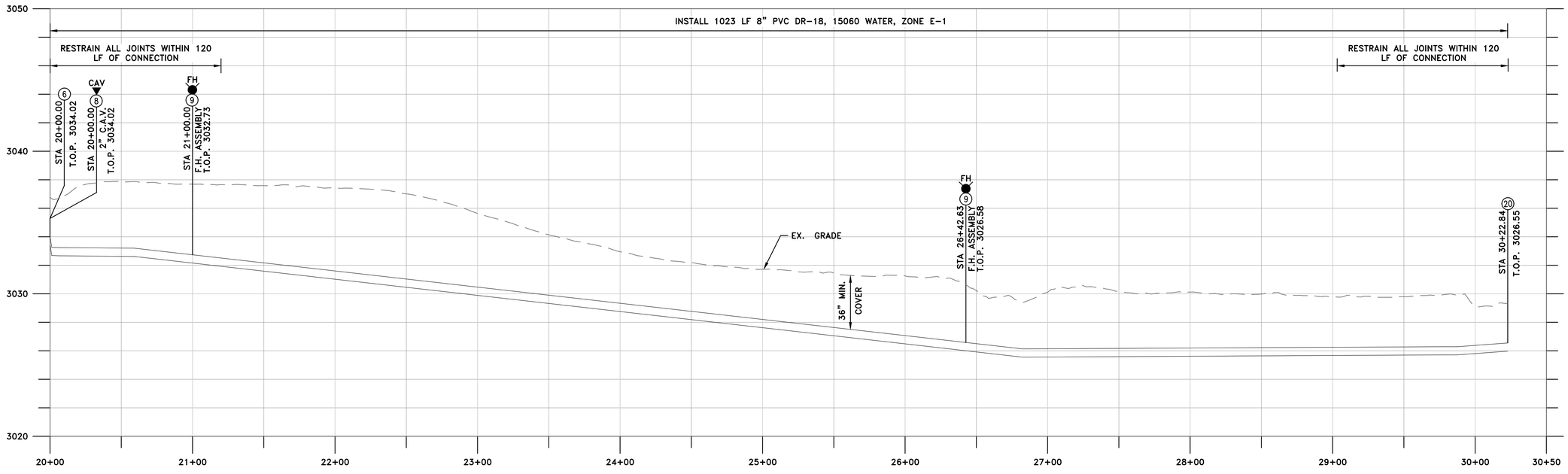
SHEET NUMBER 4 / 27

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'



MAIN PROFILE 20+00 TO 30+50

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

GENERAL 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 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.
3. THE CONTRACTOR SHALL INSTALL ALL PIPELINES AT THE ELEVATIONS SHOWN ON THE PROFILE SHEETS UNLESS SPECIFICALLY NOTED OTHERWISE. MINIMUM COVER OVER ALL PIPES SHALL BE 36 INCHES.
   A. FOR ALL CONNECTIONS WITH LESS THAN 36 INCHES OF COVER, THE CONTRACTOR SHALL SLURRY BACKFILL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND GOVERNING AGENCY REQUIREMENTS.
4. THE CONTRACTOR SHALL VERIFY ALL JOSHUA TREE LOCATIONS USING THE BOTANIST REPORT PROVIDED. EXISTING TREES SHALL BE PROTECTED IN PLACE WHEREVER FEASIBLE. REMOVAL OF ANY TREE SHALL ONLY OCCUR WHEN APPROVED, PERMITTED, AND UNDER THE SUPERVISION OF THE BIOLOGIST.
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CONSTRUCTION NOTES

(2) 8" PVC C900 DR-18 DISTRIBUTION WATER PIPE, MECHANICAL RESTRAINTS AS NOTED ON PROFILE, TRENCH BACKFILL PER DETAIL 1 ON DWG. C-15 AND RESURFACING IN KIND.

(6) TIE INTO EXISTING LINE WITH TEE CONNECTION AND INSTALL ALL FITTINGS AND FIXTURES AS INDICATED ON DETAIL C PER DWG. C-14. SLURRY BACKFILL CONNECTIONS LESS THAN 36" DEEP.

(8) 2" COMBINATION AIR AND VACUUM VALVE PER DETAIL 4 ON DWG. C-16.

(9) DRY BARREL FIRE HYDRANT ASSEMBLY PER DETAIL 3 ON DWG. C-16.

(20) CONTRACTOR TO VERIFY DEPTH OF PIPE AND RECOMMEND TEE CONNECTION, PER DETAIL 2 DWG. C-14, TO TIE INTO EXISTING LINE, ENGINEER TO CONFIRM CONTRACTORS RECOMMENDATION. SLURRY BACKFILL CONNECTIONS LESS THAN 36" DEEP.

REVISION
BID SET
DESN
J. NELSON
DRW
R. ASBENSON
CHECK
J. NELSON
APV
9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

STEARMAN RD. STA 20+00 TO STA 30+22.84

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

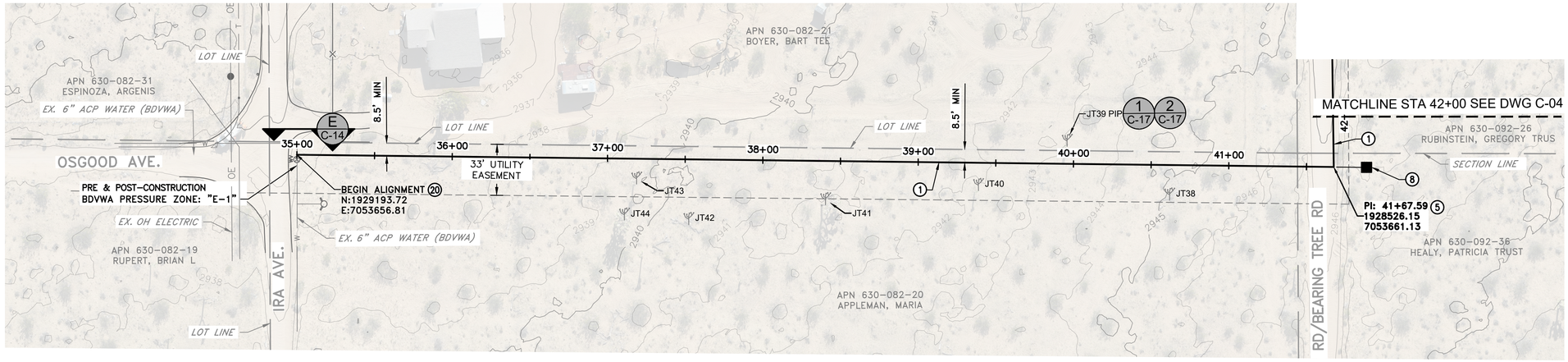
DATE: SEPTEMBER 2026

DRAWING NUMBER
C-02
SHEET NUMBER
5 / 27

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.

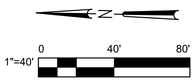
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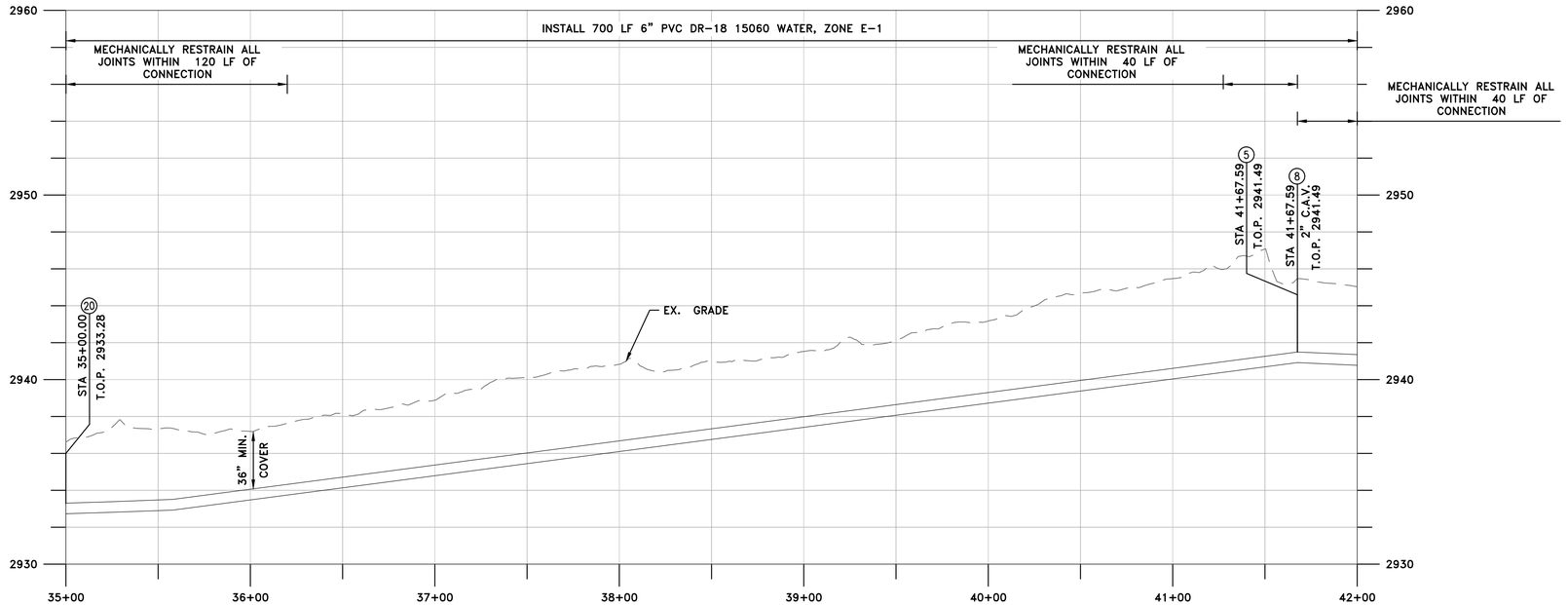
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PLAN

SCALE: 1" = 40'





MAIN PROFILE 35+00 TO 42+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

GENERAL 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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CONSTRUCTION NOTES

(1) 6" PVC C900 DR-18 DISTRIBUTION WATER PIPE, MECHANICAL RESTRAINTS AS NOTED ON PROFILE, TRENCH BACKFILL PER DETAIL 1 ON DWG. C-15 AND RESURFACING IN KIND.

(5) 6" 90° DI HORIZONTAL BEND, MJxMJ W/ MECHANICAL RESTRAINTS AS SHOW ON PROFILE.

(8) 2" COMBINATION AIR AND VACUUM VALVE PER DETAIL 4 ON DWG. C-16

(20) TIE INTO EXISTING LINE WITH TEE CONNECTION, SLURRY BACKFILL CONNECTIONS LESS THAN 36" DEEP.

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REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

OSGOOD AVE. STA 35+00 TO STA 42+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

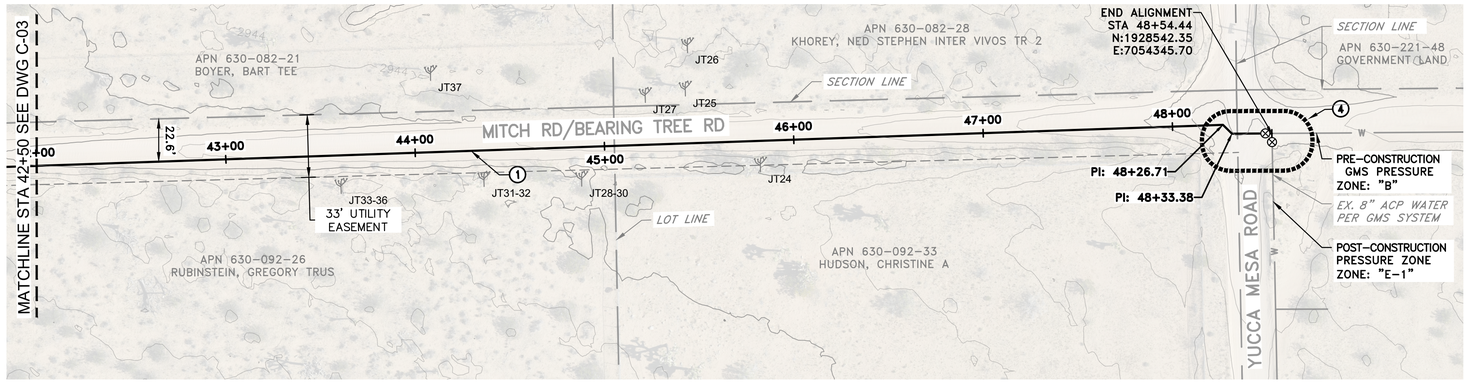
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DRAWING NUMBER C-03

SHEET NUMBER 6 / 27

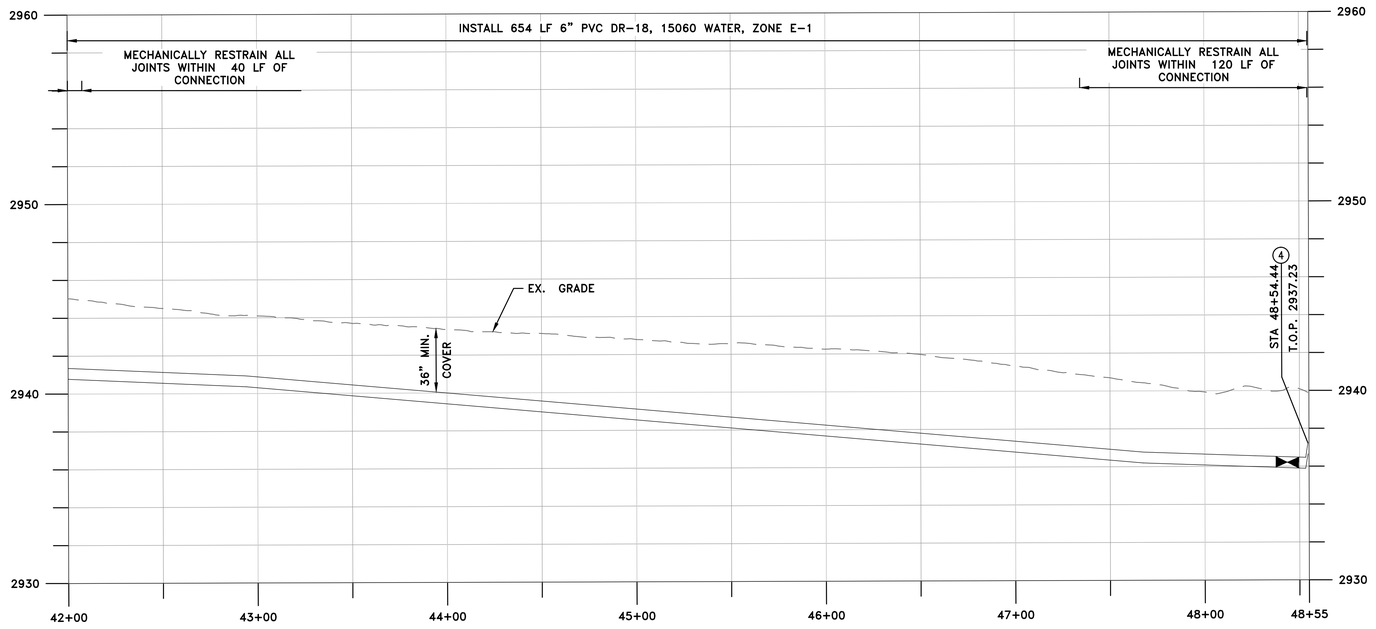
VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE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

0 1"



PLAN

SCALE: 1" = 40'



MAIN PROFILE 42+00 TO 48+55

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

N

0 40' 80'
1"=40'

GENERAL NOTES:

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11. WHERE INDICATED ON PROFILE, MECHANICALLY RESTRAIN BELL/SPIGOT CONNECTIONS PER DETAIL 3 DWG C-15.

CONSTRUCTION NOTES

(1) 6" PVC C900 DR-18 DISTRIBUTION WATER PIPE, MECHANICAL RESTRAINTS AS NOTED ON PROFILE, TRENCH BACKFILL PER DETAIL 1 ON DWG. C-15 AND RESURFACING IN KIND.

(4) CONNECTION PER DETAIL 1 ON DWG. C-19.

REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

MITCH RD.-BEARING TREE RD.
STA 42+00 TO STA 48+22.31

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

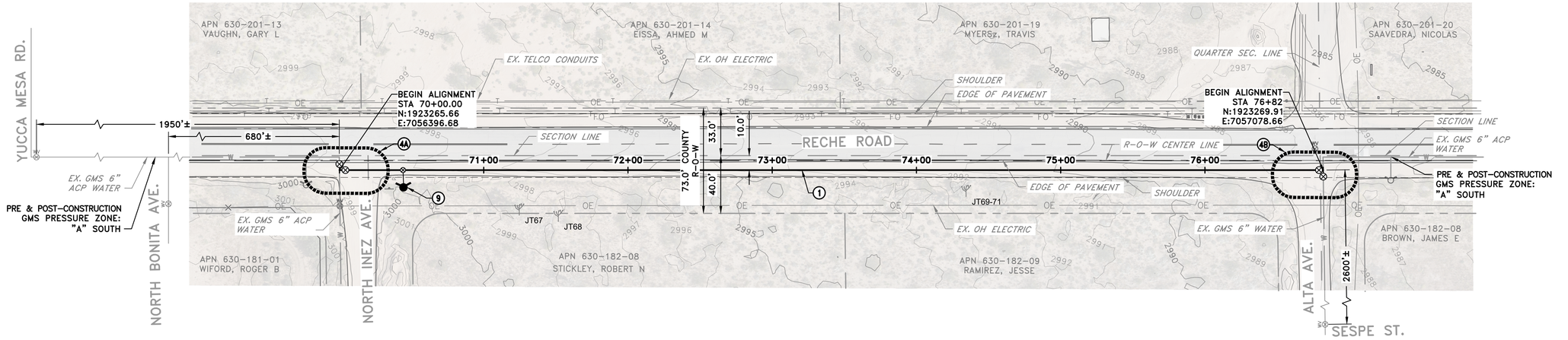
DRAWING NUMBER C-04

SHEET NUMBER 7 / 27

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0 1"

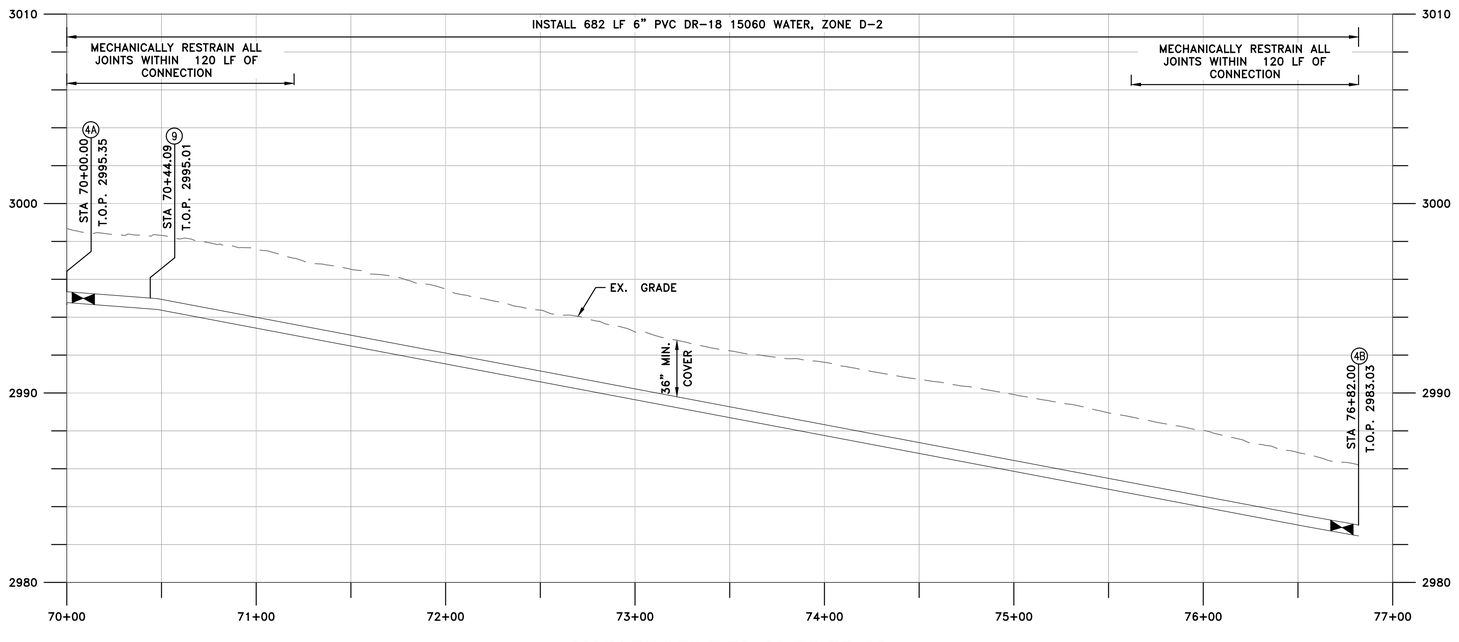
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PLAN

SCALE: 1" = 40'

1"=40' 0 40' 80' N



MAIN PROFILE 70+00 TO 77+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

COUNTY EXCAVATION PERMIT NOTES:

1. CONTRACTOR SHALL CONTACT DENNIS BRHEL 48 HOURS PRIOR TO START OF WORK AT 909-387-1863 OR dbrhel@dpw.sbcounty.gov.
2. NO WORK SHALL BE PERFORMED WITHIN THE COUNTY ROW ON WEEKENDS, COUNTY HOLIDAYS, BEFORE 7AM OF AFTER 4:30PM.
3. PROVIDE A 7 WORKING DAY PUBLIC NOTIFICATION.
4. CONTRACTOR SHALL MAINTAIN A COPY OF EXCAVATION PERMIT NO. TREXC-2025-00579 ON SITE AND COMPLY WITH THE GENERAL PROVISIONS THEREIN.
5. CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIALS WITHIN COUNTY ROW BY THE END OF EACH WORKDAY UNLESS APPROVED BY COUNTY DPW INSPECTOR.
6. PIPELINE TRENCHING IS ANTICIPATED TO REMAIN OUTSIDE PAVED ROADWAY LIMITS. CONTRACTOR SHALL PROTECT EXISTING PAVEMENT AND SHALLL REPAIR AND PAVEMENT, SHOULDER, OR ROADWAY DAMAGE CAUSED BY CONTRACTOR OPERATIONS TO THE SATISFACTION OF THE COUNTY DPW.

GENERAL NOTES:

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CONSTRUCTION NOTES

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4A. CONNECTION PER DETAIL 2 ON DWG. C-19
4B. CONNECTION PER DETAIL 3 ON DWG. C-19
9. DRY BARREL FIRE HYDRANT ASSEMBLY PER DETAIL 3 ON DWG. C-16.

REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

RECHE RD. STA 70+00 TO STA 76+82

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

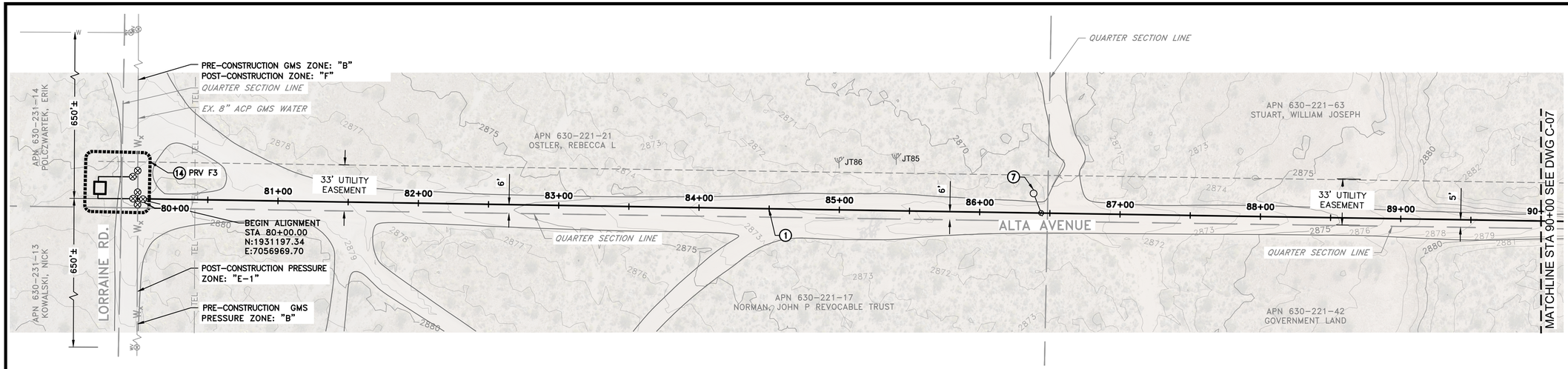
DATE: SEPTEMBER 2026

DRAWING NUMBER C-05

SHEET NUMBER 8 / 27

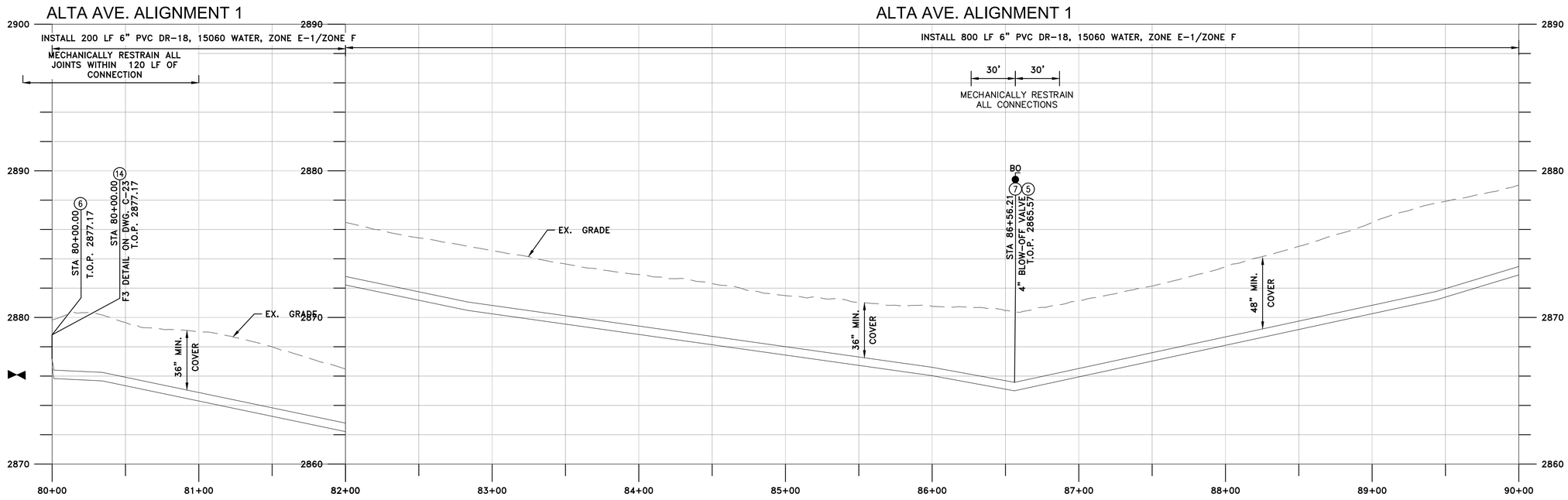
VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE NOT TO BE USED AS A STAND ALONE DOCUMENT FOR CONSTRUCTION. 0 1"

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PLAN
SCALE: 1" = 40'

0 40' 80'
1"=40'



MAIN PROFILE 80+00 TO 82+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

MAIN PROFILE 82+00 TO 90+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

GENERAL 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 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.
3. THE CONTRACTOR SHALL INSTALL ALL PIPELINES AT THE ELEVATIONS SHOWN ON THE PROFILE SHEETS UNLESS SPECIFICALLY NOTED OTHERWISE. MINIMUM COVER OVER ALL PIPES SHALL BE 36 INCHES.
   A. FOR ALL CONNECTIONS WITH LESS THAN 36 INCHES OF COVER, THE CONTRACTOR SHALL SLURRY BACKFILL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND GOVERNING AGENCY REQUIREMENTS.
4. THE CONTRACTOR SHALL VERIFY ALL JOSHUA TREE LOCATIONS USING THE BOTANIST REPORT PROVIDED. EXISTING TREES SHALL BE PROTECTED IN PLACE WHEREVER FEASIBLE. REMOVAL OF ANY TREE SHALL ONLY OCCUR WHEN APPROVED, PERMITTED, AND UNDER THE SUPERVISION OF THE BIOLOGIST.
5. ALL PAVEMENT AND SURFACE RESTORATION (INCLUDING FENCES) SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE REQUIREMENTS OF THE GOVERNING AGENCY.
6. THE CONTRACTOR SHALL CONFIRM EXISTING PERMITS OR OBTAIN ALL REQUIRED PERMITS FROM THE COUNTY AND OTHER GOVERNING AGENCIES PRIOR TO CONSTRUCTION.
7. 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.
8. CONTRACTOR SHALL VERIFY LOCATION OF CAV ASSEMBLIES, BLOW OFF ASSEMBLIES, FIRE HYDRANTS, SERVICES, AND OTHER APPURTENANCES WITH BDVWA STAFF PRIOR TO INSTALLATION.
9. CONTRACTOR SHALL ASSUME ALL EXISTING ASBESTOS_CEMENT (AC) PIPE ENCOUNTERED WITHIN THE PROJECT LIMITS CONTAINS REGULATED ASBESTOS MATERIAL. ALL WORK INVOLVING AC PIPE--INCLUDING DISTURBANCE, CUTTING, REMOVAL, ABANDONMENT, PACKAGING, TRANSPORT, AND DISPOSAL--SHALL BE PERFORMED IN ACCORDANCE WITH CAL/OSHA, FEDERAL REQUIREMENTS AND SECTION 028213.19 OF THE SPECIFICATIONS.
10. FOR LOCATIONS WHICH REQUIRE SLURRY BACKFILL THE CONTRACTOR SHALL USE TYPE "F" MATERIAL PER CS 02201.
11. WHERE INDICATED ON PROFILE, MECHANICALLY RESTRAIN BELL/SPIGOT CONNECTIONS PER DETAIL 3 DWG C-15.

CONSTRUCTION NOTES

1. 6" PVC C900 DR-18 DISTRIBUTION WATER PIPE, MECHANICAL RESTRAINTS AS NOTED ON PROFILE, TRENCH BACKFILL PER DETAIL 1 ON DWG. C-15 AND RESURFACING IN KIND.
5. MAINTAIN A MINIMUM COVER OF 48" BEYOND STA 86+50 TO END OF ALTA AVE. ALIGNMENT 1.
7. 4" BLOW-OFF ASSEMBLY PER DETAIL 2 ON DWG. C-15 (KEEP OUTSIDE PATH OF TRAVEL)
14. 8" PRESSURE REDUCING STATION F3 AND PIPELINE CONNECTION PER DETIAL 3 DWG. C-23

REVISION	BID SET
DESN	J. NELSON
DRW	R. ASBENSON
CHECK	J. NELSON
APV	9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

ALTA AVE. ALIGN. 1 STA 80+00 TO 90+00

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

DRAWING NUMBER C-06

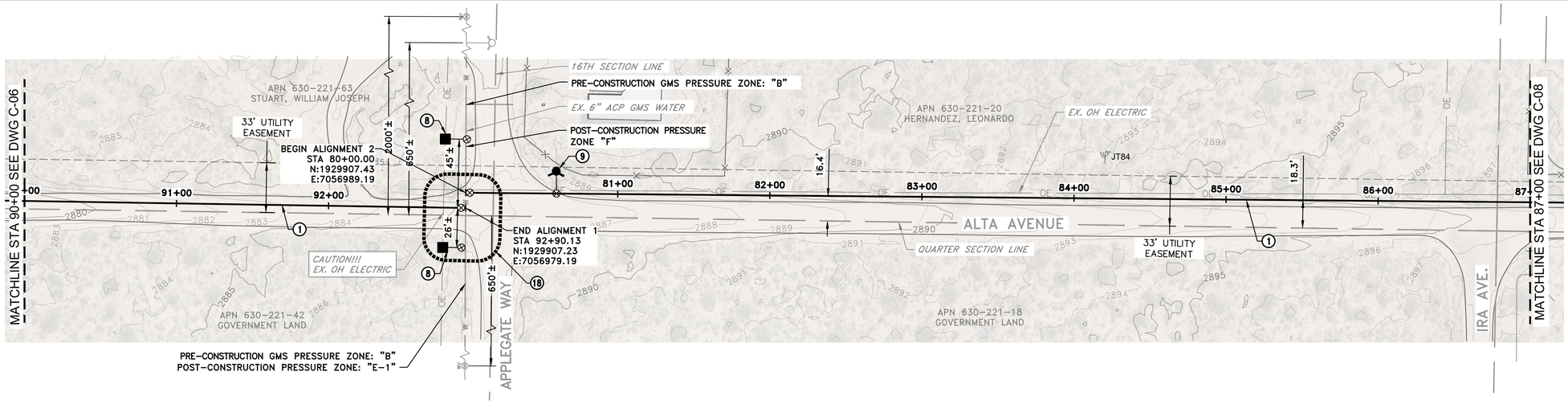
SHEET NUMBER 9 / 27

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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C:\Users\JaredNelson\MC Engineering\Clients - Documents\General\072 Cal Rural Water\Big Horn Water District\04 CAD\Consolidation Dwgs\Sheets\C-06.dwg Sep 15, 2026 - 4:26pm



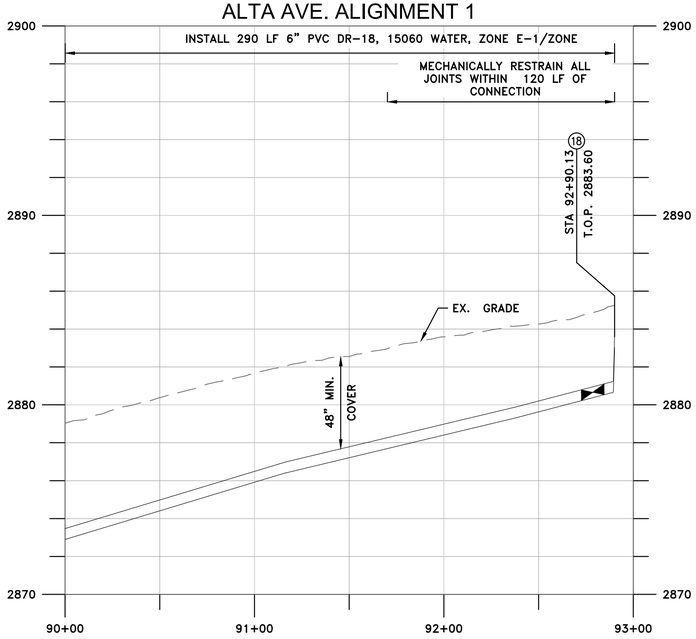
PLAN

SCALE: 1" = 40'

N

1"=40' 0 40' 80'

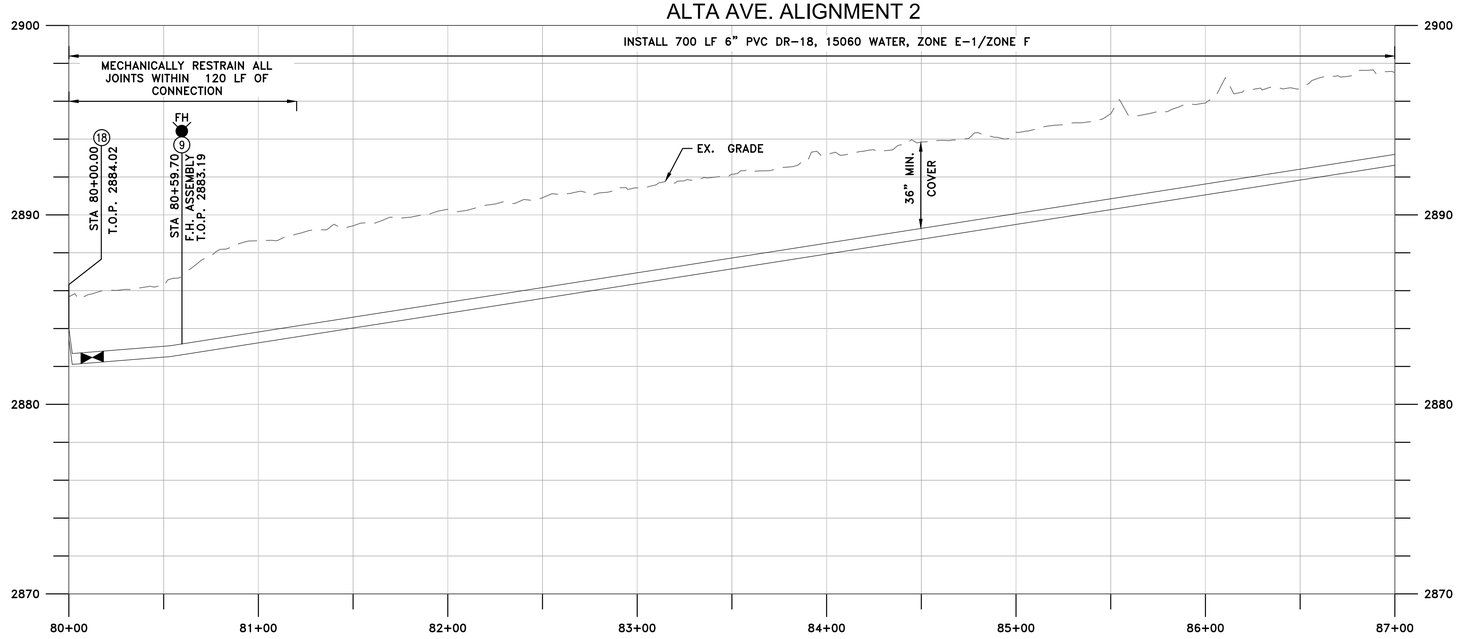
ALTA AVE. ALIGNMENT 1



MAIN PROFILE 90+00 TO 93+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

ALTA AVE. ALIGNMENT 2



MAIN PROFILE 80+00 TO 87+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

GENERAL 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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4. THE CONTRACTOR SHALL VERIFY ALL JOSHUA TREE LOCATIONS USING THE BOTANIST REPORT PROVIDED. EXISTING TREES SHALL BE PROTECTED IN PLACE WHEREVER FEASIBLE. REMOVAL OF ANY TREE SHALL ONLY OCCUR WHEN APPROVED, PERMITTED, AND UNDER THE SUPERVISION OF THE BIOLOGIST.
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11. WHERE INDICATED ON PROFILE, MECHANICALLY RESTRAIN BELL/SPIGOT CONNECTIONS PER DETAIL 3 DWG C-15.

CONSTRUCTION NOTES

(1) 6" PVC C900 DR-18 DISTRIBUTION WATER PIPE, MECHANICAL RESTRAINTS AS NOTED ON PROFILE, TRENCH BACKFILL PER DETAIL 1 ON DWG. C-15 AND RESURFACING IN KIND.

(8) INSTALL COMBINATION AIR AND VACUUM VALVE ON (E) 6" AC LINE PER DETAIL 4 ON DWG. C-16.

(9) DRY BARREL FIRE HYDRANT ASSEMBLY PER DETAIL 3 ON DWG. C-16.

(18) CONNECT TO (E) AC WTR MAINS PER DETAIL 1 ON DWG. C-20.

REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

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No. C89673
Exp. 3/31/27
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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

ALTA AVE. ALIGN. 1 & ALTA AVE. ALIGN. 2

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

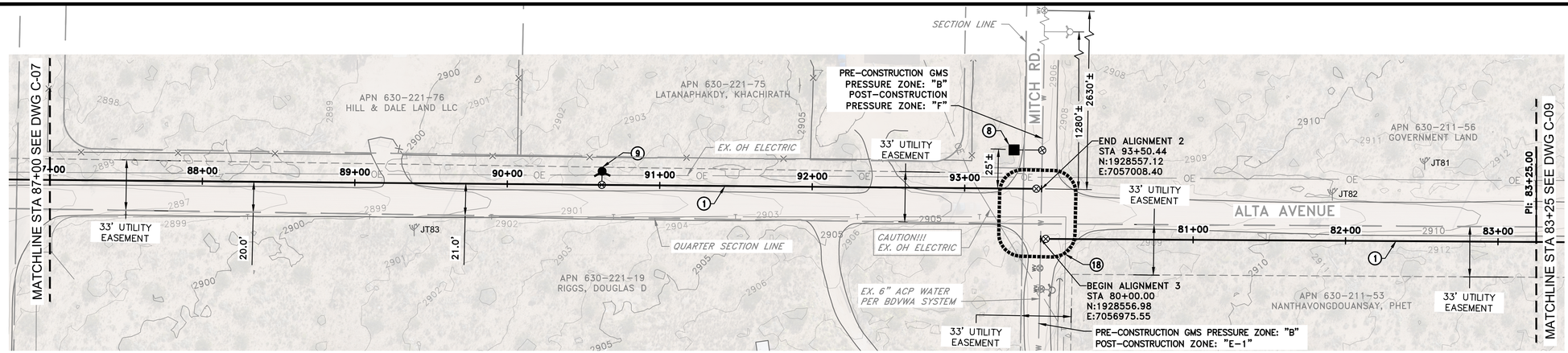
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SHEET NUMBER 10 / 27

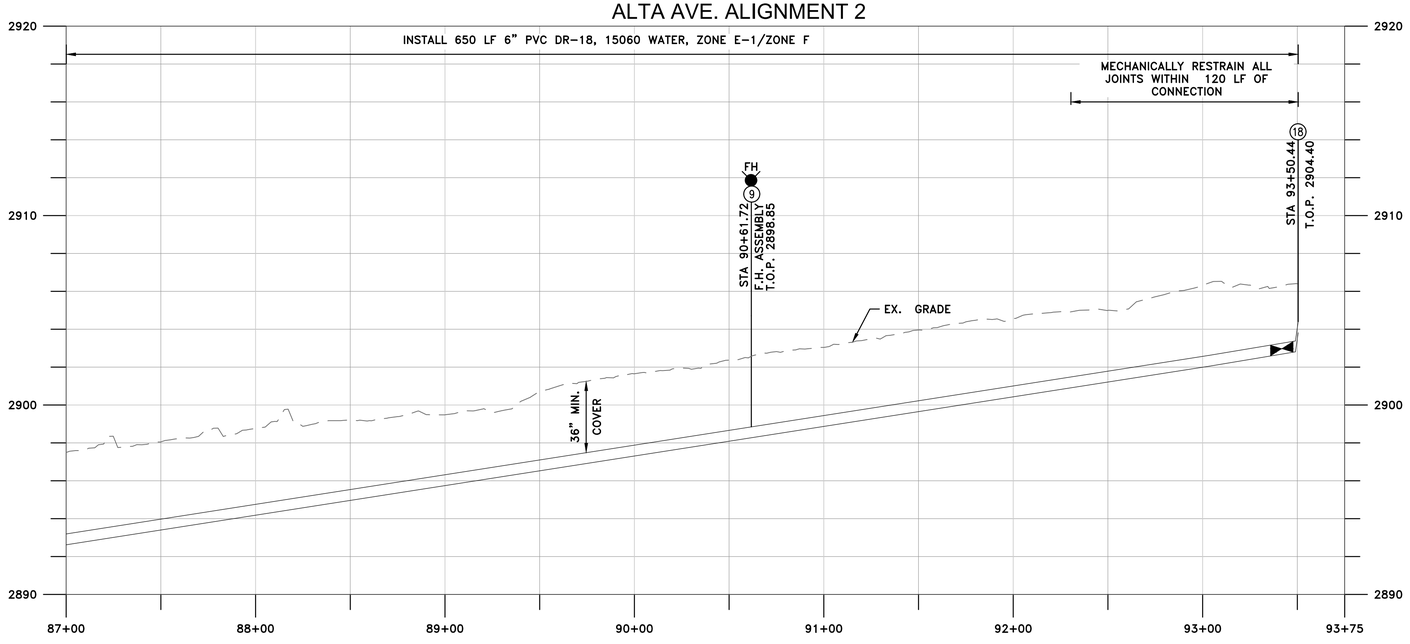
VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE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

0 1"

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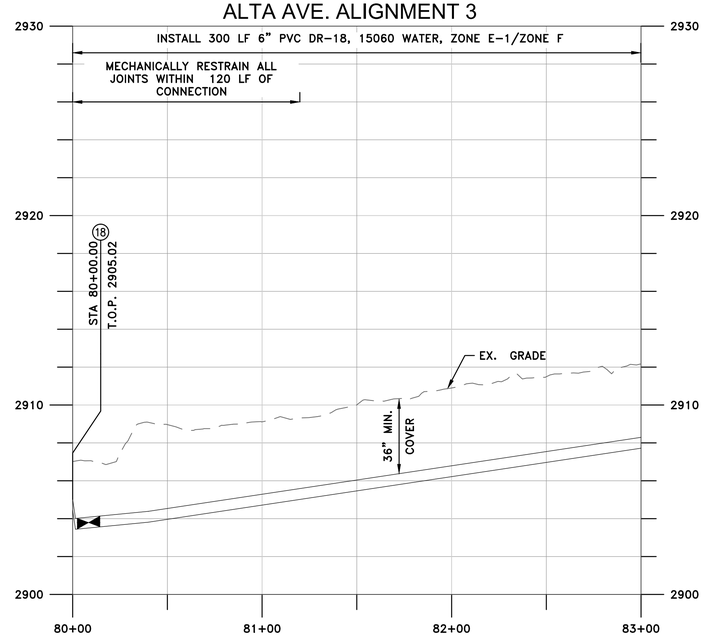


PLAN
SCALE: 1" = 40'



MAIN PROFILE 87+00 TO 93+75

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



MAIN PROFILE 80+00 TO 83+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

GENERAL NOTES:

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11. WHERE INDICATED ON PROFILE, MECHANICALLY RESTRAIN BELL/SPIGOT CONNECTIONS PER DETAIL 3 DWG C-15.

CONSTRUCTION NOTES

(1) 6" PVC C900 DR-18 DISTRIBUTION WATER PIPE, MECHANICAL RESTRAINTS AS NOTED ON PROFILE, TRENCH BACKFILL PER DETAIL 1 ON DWG. C-15 AND RESURFACING IN KIND.
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(9) DRY BARREL FIRE HYDRANT ASSEMBLY PER DETAIL 3 ON DWG. C-16.
(18) CONNECT TO (E) AC WTR MAINS PER DETAIL 2 ON DWG. C-20.

REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

ALTA AVE. ALIGN. 2 & ALTA AVE. ALIGN. 3

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

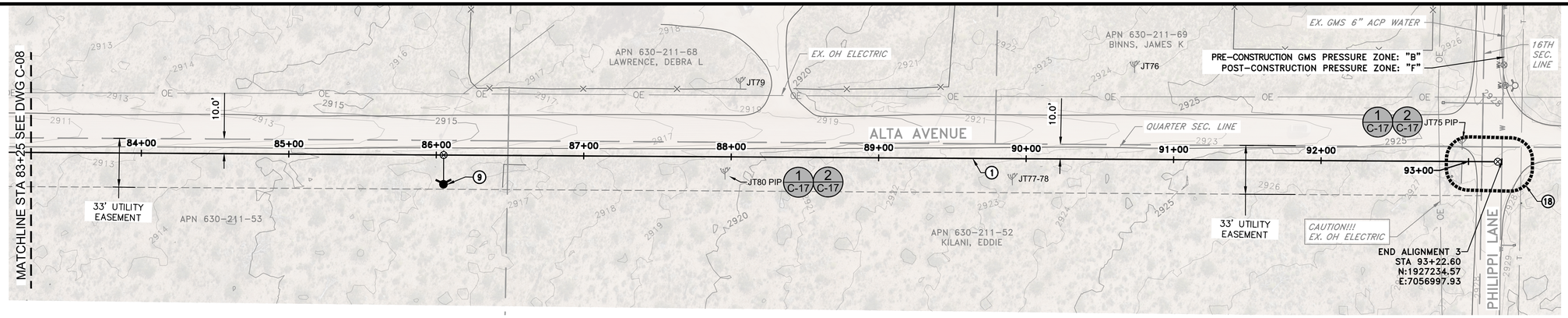
DATE: SEPTEMBER 2026

DRAWING NUMBER
C-08
SHEET NUMBER
11 / 27

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"

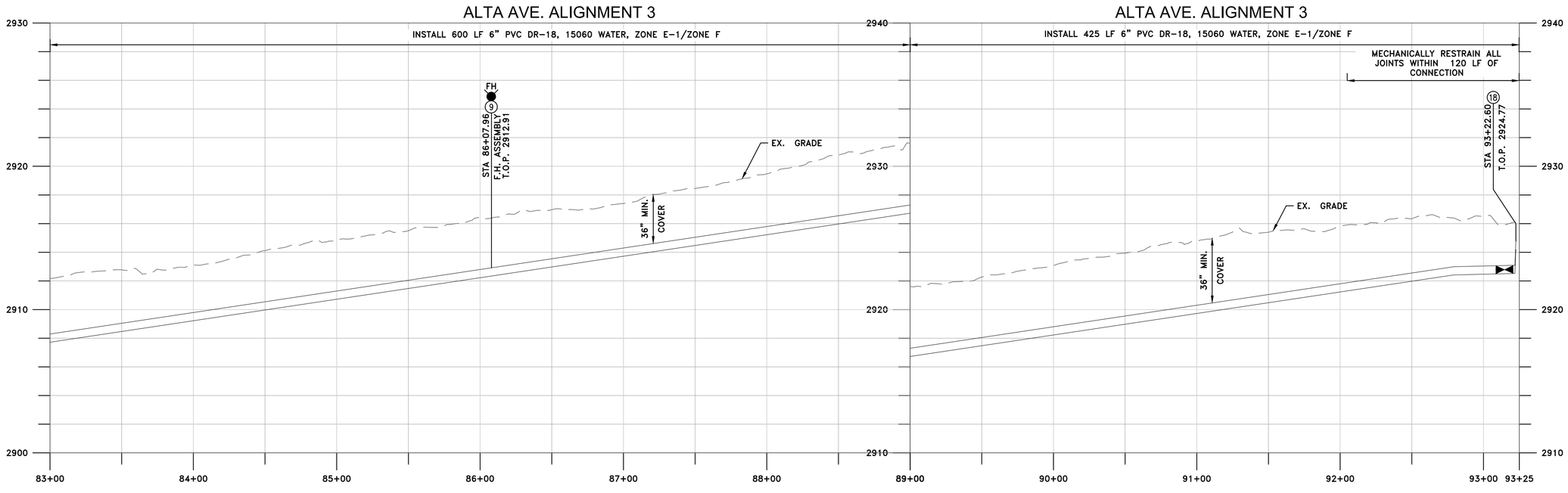
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PLAN

SCALE: 1" = 40'

0 40' 80'
1"=40'



MAIN PROFILE 83+00 TO 89+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

MAIN PROFILE 89+00 TO 93+25

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

GENERAL NOTES:

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(18) CONNECT TO (E) AC WTR MAINS PER DETAIL 3 DWG. C-20

REVISION
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CIVIL
STATE OF CALIFORNIA

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

ALTA AVE. ALIGN. 3 STA 83+00 TO 93+22.60

CALIFORNIA RURAL WATER ASSOCIATION

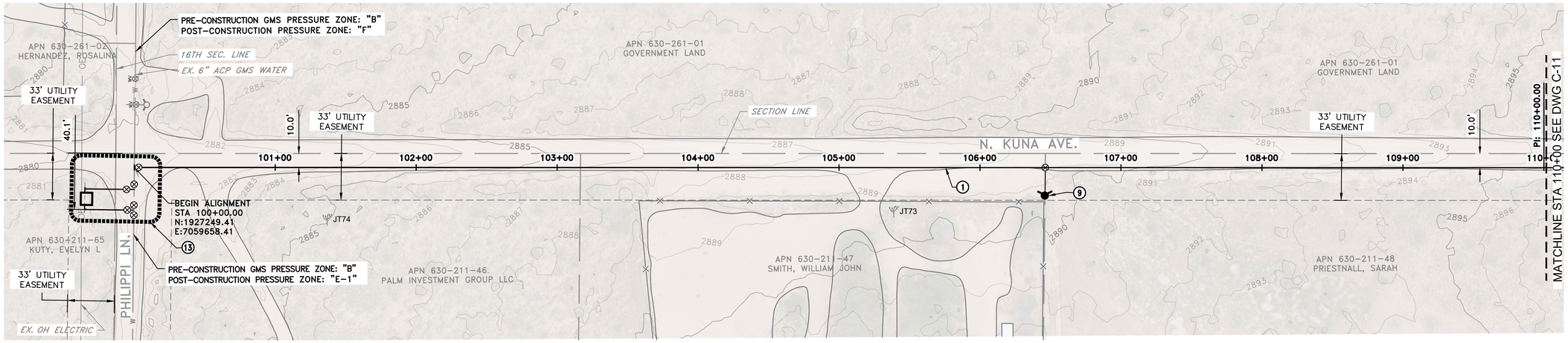
BIGHORN Desert View WATER AGENCY

PROJECT:
072-01C
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C-09
SHEET NUMBER
12 / 27

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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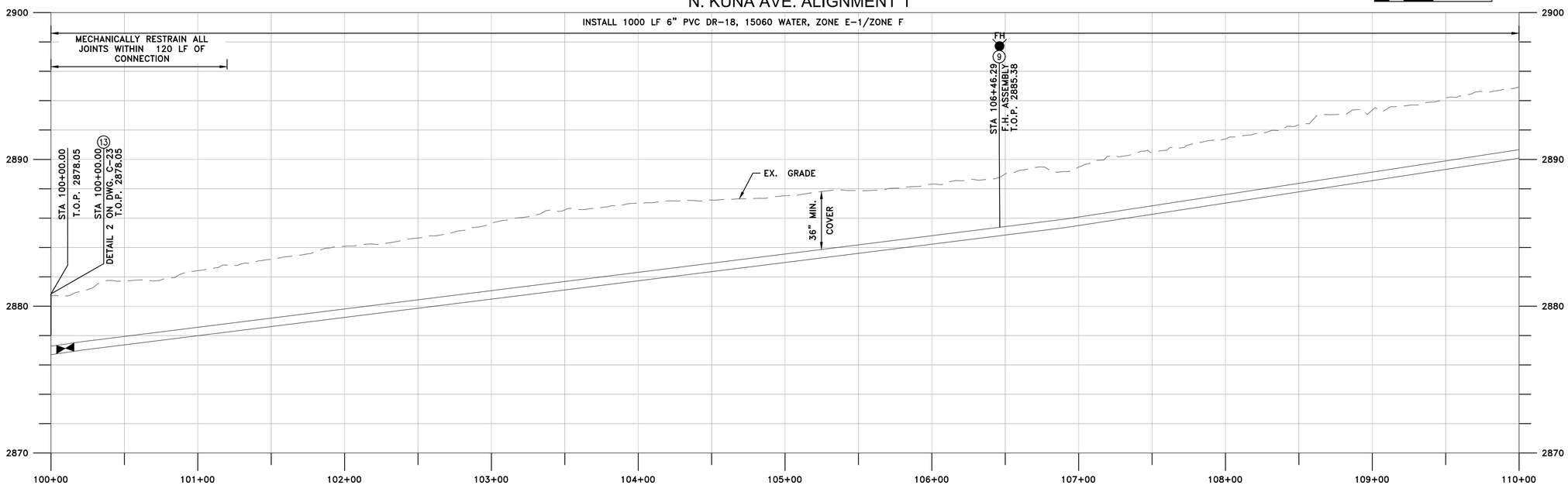
PLAN

SCALE: 1" = 40'

N

0 40' 80'
1"=40'

N. KUNA AVE. ALIGNMENT 1



MAIN PROFILE 100+00 TO 110+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

GENERAL 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 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.
3. THE CONTRACTOR SHALL INSTALL ALL PIPELINES AT THE ELEVATIONS SHOWN ON THE PROFILE SHEETS UNLESS SPECIFICALLY NOTED OTHERWISE. MINIMUM COVER OVER ALL PIPES SHALL BE 36 INCHES.
   A. FOR ALL CONNECTIONS WITH LESS THAN 36 INCHES OF COVER, THE CONTRACTOR SHALL SLURRY BACKFILL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND GOVERNING AGENCY REQUIREMENTS.
4. THE CONTRACTOR SHALL VERIFY ALL JOSHUA TREE LOCATIONS USING THE BOTANIST REPORT PROVIDED. EXISTING TREES SHALL BE PROTECTED IN PLACE WHEREVER FEASIBLE. REMOVAL OF ANY TREE SHALL ONLY OCCUR WHEN APPROVED, PERMITTED, AND UNDER THE SUPERVISION OF THE BIOLOGIST.
5. ALL PAVEMENT AND SURFACE RESTORATION (INCLUDING FENCES) SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE REQUIREMENTS OF THE GOVERNING AGENCY.
6. THE CONTRACTOR SHALL CONFIRM EXISTING PERMITS OR OBTAIN ALL REQUIRED PERMITS FROM THE COUNTY AND OTHER GOVERNING AGENCIES PRIOR TO CONSTRUCTION.
7. 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.
8. CONTRACTOR SHALL VERIFY LOCATION OF CAV ASSEMBLIES, BLOW OFF ASSEMBLIES, FIRE HYDRANTS, SERVICES, AND OTHER APPURTENANCES WITH BDVWA STAFF PRIOR TO INSTALLATION.
9. CONTRACTOR SHALL ASSUME ALL EXISTING ASBESTOS_CEMENT (AC) PIPE ENCOUNTERED WITHIN THE PROJECT LIMITS CONTAINS REGULATED ASBESTOS MATERIAL. ALL WORK INVOLVING AC PIPE--INCLUDING DISTURBANCE, CUTTING, REMOVAL, ABANDONMENT, PACKAGING, TRANSPORT, AND DISPOSAL--SHALL BE PERFORMED IN ACCORDANCE WITH CAL/OSHA, FEDERAL REQUIREMENTS AND SECTION 028213.19 OF THE SPECIFICATIONS.
10. FOR LOCATIONS WHICH REQUIRE SLURRY BACKFILL, THE CONTRACTOR SHALL USE TYPE "F" MATERIAL PER CS 02201.
11. WHERE INDICATED ON PROFILE, MECHANICALLY RESTRAIN BELL/SPIGOT CONNECTIONS PER DETAIL 3 DWG C-15.

CONSTRUCTION NOTES

(1) 6" PVC C900 DR-18 DISTRIBUTION WATER PIPE, MECHANICAL RESTRAINTS AS NOTED ON PROFILE, TRENCH BACKFILL PER DETAIL 1 ON DWG. C-15 AND RESURFACING IN KIND.
(3) [NOT USED]
(9) DRY BARREL FIRE HYDRANT ASSEMBLY PER DETAIL 3 ON DWG. C-16.
(13) 6" PRESSURE REDUCING STATION F2 AND PIPELINE CONNECTION PER DETAIL 2 ON DWG. C-23.

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DESN: J. NELSON
DRW: R. ASBENSON
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APV: 9/4/2026

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No. C89673
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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

N. KUNA AVE. ALIGN. 1
STA 100+00 TO 110+00

CALIFORNIA RURAL WATER ASSOCIATION

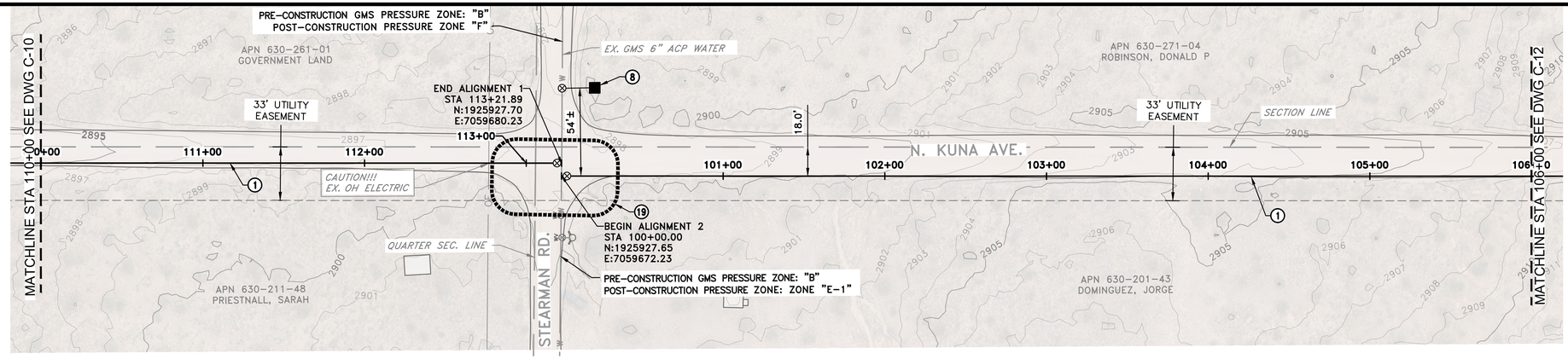
BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C
DATE: SEPTEMBER 2026
DRAWING NUMBER C-10
SHEET NUMBER 13 / 27

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

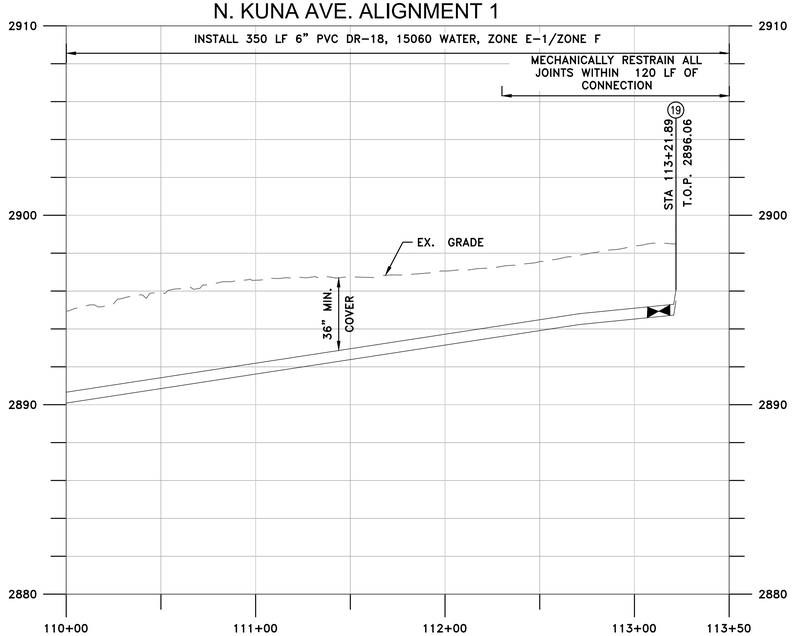
SCALE: 1" = 40'

N

0 40' 80'

1"=40'

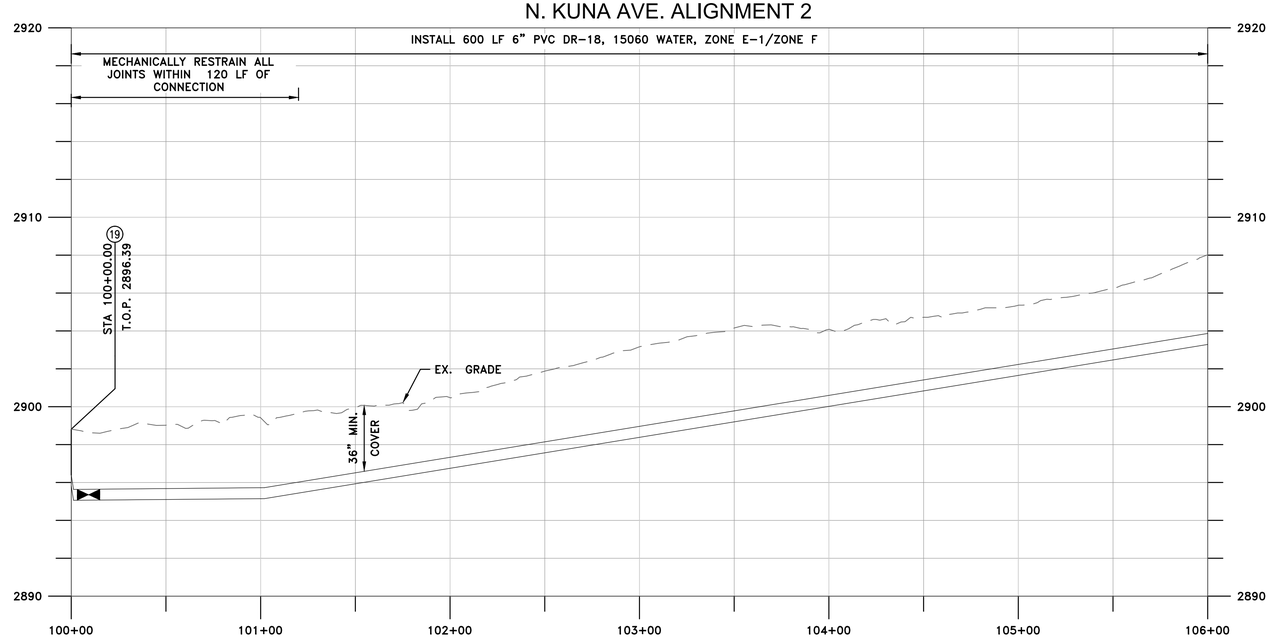
N. KUNA AVE. ALIGNMENT 1



MAIN PROFILE 110+00 TO 113+50

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

N. KUNA AVE. ALIGNMENT 2



MAIN PROFILE 100+00 TO 106+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

GENERAL NOTES:

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CONSTRUCTION NOTES

(1) 6" PVC C900 DR-18 DISTRIBUTION WATER PIPE, MECHANICAL RESTRAINTS AS NOTED ON PROFILE, TRENCH BACKFILL PER DETAIL 1 ON DWG. C-15 AND RESURFACING IN KIND.

(8) INSTALL COMBINATION AIR AND VACUUM VALVE ON (E) 6" AC LINE PER DETAIL 4 ON DWG. C-16.

(19) CONNECTION PER DETAIL 1 DWG. C-21.

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DESN: J. NELSON
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APV: 9/4/2026

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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

N. KUNA AVE. ALIGN. 1 & N. KUNA AVE. ALIGN. 2

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

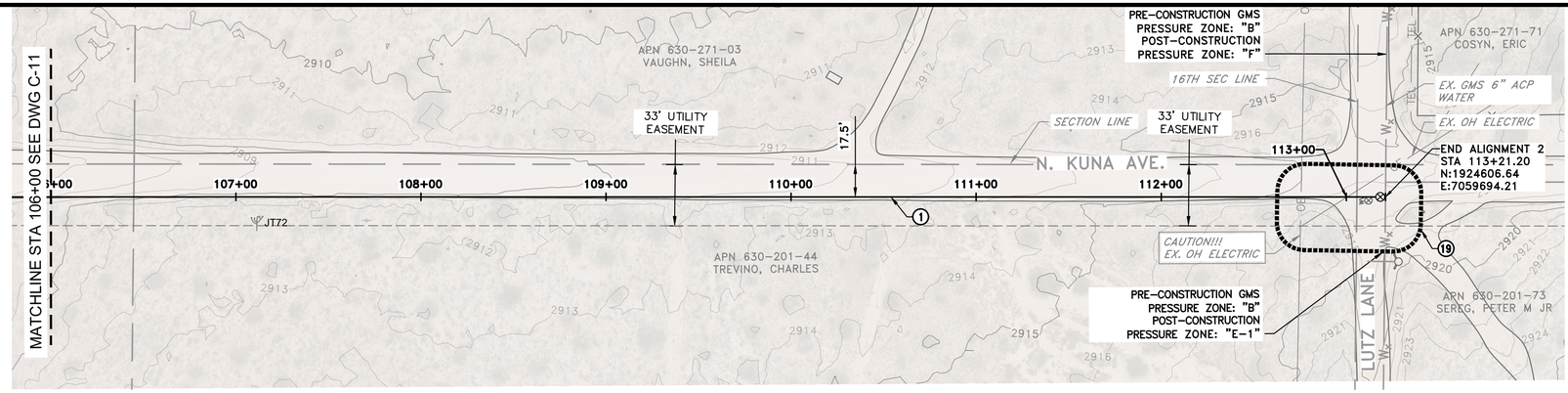
DRAWING NUMBER C-11

SHEET NUMBER 14 / 27

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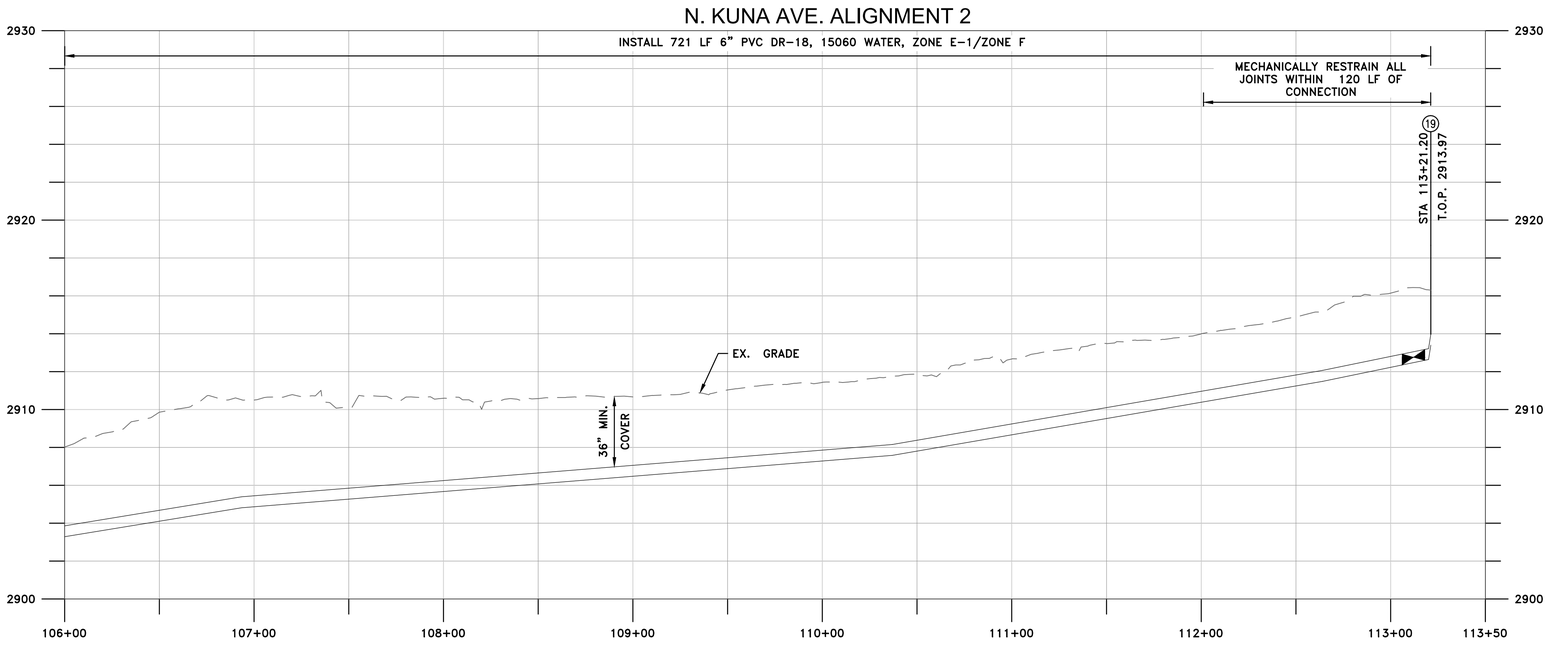
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PLAN
SCALE: 1" = 40'

N
0 40' 80'
1"=40'



MAIN PROFILE 106+00 TO 113+50

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

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CONSTRUCTION NOTES

(1) 6" PVC C900 DR-18 DISTRIBUTION WATER PIPE, MECHANICAL RESTRAINTS AS NOTED ON PROFILE, TRENCH BACKFILL PER DETAIL 1 ON DWG. C-15 AND RESURFACING IN KIND.

(19) CONNECT TO (E) AC WTR MAIN PER DETAIL 2 DWG. C-21.

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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

N. KUNA AVE. ALIGN. 2
STA 106+00 TO 113+21.20

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT:
072-01C

DATE:
APRIL 2026

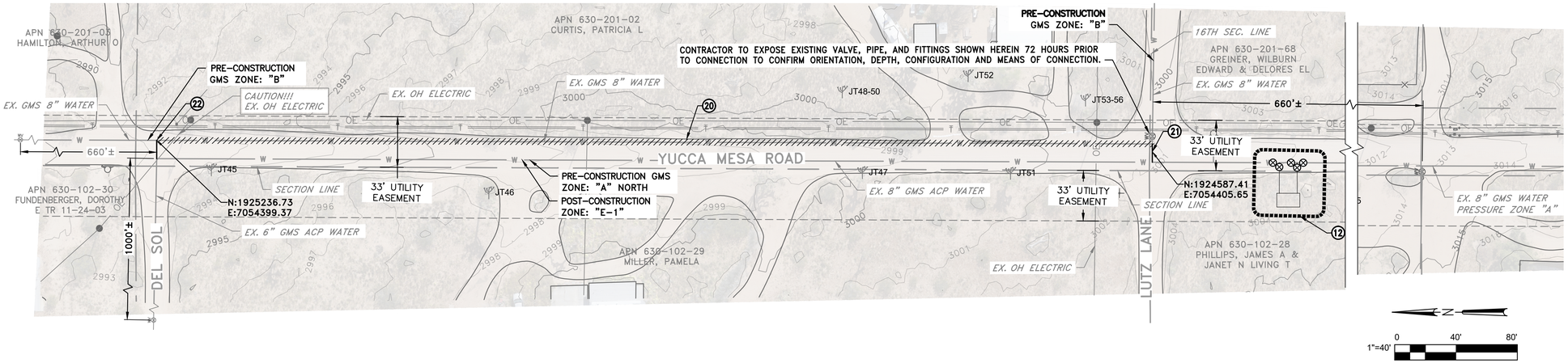
DRAWING NUMBER
C-12

SHEET NUMBER
15 / 27

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.

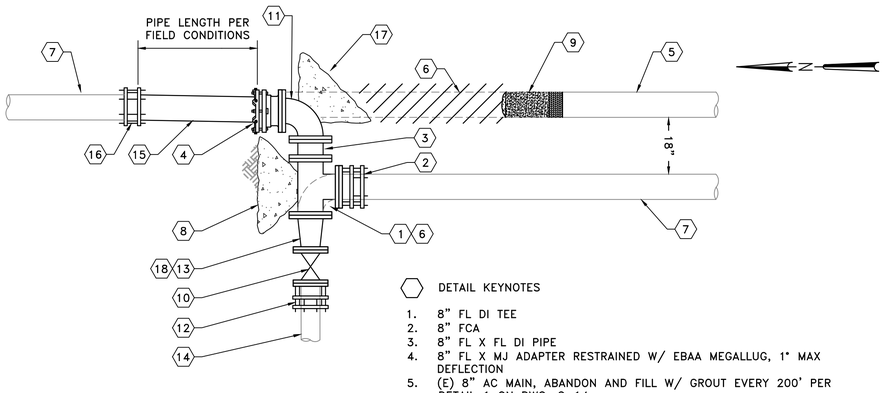
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PLAN

SCALE: 1" = 40'

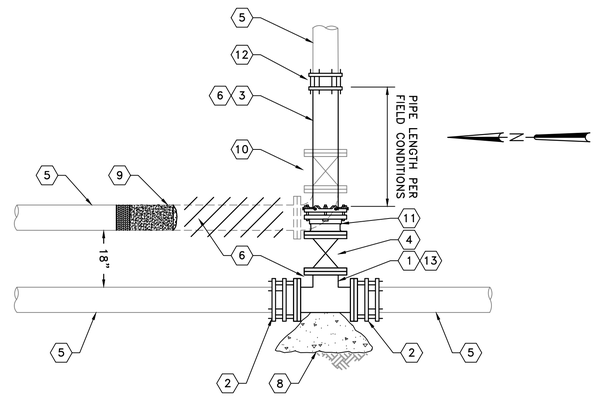


DETAIL KEYNOTES

1. 8" FL DI TEE
2. 8" FCA
3. 8" FL X FL DI PIPE
4. 8" FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALLUG, 1° MAX DEFLECTION
5. (E) 8" AC MAIN, ABANDON AND FILL W/ GROUT EVERY 200' PER DETAIL 1 ON DWG. C-14
6. REMOVE SECTION OF (E) AC PIPE AND DISPOSE PER CS 028213.19
7. (E) 8" AC MAIN
8. THRUST BLOCK PER DETAIL 4 SHEET C-18
9. CUT AND PLUG PER DETAIL 1 ON DWG. C-14
10. 6" FLANGED GATE VALVE W/ CAN PER DETAIL 2 SHEET C-16
11. 8" FLANGED DI 90° FITTING
12. 6" FCA
13. 6" FL DI 6 X 8 REDUCER
14. (E) 6" AC MAIN
15. 8" DR-18 C900 PVC PIPE
16. 8" DRESSER COUPLER
17. THRUST BLOCK PER DETAIL 1 SHEET C-18
18. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

TIE-IN DETAIL (DEL SOL) 1

SCALE: NTS



DETAIL KEYNOTES

1. 8" FL DI TEE
2. 8" FCA
3. 8" FL X PE DR-18 C900 PVC PIPE CTF
4. 8" FLANGED GATE VALVE WITH CAN PER DETAIL 2 SHEET C-16
5. (E) 8" AC MAIN
6. REMOVE SECTION OF (E) AC PIPE AND DISPOSE PER CS 028213.19
7. NOT USED
8. THRUST BLOCK PER DETAIL 4 SHEET C-18
9. CUT AND PLUG (E) AC PIPE PER DETAIL 1 ON DWG. C-14
10. DEMOLISH AND REMOVE (E) GATE VALVE
11. 8" FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG
12. 8" DRESSER COUPLER
13. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

TIE-IN DETAIL (LUTZ LANE) 2

SCALE: NTS

GENERAL NOTES:

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CONSTRUCTION NOTES

(12) INSTALL 8" PRESSURE REDUCING STATION F1 DETAIL 1 ON DWG. C-23.

(20) ABANDON AND CAP EXISTING GM WATER PIPELINE AT ENDS AND EVERY 200' PER DETAIL 1, DWG. C-14

(21) INSTALL TIE-IN CONNECTION BETWEEN (E) 8" AC MAIN AS INDICATED ON DETAIL 2 THIS DWG.

(22) INSTALL TIE-IN CONNECTION BETWEEN (E) 8" MAINS AS INDICATED ON DETAIL 1 THIS DWG.

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REGISTERED PROFESSIONAL ENGINEER
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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

YUCCA MESA RD. CONNECTIONS

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

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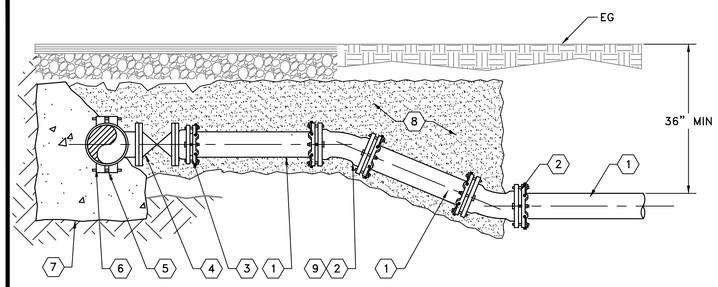
DRAWING NUMBER C-13

SHEET NUMBER 16 / 27

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DETAIL KEYNOTES

1. 8" C900 PER PLAN
2. 8" MJ X MJ DI 22.5° BEND RESTRAINED W/ EBAA MEGALUGS
3. 8" MJ X FLG ADAPTER RESTRAINED W/ EBAA MEGALUGS
4. 8" GATE VALVE, FLG X FLG, VALVE BOX, PER DETAIL 2, DWG. C-16.
5. HOT TAP EXISTING LINE WITH SST III ROMAC SLEEVE 12"X12"X8" TEE FOR ACP
6. EXISTING 12" ACP
7. THRUST BLOCK PER DETAIL 4 SHEET C-18
8. SLURRY BACKFILL TYPE "F" MATERIAL PER CS 02201
9. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

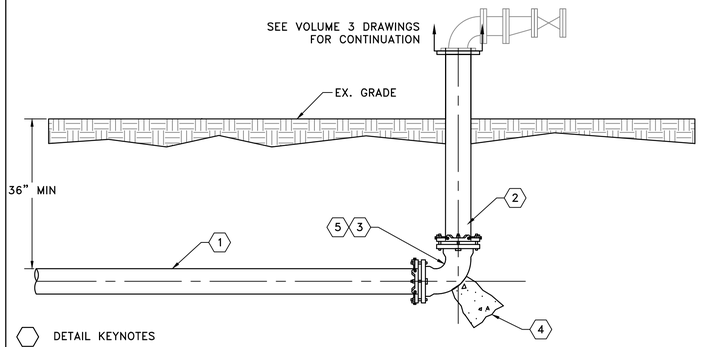
NOTES:

1. ALL CONNECTIONS LESS THAN 36" IN COVER REQUIRE SLURRY BACKFILL
2. NEW PIPE DIAMETER VARY REFER TO CALLOUTS ON PROFILE SHEETS.
3. EXISTING PIPE DIAMETER VARIES CONTRACTOR TO CONFORM PIPE SIZES AND DEPTH PRIOR TO CONSTRUCTION

12" HOT TAP

SCALE: NTS

A C-01



DETAIL KEYNOTES

1. 8" DR-18 C900 PVC PIPE
2. 8" DI (FOR SPECIFICATIONS SEE ZONE B AND D1 PUMP STATION IMPROVEMENTS DRAWINGS)
3. 8" MJ X MJ DI 90° BEND RESTRAINED W/ EBAA MEGALUGS
4. THRUST BLOCK PER DETAIL 2 SHEET C-18
5. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

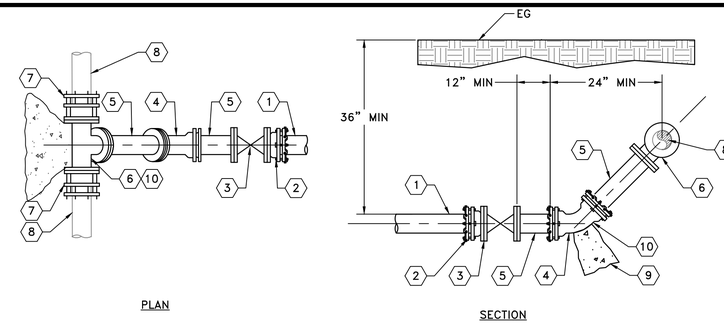
NOTES:

1. ELEVATION OF NEW LINE COMING FROM PUMP STATION TO BE VERIFY PRIER TO CONSTRUCTION.
2. All JOINTS TO BE MECHANICALLY RESTRAINED UNO.

ZONE B AND D1 PUMP STATION CONNECTION

SCALE: NTS

B C-01



DETAIL KEYNOTES

1. "MAIN SIZE" PVC C900 (DIAMETER VARIES SEE PROFILE)
2. "MAIN SIZE" MJ X FLG RESTRAINED W/ EBAA MEGALUGS
3. "MAIN SIZE" GATE VALVE, FLG X FLG, VALVE BOX, PER DETAIL 2 ON DWG C-16
4. "MAIN SIZE" FLG X FLG DI 45° BEND RESTRAINED W/ EBAA MEGALUGS
5. "MAIN SIZE" DI FLG X PE CUT TO SIZE RESTRAINED W/ EBAA MEGALUGS
6. "MAIN SIZE" DI TEE OR 90° BEND (SEE PROFILE) FLANGED WITH FCA ON CONNECTION(S) TO EXISTING LINE
7. "MAIN SIZE" FCA ADAPTER
8. EXISTING AC MAIN LINE
9. THRUST BLOCK PER DETAIL 2 SHEET C-18
10. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

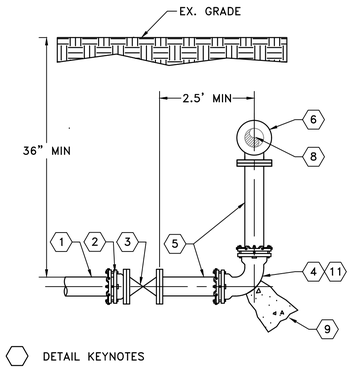
NOTES:

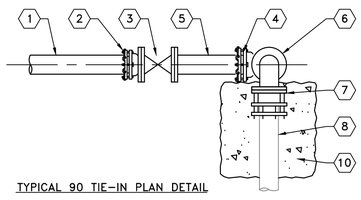
1. ALL CONNECTIONS LESS THAN 36" IN COVER REQUIRE SLURRY BACKFILL
2. NEW PIPE DIAMETER VARY REFER TO CALLOUTS ON PROFILE SHEETS.
3. EXISTING PIPE DIAMETER VARIES CONTRACTOR TO CONFIRM PIPE SIZES PRIOR TO CONSTRUCTION

ROTATED TEE CONNECTION

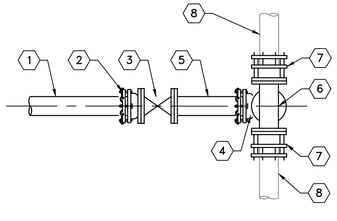
SCALE: NTS

2 C-02





TYPICAL 90 TIE-IN PLAN DETAIL



TYPICAL TEE TIE-IN PLAN DETAIL

DETAIL KEYNOTES

1. "MAIN SIZE" DR-18 C900 PVC (PIPE DIAMETER VARIES SEE PROFILE)
2. "MAIN SIZE" MJ X FLG ADAPTER RESTRAINED W/ EBAA MEGALUGS
3. "MAIN SIZE" GATE VALVE, FLG X FLG, VALVE BOX, PER DETAIL 2, DWG. C-16.
4. "MAIN SIZE" FLG X FLG DI 90° BEND RESTRAINED W/ EBAA MEGALUGS
5. "MAIN SIZE" DI TEE OR 90' BEND (PER DRAWING) FLANGED WITH FCA ON CONNECTION(S) TO EXISTING LINE
6. "MAIN SIZE" FCA ADAPTER
7. EXISTING AC MAIN LINE
8. THRUST BLOCK PER DETAIL 2 SHEET C-18
9. 90° VERTICAL DOWN BEND ANCHOR BLOCK PER DETAIL 3 SHEET C-18
10. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

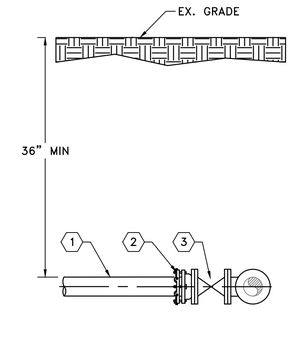
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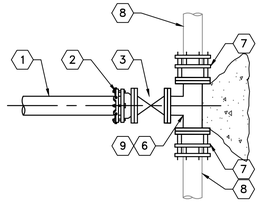
1. ALL CONNECTIONS LESS THAN 36 INCHES IN COVER REQUIRE SLURRY BACKFILL U.N.O.
2. NEW PIPE DIAMETER VARY REFER TO CALLOUTS ON PROFILE SHEETS.
3. EXISTING PIPE DIAMETER VARIES CONTRACTOR TO CONFORM PIPE SIZES PRIOR TO CONSTRUCTION

CONNECTION TYPE D

SCALE: NTS

D VAR





TYPICAL TEE TIE-IN PLAN DETAIL

DETAIL KEYNOTES

1. "MAIN SIZE" DR-18 C900 PVC (PIPE DIAMETER VARIES SEE PROFILE)
2. "MAIN SIZE" MJ X FLG ADAPTER RESTRAINED W/ EBAA MEGALUGS
3. "MAIN SIZE" GATE VALVE, FLG X FLG, VALVE BOX, PER DETAIL 2, DWG. C-16.
4. "MAIN SIZE" FLG X FLG DI 90° BEND RESTRAINED W/ EBAA MEGALUGS
5. "MAIN SIZE" DI MJ X FLG CUT TO SIZE RESTRAINED W/ EBAA MEGALUGS
6. "MAIN SIZE" DI TEE OR 90' BEND (PER DRAWING) FLANGED WITH FCA ON CONNECTION(S) TO EXISTING LINE
7. "MAIN SIZE" FCA ADAPTER
8. EXISTING AC MAIN LINE
9. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

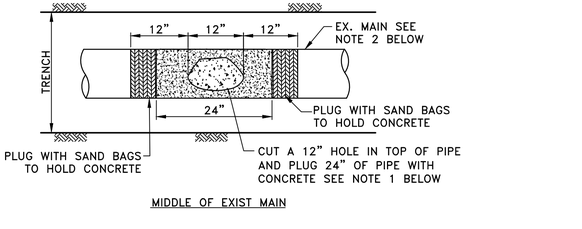
NOTES:

1. ALL CONNECTIONS LESS THAN 36 INCHES IN COVER REQUIRE SLURRY BACKFILL
2. NEW PIPE DIAMETER VARY REFER TO CALLOUTS ON PROFILE SHEETS.
3. EXISTING PIPE DIAMETER VARIES CONTRACTOR TO CONFORM PIPE SIZES PRIOR TO CONSTRUCTION

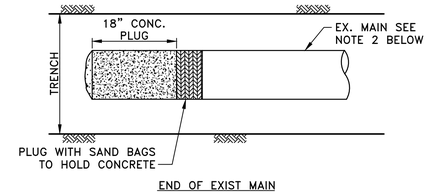
CONNECTION TYPE E

SCALE: NTS

E VAR



MIDDLE OF EXIST MAIN



END OF EXIST MAIN

NOTE:

1. EXISTING MAIN TO BE PLUGGED WITH CONCRETE OR PRESSURE GROUTED AT INTERVALS OF ABOUT 200' OR AS DIRECTED BY THE DISTRICT ENGINEER.
2. EXISTING MAINS REQUIRE THE ENTIRE LENGTH OF THE PIPE TO BE FILLED BY PRESSURE GROUTING OR BY BLOW SAND.
3. PRIOR DISTRICT APPROVAL REQUIRED FOR CUTTING & PLUGGING.

ABANDONED WATER MAINS (CUTTING AND PLUGGING)

SCALE: NTS

1 VAR

REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

CIVIL DETAILS – 1

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

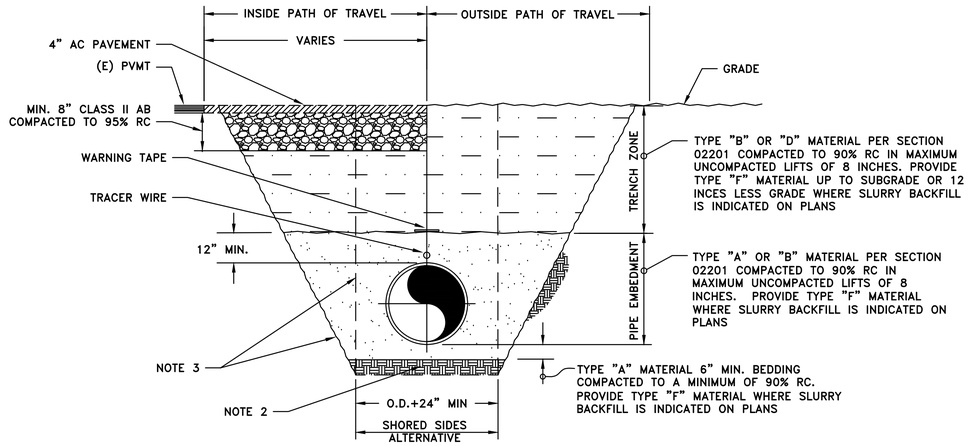
DRAWING NUMBER C-14

SHEET NUMBER 17 / 27

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.

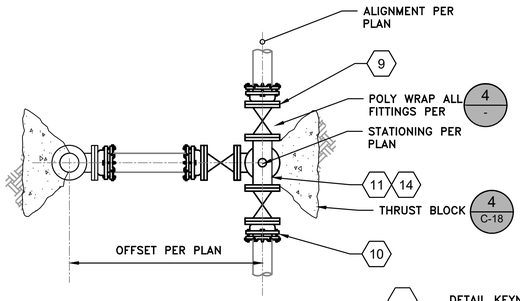
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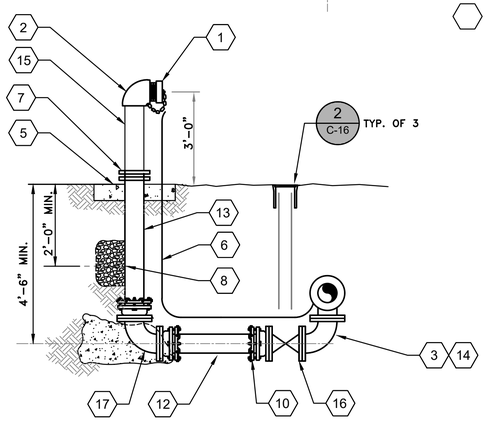
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NOTES:
1. MINIMUM COVER PER PLAN.
2. OVER EXCAVATE BY A MIN. OF 6" AND REPLACE PIPE BEDDING MATERIALS IN AREAS WHERE INADEQUATE MATERIALS ARE FOUND AS DETERMINED BY THE ENGINEER OR GEOTECHNICAL REPRESENTATIVE. IF REQUIRED PER ENGINEER OR THE GEOTECH'S 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.

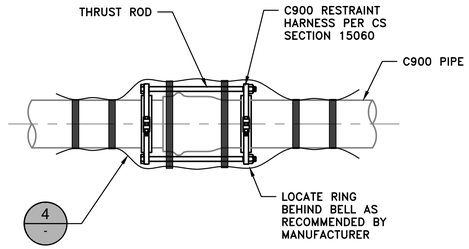
1 VAR. PIPE TRENCH NTS





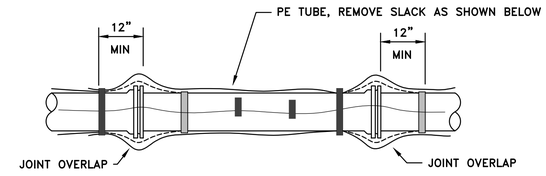
DETAIL KEYNOTES:
1. BRASS THREADED REDUCER AND CAP WITH CHAIN
2. SCR. ELL.
3. 4"X6" FLANGED DI REDUCING 90°
4. 6" DI FLANGED TEE
5. 3'X3'X6" NON SLIP CONCRETE PAD W/ NO. 4 BARS
6. TRACER WIRE PER CS
7. PROVIDE BREAKAWAY BOLTS DESIGNED TO FAIL UNDER LATERAL IMPACT.
8. DRILL 1/4" HOLE 1 CU. FT GRAVEL
9. 6" FLANGED GV, TYP. OF 3
10. FL X MJ DI ADAPTER RESTRAINED W/ EBAA MEGALUG, TYP. OF 5
11. 6" FLANGED DI TEE (OR 8" TO 6" REDUCER TEE PER PLAN)
12. 4" DR 14 C900 PVC PIPE
13. 4" FL X PE DI PIPE
14. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 THIS SHEET
15. 4" SCH 40 GALVANIZED STEEL RISER
16. 4" FLANGED GATE VALVE
17. 4" FLANGED DI 90°

2 VAR. BLOWOFF ASSEMBLY NTS

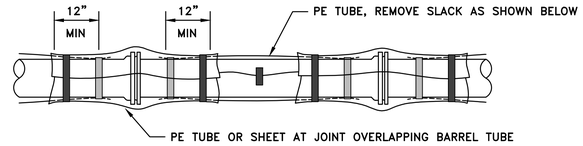


NOTES
1. PRESSURE RATING SHALL BE EQUAL TO OR EXCEED THE RATING OF THE PIPE BEING RESTRAINED.

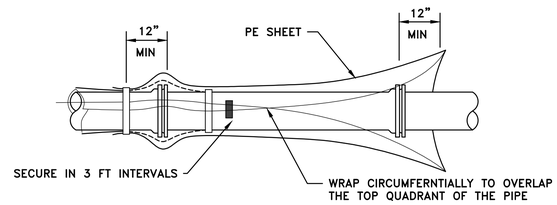
3 VAR PVC PIPE RESTRAINT



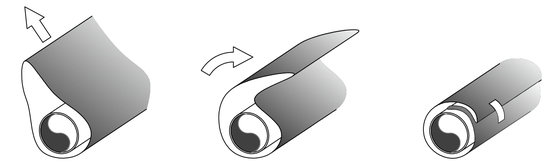
AWWA C105 - INSTALLATION METHOD "A"



AWWA C105 - INSTALLATION METHOD "B"



AWWA C105 - INSTALLATION METHOD "C"



1. REMOVE TUBE SLACK TO MAKE SNUG BUT NOT TIGHT.
2. FOLD EXCESS BACK OVER THE TOP OF THE PIPE.
3. SECURE THE FOLD AT THE QUARTER POINTS ALONG THE LENGTH OF THE PIPE.

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.

4 VAR POLYETHYLENE ENCASEMENT OF DI PIPE AND FITTINGS

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DESN: J. NELSON
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CHECK: J. NELSON
APV: 9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

CIVIL DETAILS - 2

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

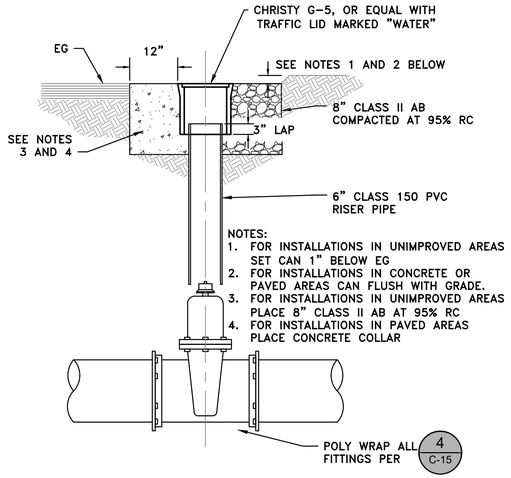
DRAWING NUMBER C-15

SHEET NUMBER 18 / 27

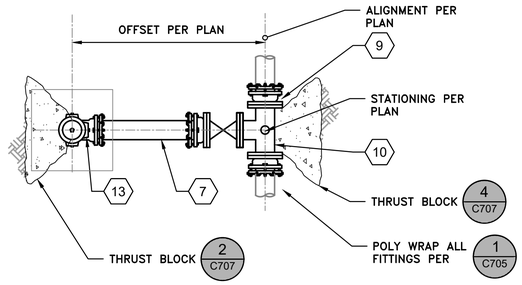
VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE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

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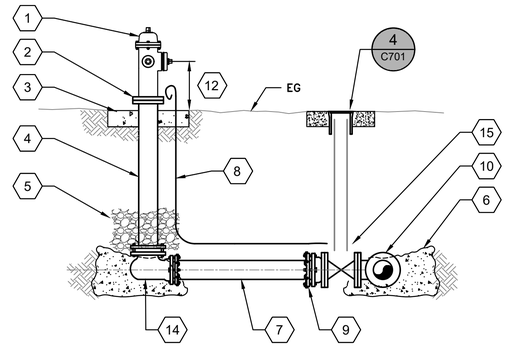
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2 VAR. VALVE BOX
NTS



PLAN

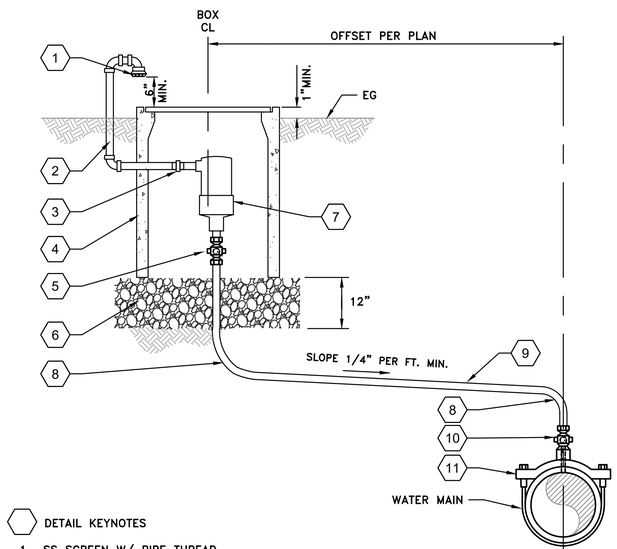


SECTION

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

3 VAR. DRY BARREL HYDRANT
NTS



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.

4 VAR. CAV ASSEMBLY
NTS

REVISION
BID SET
DESN
J. NELSON
DRW
R. ASBENSON
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9/4/2026

REGISTERED PROFESSIONAL ENGINEER
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No. C89673
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STATE OF CALIFORNIA

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

CIVIL DETAILS - 3

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT:
072-01C

DATE:
SEPTEMBER 2026

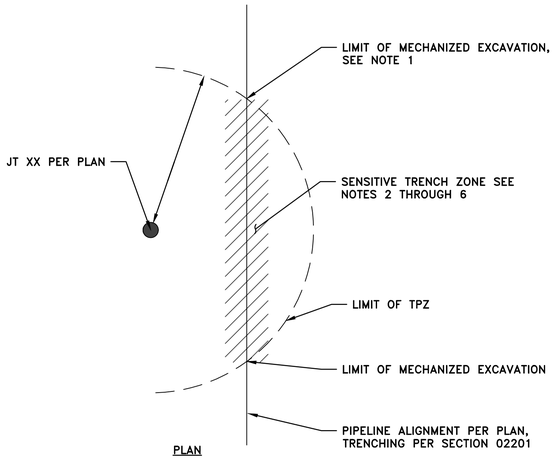
DRAWING NUMBER
C-16

SHEET NUMBER
19 / 27

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.

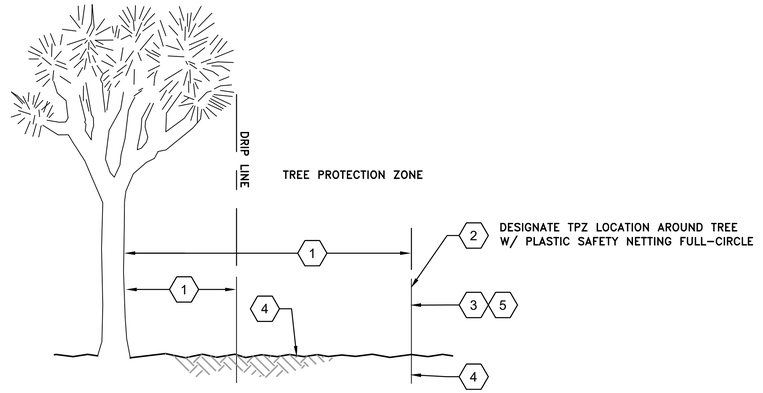
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1. LIMITS OF MECHANIZED EXCAVATION SHALL BE LOCATED 10 RADIAL FEET FROM JOSHUA TREE TRUNK OR AS DIRECTED BY PROJECT BIOLOGIST. USE OF EXCAVATOR BUCKET, RIPPING, TRENCHER SHALL NOT BE USED BEYOND THIS POINT.
2. EXCAVATION WITHIN SENSITIVE ZONE: USE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

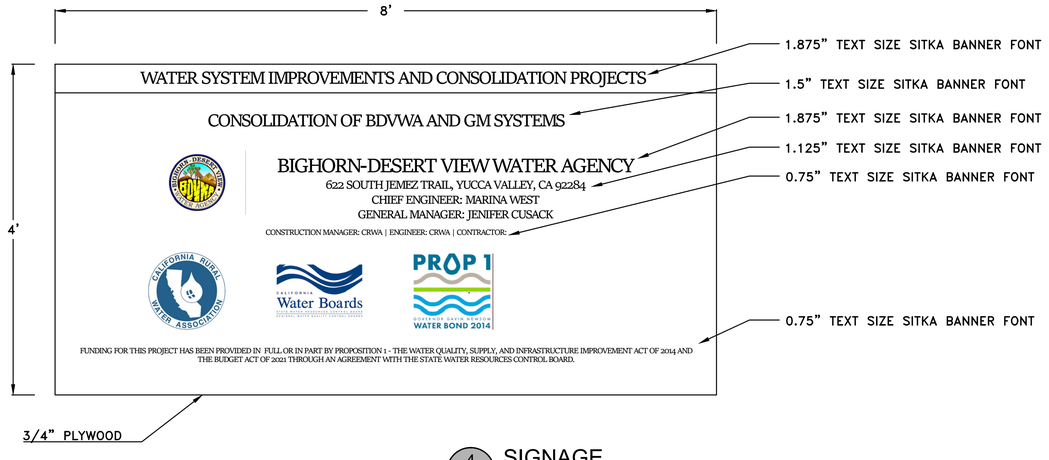
1. THE TREE PROTECTION ZONE SHALL BE DEFINED AS NO LESS THAN THE DRIPLINE RADIUS OF THE TREE OR A MINIMUM OF 10 FEET FROM THE TRUNK, WHICHEVER IS GREATER. WITHIN THE FOLLOWING SHALL BE PROHIBITED: VEHICLE OR EQUIPMENT ACCESS; STOCKPILING OF SOIL, AGGREGATE, OR MATERIALS; OR FUELING, EQUIPMENT MAINTENANCE.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

3 - NOT USED
NTS



4 VAR. SIGNAGE
NTS

REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

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

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

CIVIL DETAILS – 4

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

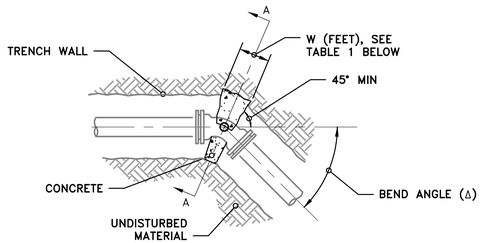
DRAWING NUMBER C-17

SHEET NUMBER 20 / 27

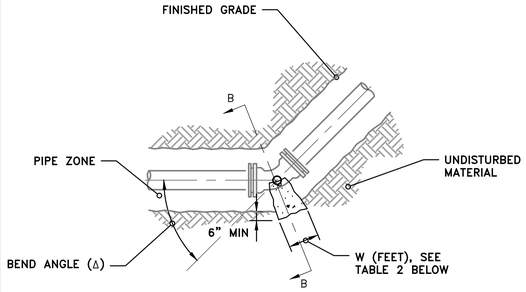
VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE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

0 1"

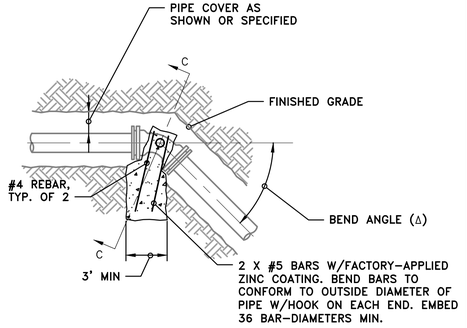
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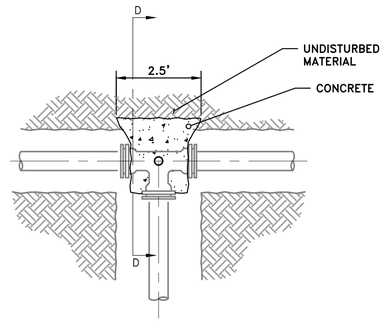
PLAN



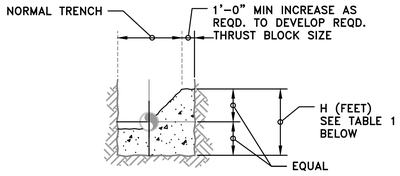
ELEVATION



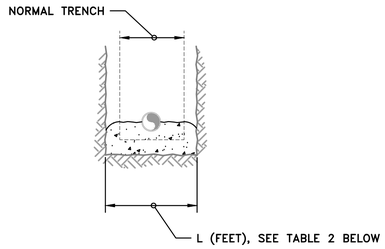
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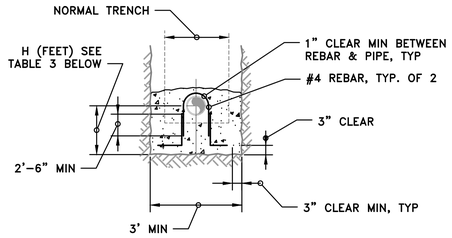
PLAN



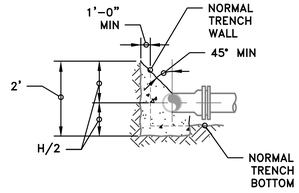
SECTION A



SECTION B



SECTION C



SECTION D

TABLE 1 – HORIZONTAL THRUST BLOCK DIMENSIONS		
BEND	W (FT)	H (FT)
2° – 11°	1.0	2
22.5°	1.0	2
34°	1.0	2
45°	1.7	2
90°	3.2	2

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

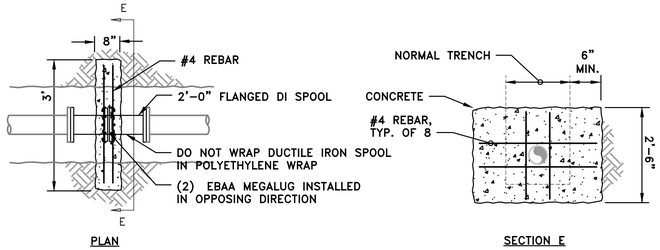
TABLE 3 – VERTICAL BEND DOWN ANCHOR BLOCK DIMENSIONS	
BEND	H (FT)
2° – 11°	1.5
22.5°	2.5
34°	3.5
45°	4
90°	5

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.
6. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

CIVIL DETAILS – 5

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: JULY 2025

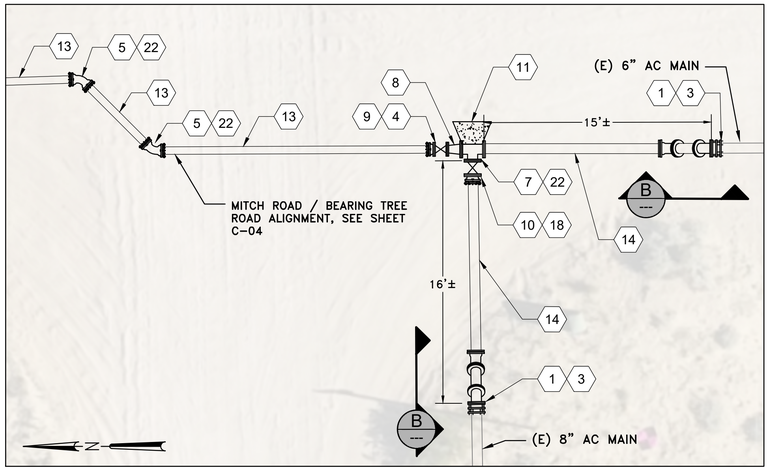
DRAWING NUMBER C-18

SHEET NUMBER 21 / 27

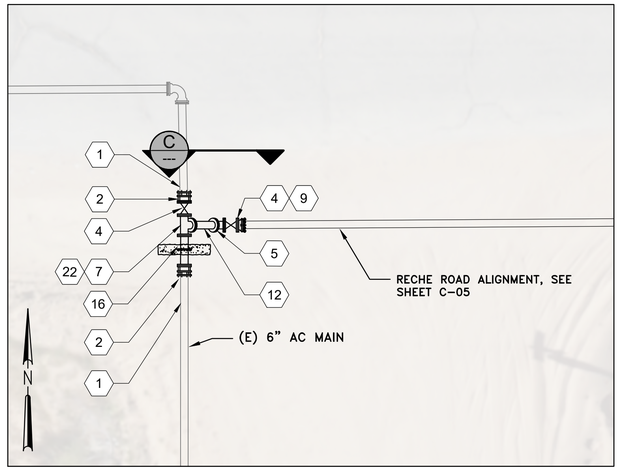
VERIFY SCALE! BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY. THESE DRAWING WERE PREPARED FOR ANSI D PAPER SIZE AND ARE NOT SUITABLE FOR CONSTRUCTION IF SCALED TO ANY OTHER SIZE. THESE CONTRACT DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ARE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

0 1"

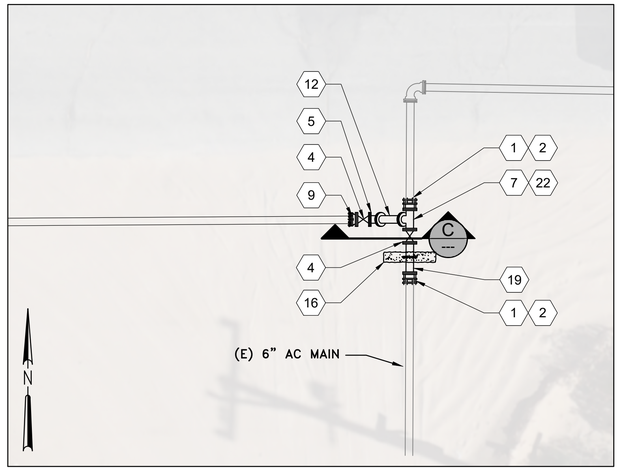
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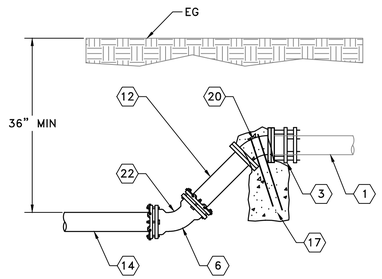
1 C-04 MITCH RD/BEARING TREE RD - YUCCA MESA RD CONNECTIONS
SCALE: 1" = 5'



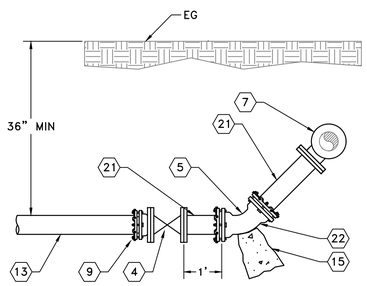
2 C-05 RECHE RD - NORTH INEZ AVE CONNECTIONS
SCALE: 1" = 5'



3 C-05 RECHE RD - ALTA AVE CONNECTIONS
SCALE: 1" = 5'



B --- SECTION
SCALE: NTS



C --- SECTION
SCALE: NTS

SHEET KEYNOTES

1. CONNECT TO (E) AC PIPE
2. 6" FCA
3. 8" FCA
4. 6" FLANGED GATE VALVE SEE SHEET C-16 DETAIL 2.
5. 6" DI MJ X MJ 45° BEND, RESTRAINED W/ EBAA MEGALUGS
6. 8" DI MJ X MJ 45° BEND, RESTRAINED W/ EBAA MEGALUGS
7. 6" DI FLANGED TEE W/ 6" BRANCH
8. 8" X 6" DI REDUCER
9. 6" DI FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG
10. 8" FLANGED GATE VALVE SEE SHEET C-16 DETAIL 2.
11. THRUST BLOCK PER DETAIL 4 SHEET C-18
12. 8" DI FL X PE PIPE CUT TO FIT
13. 6" PVC DR-18 C900
14. 8" PVC DR-18 C900
15. THRUST BLOCK PER DETAIL 2 SHEET C-18
16. THRUST WALL PER DETAIL 5 SHEET C-18
17. ANCHOR BLOCK PER DETAIL 3 SHEET C-18
18. 8" DI FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG
19. 6" DI FLANGED 2'-0" SPOOL
20. 8" DI FLANGED 45° BEND
21. 6" DI FL X PE PIPE CUT TO FIT
22. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

REVISION
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9/4/2026

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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

MITCH RD AND RECHE RD CONNECTIONS

CALIFORNIA RURAL WATER ASSOCIATION

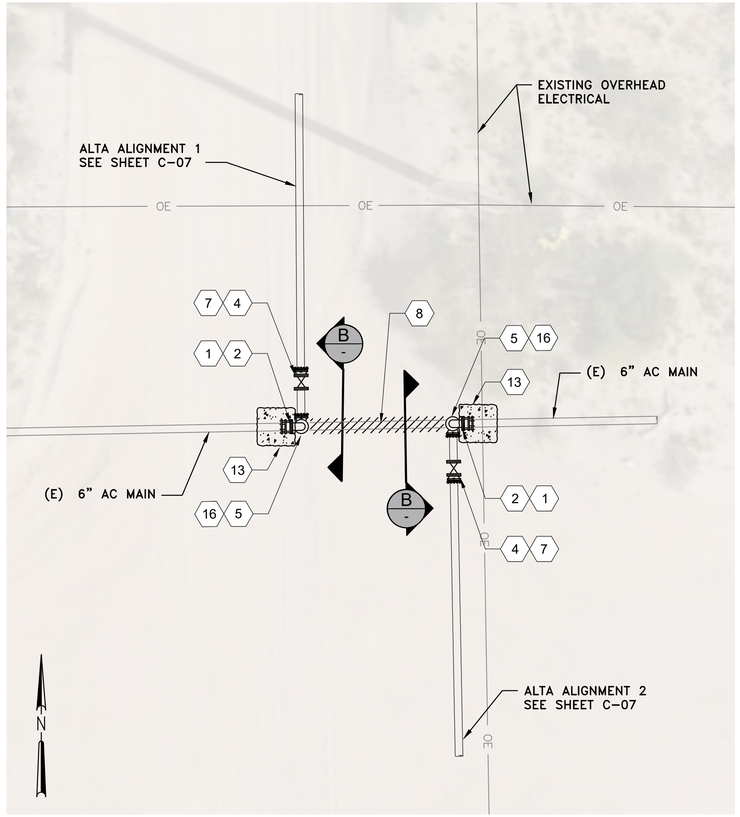
BIGHORN Desert View WATER AGENCY

PROJECT:
072-01C
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C-19
SHEET NUMBER
22 / 27

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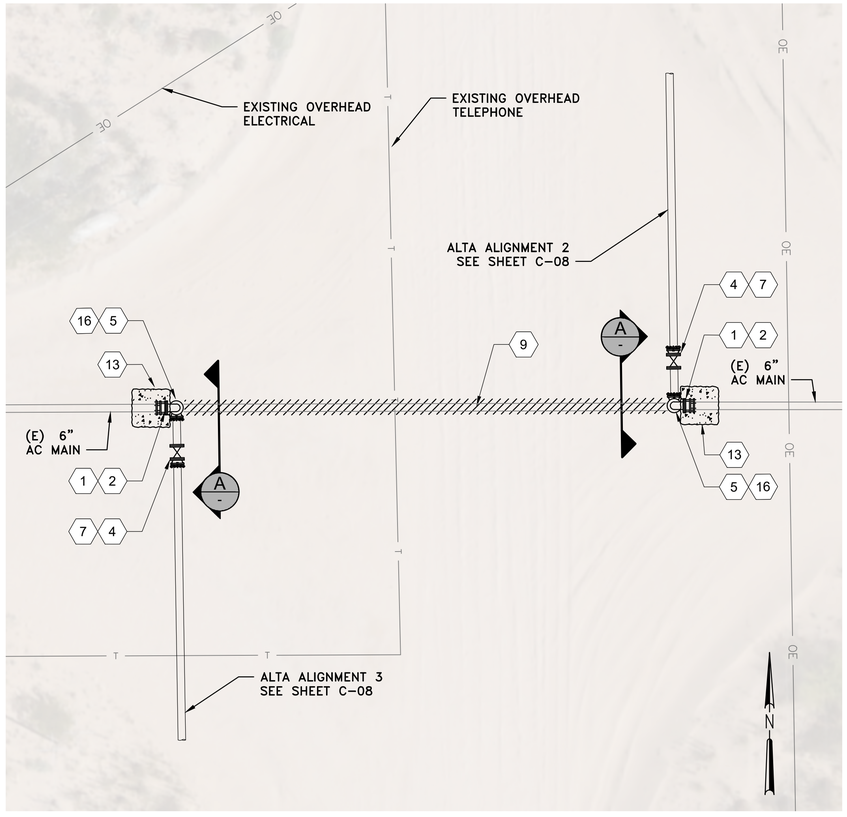
VERIFY SCALE! 0 1"

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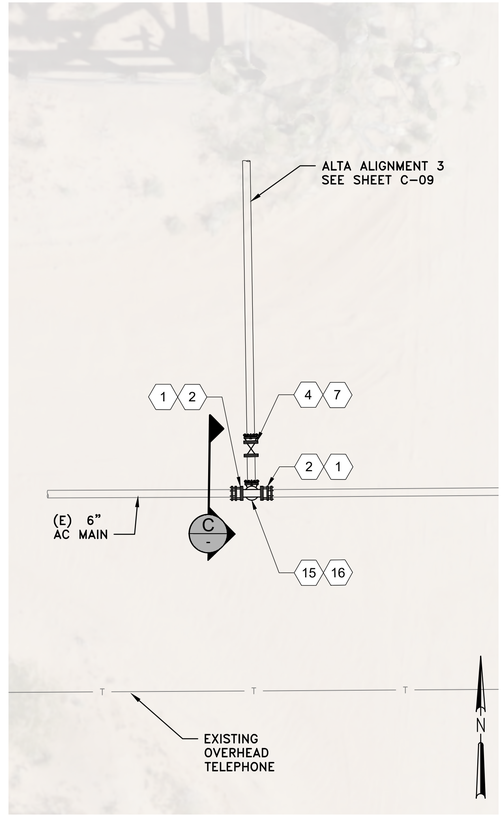
1 C-07 ALTA AVE - APPLEGATE WAY CONNECTIONS

SCALE: 1" = 5'



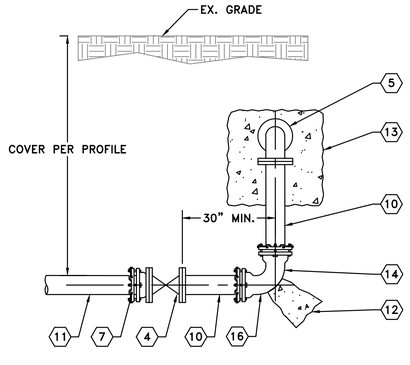
2 C-08 ALTA AVE - MITCH RD CONNECTIONS

SCALE: 1" = 5'



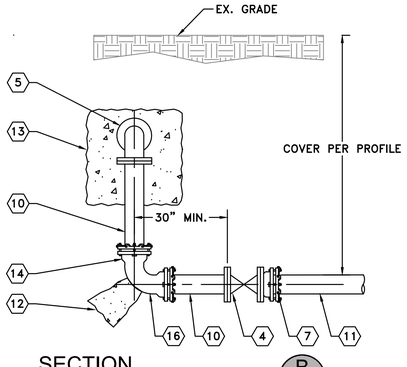
3 C-09 ALTA AVE - PHILLIPI AVE CONNECTIONS

SCALE: 1" = 5'



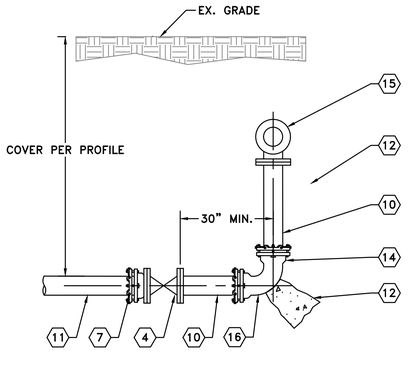
SECTION A

SCALE: NTS



SECTION B

SCALE: NTS



SECTION C

SCALE: NTS

DETAIL KEYNOTES

1. CUT INTO (E) AC PIPE
2. 6" FCA
3. 8" FCA
4. 6" FLANGED GATE VALVE SEE SHEET C-16 DETAIL 2.
5. 6" DI FLANGED 90° BEND
6. 6" X 8" DI FLANGED REDUCER
7. 6" DI FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG
8. DEMOLISH AND REMOVE (E) 6" AC PIPE
9. GROUT AND ABANDON IN PLACE (E) 6" AC PIPE PER DETAIL 1 SHEET C14
10. 6" DI MJ X FLG CUT TO FIT RESTRAINED W/ EBAA MEGALUGS
11. 6" PVC C900
12. THRUST BLOCK PER DETAIL 2 SHEET C-18
13. 90° VERTICAL DOWN BEND ANCHOR BLOCK PER DETAIL 3 SHEET C-18
14. 6" DI MJ X MJ 90° BEND RESTRAINED W/ EBAA MEGALUG
15. 6" DI FLANGED TEE
16. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

1"=5' 0 5' 10'

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APV: 9/4/2026

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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

ALTA AVE CONNECTIONS

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

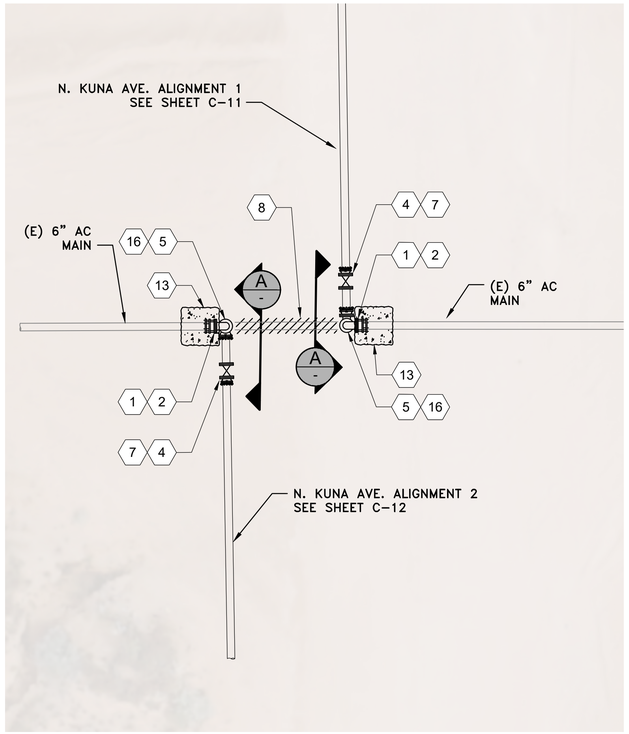
DRAWING NUMBER C-20

SHEET NUMBER 23 / 27

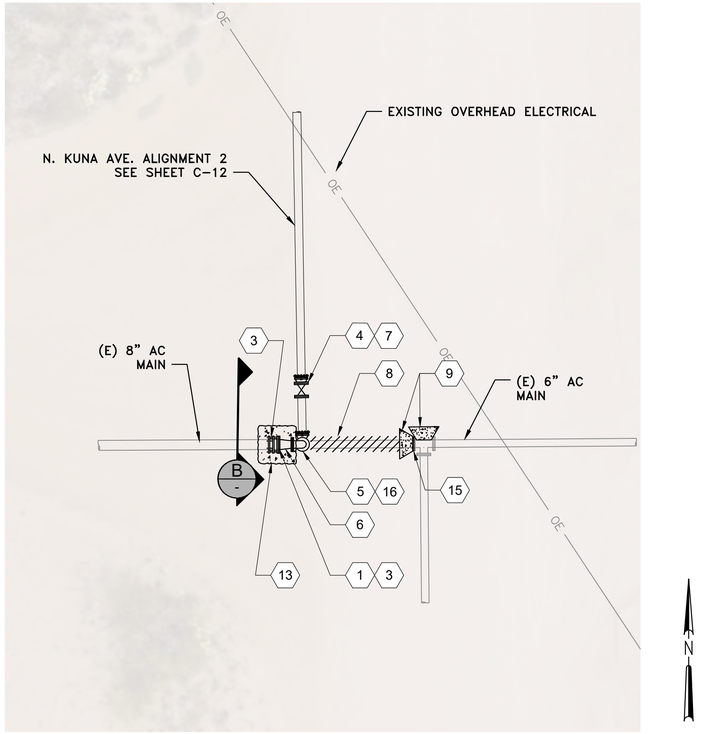
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0 1"

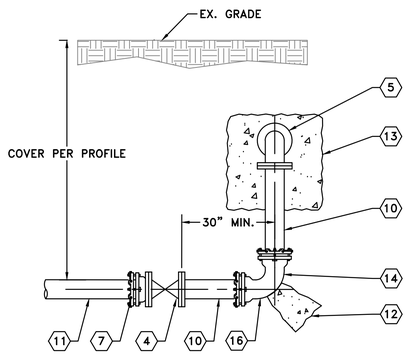
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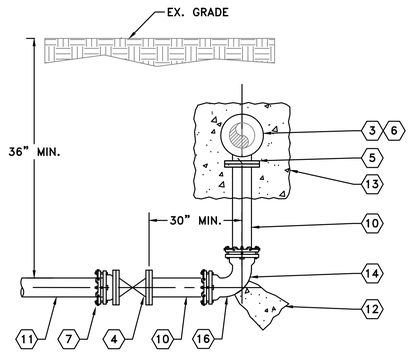
1 C-11 KUNA AVE - STEARMAN RD CONNECTIONS DETAIL
SCALE: 1" = 5'



2 C-12 KUNA AVE - LUTZ LN CONNECTION DETAIL
SCALE: 1" = 5'



SECTION A
SCALE: NTS



SECTION B
SCALE: NTS

DETAIL KEYNOTES

1. CUT INTO (E) AC PIPE
2. 6" FCA
3. [NOT USED]
4. 6" FLANGED GATE VALVE SEE SHEET C-16 DETAIL 2.
5. 6" DI FLANGED 90° BEND
6. 6" X 8" DI FLANGED REDUCER
7. 6" DI FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG
8. DEMOLISH AND REMOVE (E) 6" AC PIPE
9. THRUST BLOCK PER DETAIL 4 SHEET C-18
10. 6" DI MJ X FLG CUT TO FIT RESTRAINED W/ EBAA MEGALUGS
11. 6" PVC C900
12. THRUST BLOCK PER DETAIL 2 SHEET C-18
13. 90° VERTICAL DOWN BEND ANCHOR BLOCK PER DETAIL 3 SHEET C-18
14. 6" DI MJ X MJ 90° BEND RESTRAINED W/ EBAA MEGALUG
15. INSTALL MJ PLUG OR BLIND FLANGE AS REQUIRED
16. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

0 5' 10'
1"=5'

REVISION
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DRW
R. ASBENSON
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9/4/2026

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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

KUNA AVE CONNECTIONS

CALIFORNIA RURAL WATER ASSOCIATION

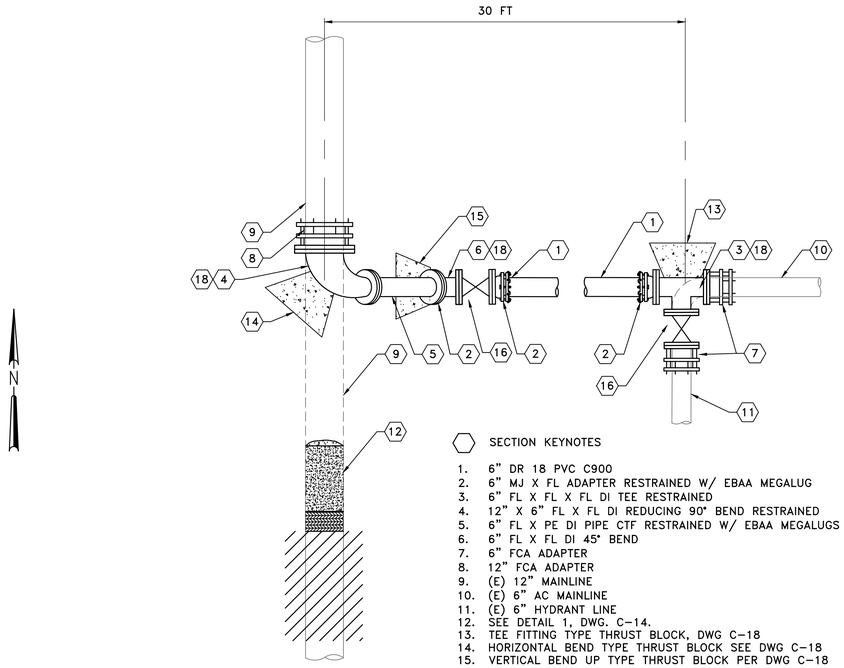
BIGHORN Desert View WATER AGENCY

PROJECT:
072-01C
DATE:
SEPTEMBER 2026
DRAWING NUMBER
C-21
SHEET NUMBER
24 / 27

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0 1"

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SECTION KEYNOTES

1. 6" DR 18 PVC C900
2. 6" MJ X FL ADAPTER RESTRAINED W/ EBAA MEGALUG
3. 6" FL X FL X FL DI TEE RESTRAINED
4. 12" X 6" FL X FL DI REDUCING 90° BEND RESTRAINED
5. 6" FL X PE DI PIPE CTF RESTRAINED W/ EBAA MEGALUGS
6. 6" FL X FL DI 45° BEND
7. 6" FCA ADAPTER
8. 12" FCA ADAPTER
9. (E) 12" MAINLINE
10. (E) 6" AC MAINLINE
11. (E) 6" HYDRANT LINE
12. SEE DETAIL 1, DWG. C-14.
13. TEE FITTING TYPE THRUST BLOCK, DWG C-18
14. HORIZONTAL BEND TYPE THRUST BLOCK SEE DWG C-18
15. VERTICAL BEND UP TYPE THRUST BLOCK PER DWG C-18
16. 6" FLANGED GATEVALVE
17. CONTRACTOR TO POTHOLE EXISTING WATER LINE TO VERIFY DEPTH, LOCATION, MATERIAL, AND DIAMETER PER CS SECTION 310523
18. POLYETHYLENE WRAP ALL FITTINGS PER DETAIL 4 SHEET C-15

JANA LANE CONNECTION DETAIL

SCALE: NTS

1 / G-03

REVISION: BID SET
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DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

JANA LANE CONNECTION

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

DATE: SEPTEMBER 2026

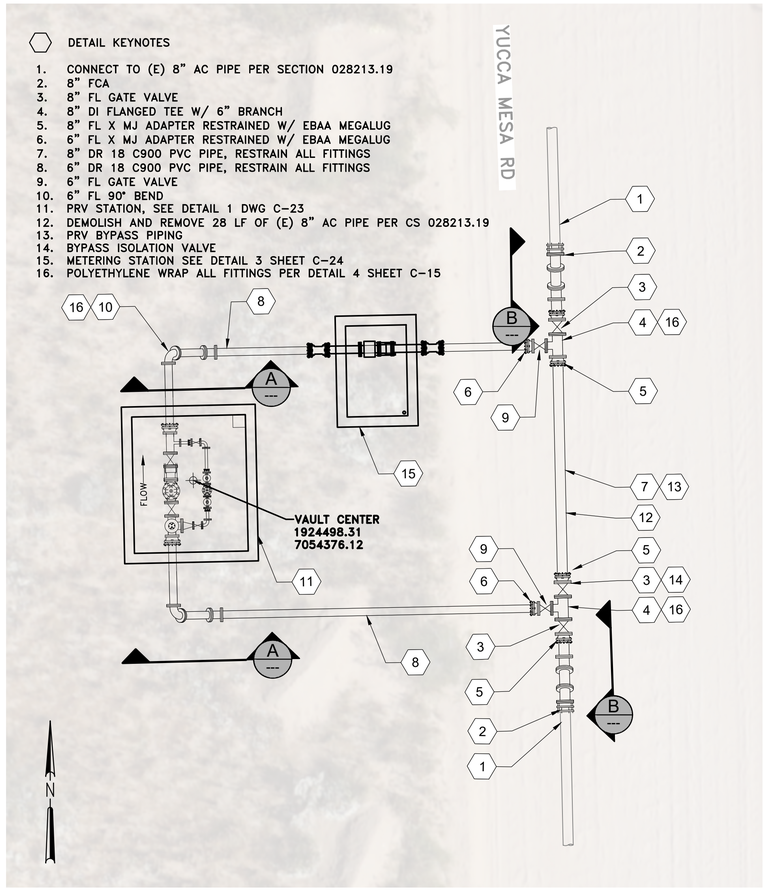
DRAWING NUMBER C-22

SHEET NUMBER 25 / 27

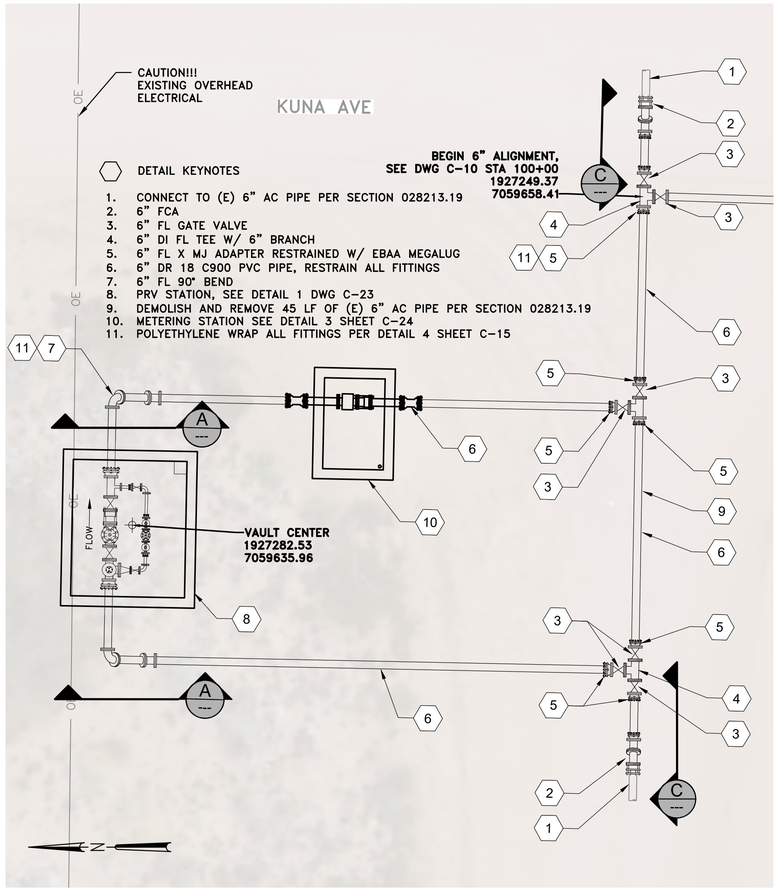
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0 1"

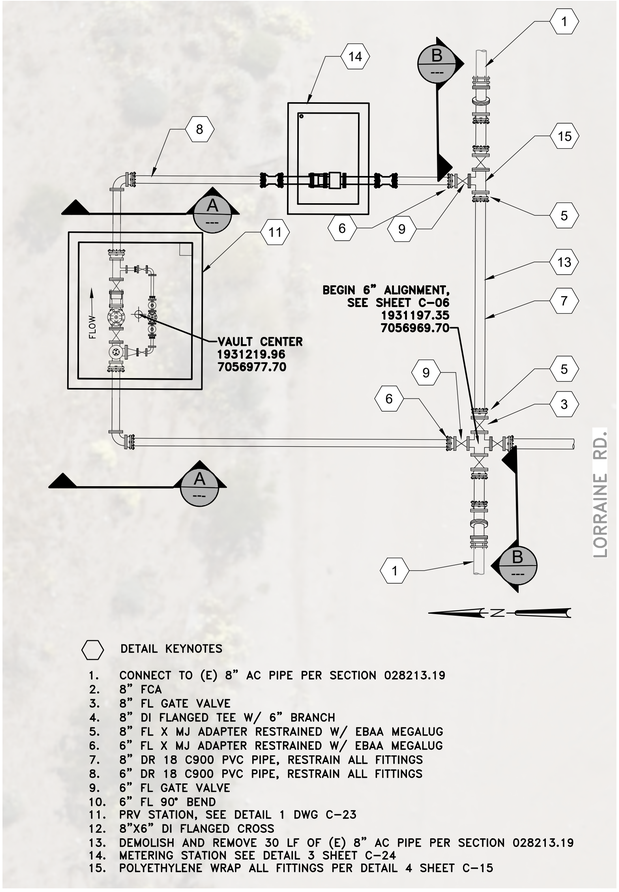
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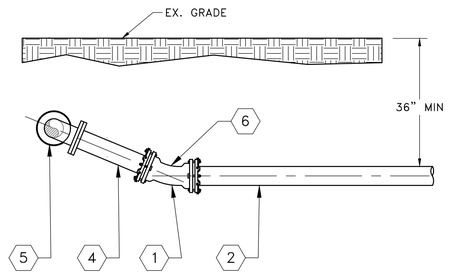
1 C-13 PRV STATION F1 PLAN
SCALE: 1" = 5'



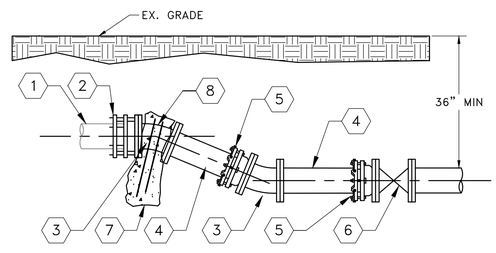
2 C-10 PRV STATION F2 PLAN
SCALE: 1" = 5'



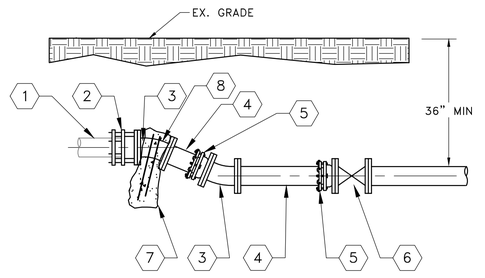
3 C-06 PRV STATION F3 PLAN
SCALE: 1" = 5'



A --- MAINLINE 6" CONNECTION FOR PRV STATION
SCALE: NTS



B --- MAINLINE 8" CONNECTION FOR PRV STATION
SCALE: NTS



C --- MAINLINE 6" CONNECTION FOR PRV STATION
SCALE: NTS

1"=5' 0 5' 10'

REVISION: BID SET
DESN: J. NELSON
DRW: R. ASBENSON
CHECK: J. NELSON
APV: 9/4/2026

REGISTERED PROFESSIONAL ENGINEER
JARED P. NELSON
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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

PRV PARTIAL SITE PLANS

CALIFORNIA RURAL WATER ASSOCIATION

BIGHORN Desert View WATER AGENCY

PROJECT: 072-01C

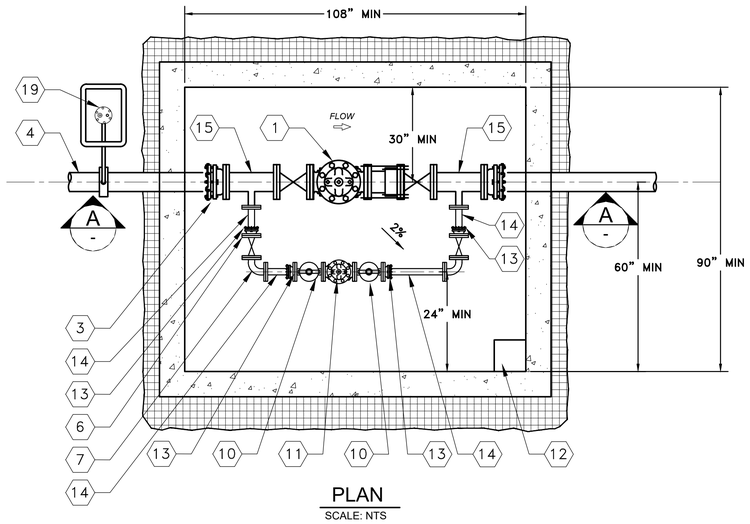
DATE: SEPTEMBER 2026

DRAWING NUMBER
C-23
SHEET NUMBER
26 / 27

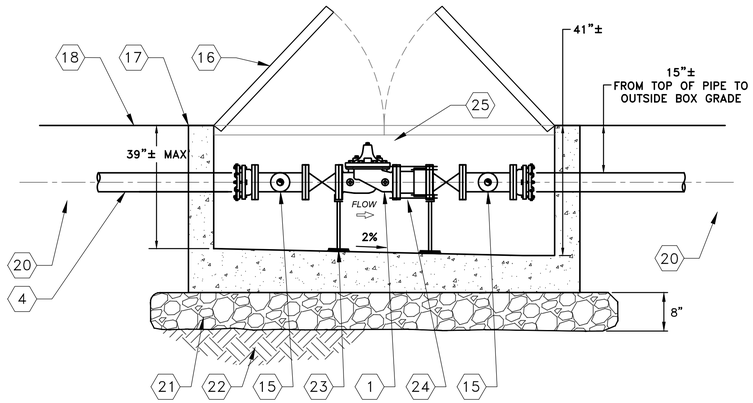
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0 1"

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PLAN
SCALE: NTS

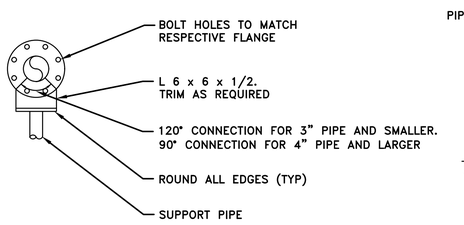


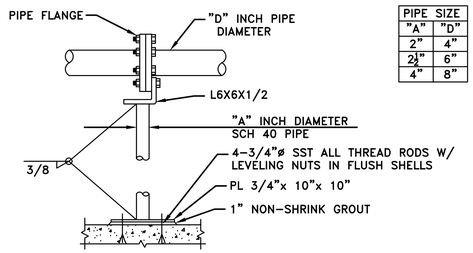
A - SECTION
SCALE: NTS

1 C-23 PRV STATION
SCALE: NTS

DETAIL KEYNOTES

1. 6" PRESSURE REDUCING CLAVAL PRV PER CS
2. [NOT USED]
3. 6" FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG, TYP. OF 2
4. 6" DI, FL X PE PIPE CUT TO FIT
5. 6" TO 2" DI, FL X FL, REDUCER
6. 2" FL X FL BALL VALVE, TYP. OF 2
7. 2" DI, FL X FL 90°, TYP. OF 2
8. [NOT USED]
9. 2" FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG, TYP.
10. 2" DI, FLANGED TEE WITH PRESSURE GAGE
11. 2" PRESSURE REDUCING CLAVAL PRV PER CS
12. 10" X 10" X 4" SUMP, LOCATE PER PLAN
13. 2" FL X MJ ADAPTER RESTRAINED W/ EBAA MEGALUG
14. 2" DI, FL X CUT TO FIT, PIPE
15. 6" X 6" X 2" DI, FL X FL TEE
16. SPRING ASSISTED DOUBLE LEAF HATCH PER CS 02531
17. PRECAST CONCRETE VAULT AT GRADE PER CS 02531
18. EXISTING GRADE
19. COMBINATION AIR VALVE PER DETAIL 4 SHEET C-16
20. PIPING CONTINUATION PER PLAN
21. DRAIN ROCK BURRITO WRAPPED IN GEOTEXTILE FABRIC
22. SUBGRADE TO BE INSPECTED BY OWNER'S GEOTECHNICAL REPRESENTATIVE PRIOR TO PLACING GEOTEXTILE. CONTRACTOR SHALL OVER EXCAVATE SUBGRADE AND PLACE IMPORTED FILL AS DIRECTED BY THE ENGINEER WHEN REQUIRED AT NO ADDITIONAL CONTRACT COST.
23. PIPE STAND PER DETAIL 2 THIS SHEET
24. 6" RESTRAINED DISMANTLING JOINT, DJ400 OR EQ
25. 2" MIN CLEARANCE FROM BOTTOM OF LID



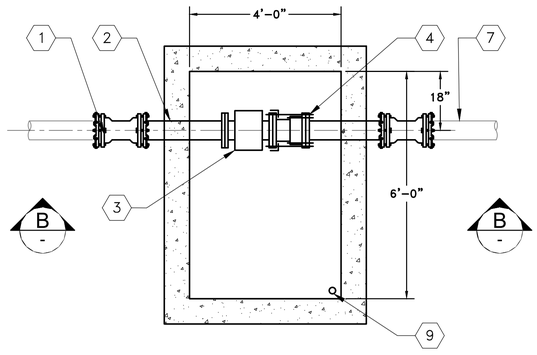


PIPE SIZE	
"A"	"D"
2"	4"
2½"	6"
4"	8"

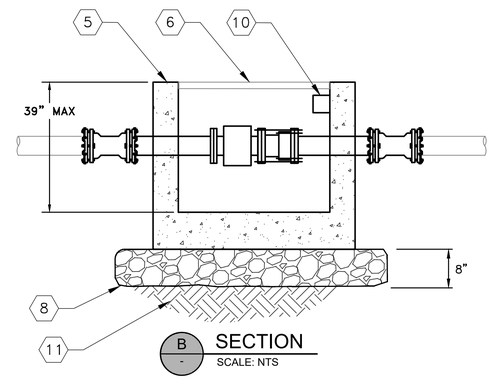
NOTES:

1. MAXIMUM VERTICAL LOAD = 1000 LBS.
2. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE. MATERIAL FOR ANCHOR BOLTS, PIPE, AND L 6" X 6" X 1/2" SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, MATERIAL FOR ANCHOR BOLTS, PIPE, AND L 6" x 6" x 1/2" SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. FIELD PAINT PER CS 09900.
4. CONTRACTOR MAY SUBMIT ALTERNATIVE DESIGNS FOR REVIEW BY ENGINEER.

2 VAR. PIPE SUPPORT
NTS



PLAN
SCALE: NTS



B - SECTION
SCALE: NTS

DETAIL KEYNOTES

1. 6" DUCTILE IRON SLEEVE RESTRAINED W/ EBAA MEGALUG, TYP. OF 2 OR AS INDICATED ON SITE PLAN
2. 6" FL X PE DI PIPE, TYP. OF 2
3. 6" BATTERY POWERED MAGNETIC FLOW METER PER SECTION 10442
4. 6" DISMANTLING JOINT DJ400 OR EQ.
5. PRECAST CONCRETE VAULT AT GRADE PER CS 02531
6. SPRING ASSISTED DOUBLE LEAF HATCH PER CS 02531
7. PIPING CONTINUATION PER PLAN
8. DRAIN ROCK BURRITO WRAPPED IN GEOTEXTILE FABRIC PER CS 02531
9. 2" DRAIN HOLE
10. MOUNT FLOW METER TRANSMITTER UNDER HATCH OR AS INDICATED BY BDVWA STAFF
11. SUBGRADE TO BE INSPECTED BY OWNER'S GEOTECHNICAL REPRESENTATIVE PRIOR TO PLACING GEOTEXTILE. CONTRACTOR SHALL OVER EXCAVATE SUBGRADE AND PLACE IMPORTED FILL AS DIRECTED BY THE ENGINEER WHEN REQUIRED AT NO ADDITIONAL CONTRACT COST.

3 C-20 FLOW METER STATION
NTS

1"=5' 0 5' 10'

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VOL. 2 OF 3 - CONSOLIDATION OF BDVWA AND GM SYSTEMS

PRV DETAILS

CALIFORNIA RURAL WATER ASSOCIATION

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DATE: SEPTEMBER 2026

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C-24
SHEET NUMBER
27 / 27

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