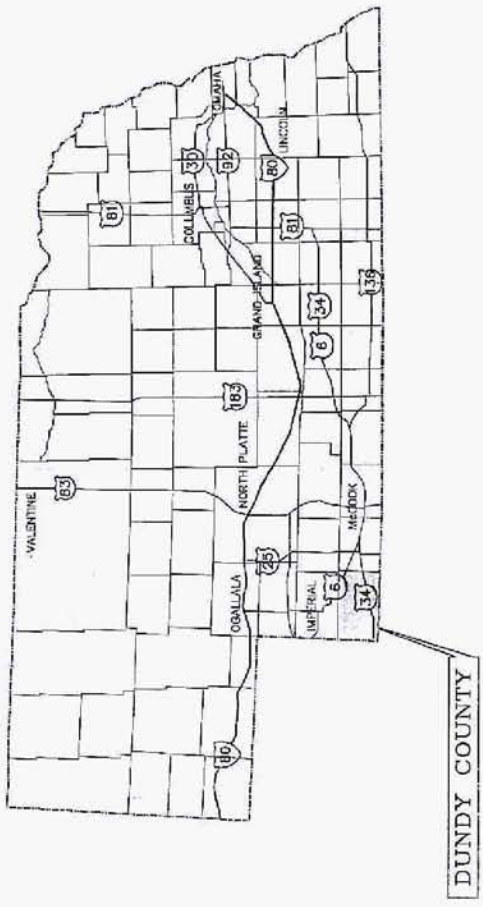


DRAWINGS FOR URNRD - AUGMENTATION PHASE I PIPING



SHI. NO.	DESCRIPTION
1	TITLE SHEET
2	LOCATION MAP, NOTES & LEGEND
3-22	PLAN & PROFILE SHEETS
23-27	LINE A PLAN & PROFILE
28	LINE B PLAN & PROFILE
29-30	DETAILS
31	METER PIT DETAILS
32	ENERGY DISSIPATOR DETAILS
33	MISCELLANEOUS DETAILS



James Miller
4/10/12

SET NO. **7**
DRAWING NO. 24002

DUNDY COUNTY, NEBRASKA

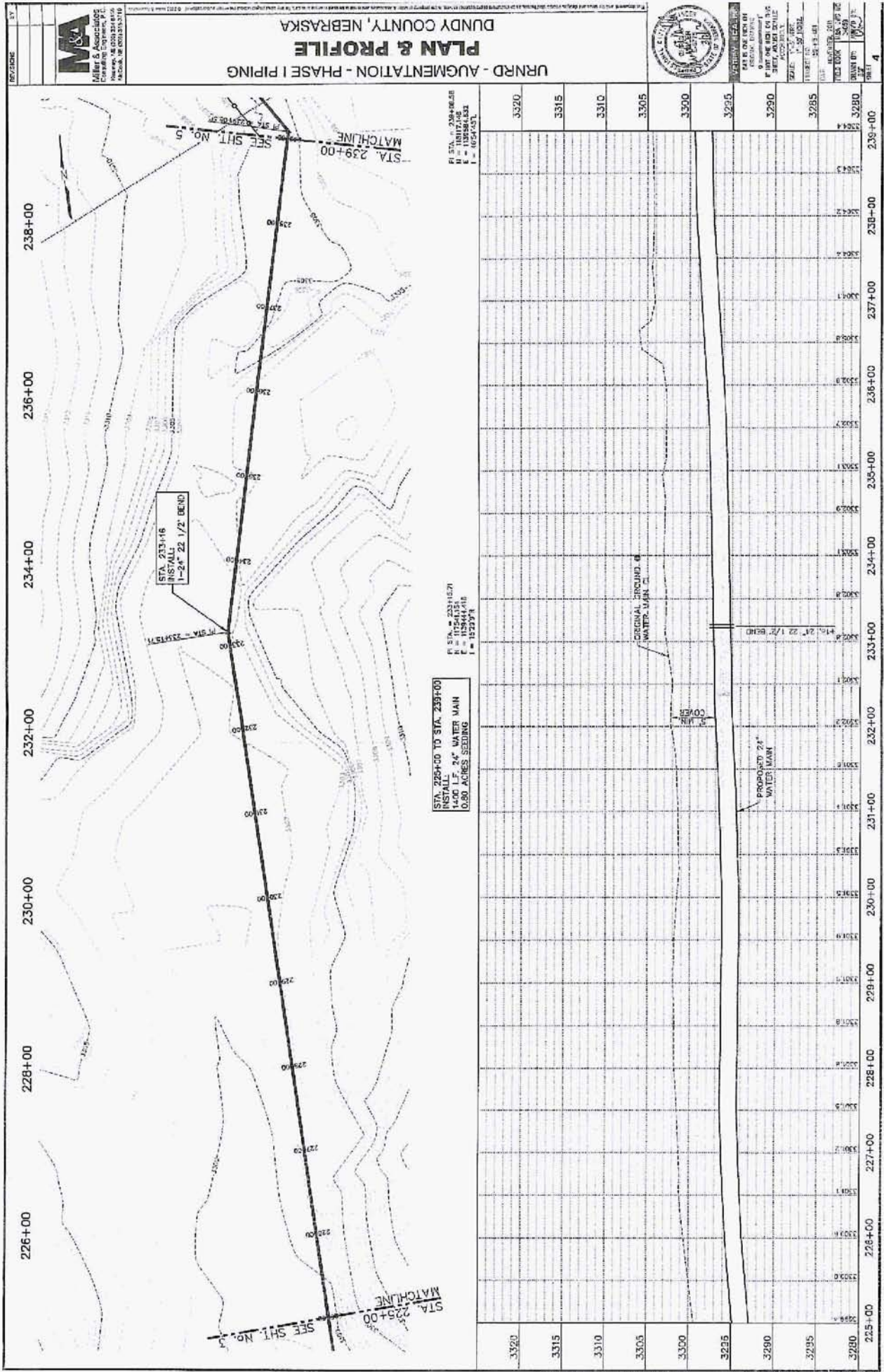
M&A PROJECT NO. 159-P5-001-11

M&A MILLER & ASSOCIATES Consulting Engineers P.C.
1111 Central Avenue - Kearney, NE 68847

UTILITIES
INDEXES NOT ISE
8-1-1

GENERAL

*L.F. Rendy
970-774-6114
M. Ke.*



REVISIONS

NO.	DATE	DESCRIPTION

M&A
Miller & Associates
Consulting Engineers, P.C.
Nebraska, NE 68102-3800
Kansas, KS 66101-3700
Missouri, MO 64111-3700

PLAN & PROFILE
URRD - AUGMENTATION - PHASE I PIPING
DUNDY COUNTY, NEBRASKA



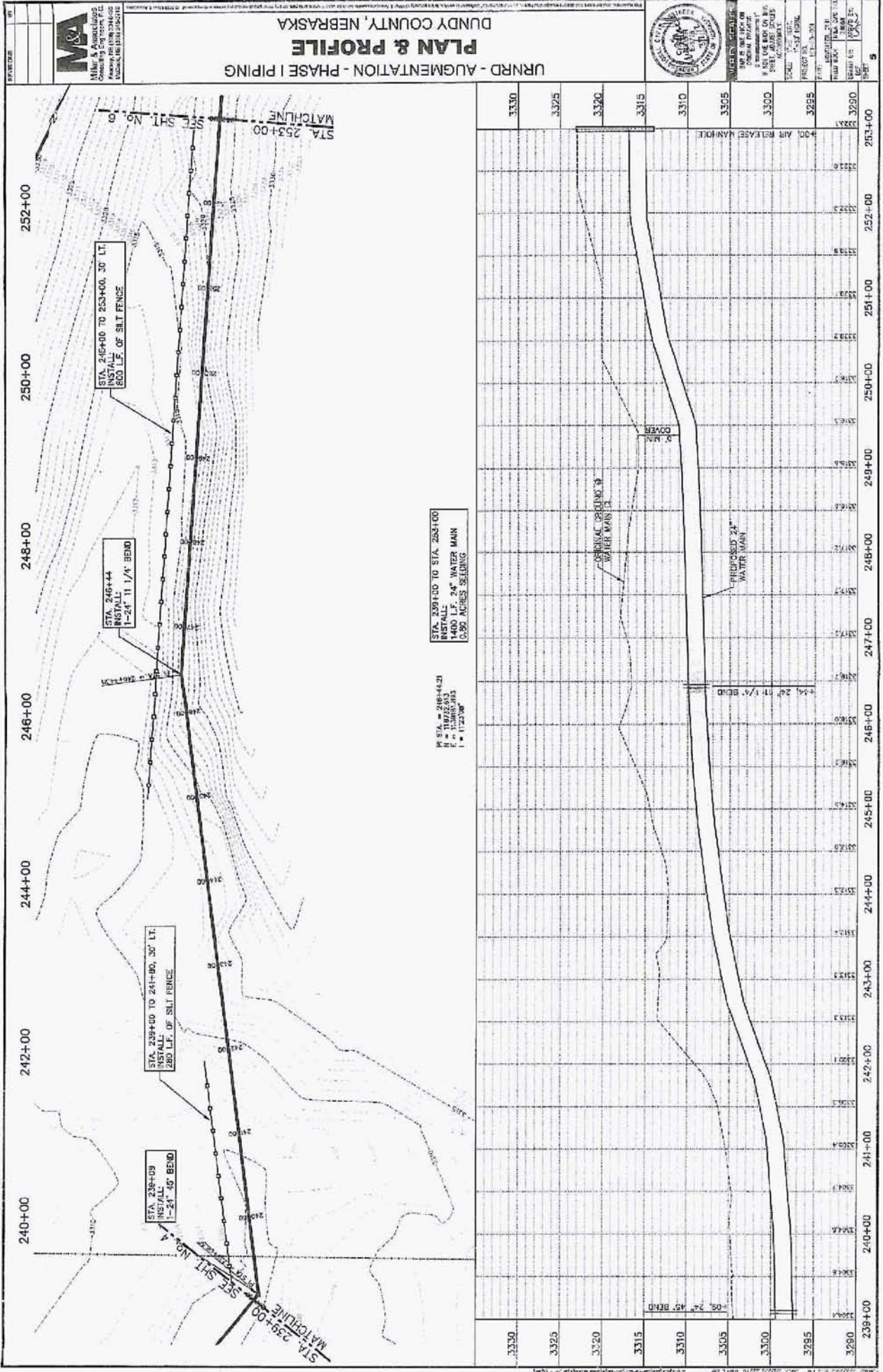
DATE OF THIS DRAWING: 12/15/11
PROJECT NO.: 115244
SHEET NO.: 4 OF 4
SCALE: 1" = 40' (PLAN)
1" = 10' (PROFILE)
DRAWN BY: JAC
CHECKED BY: JAC
DATE: 12/15/11

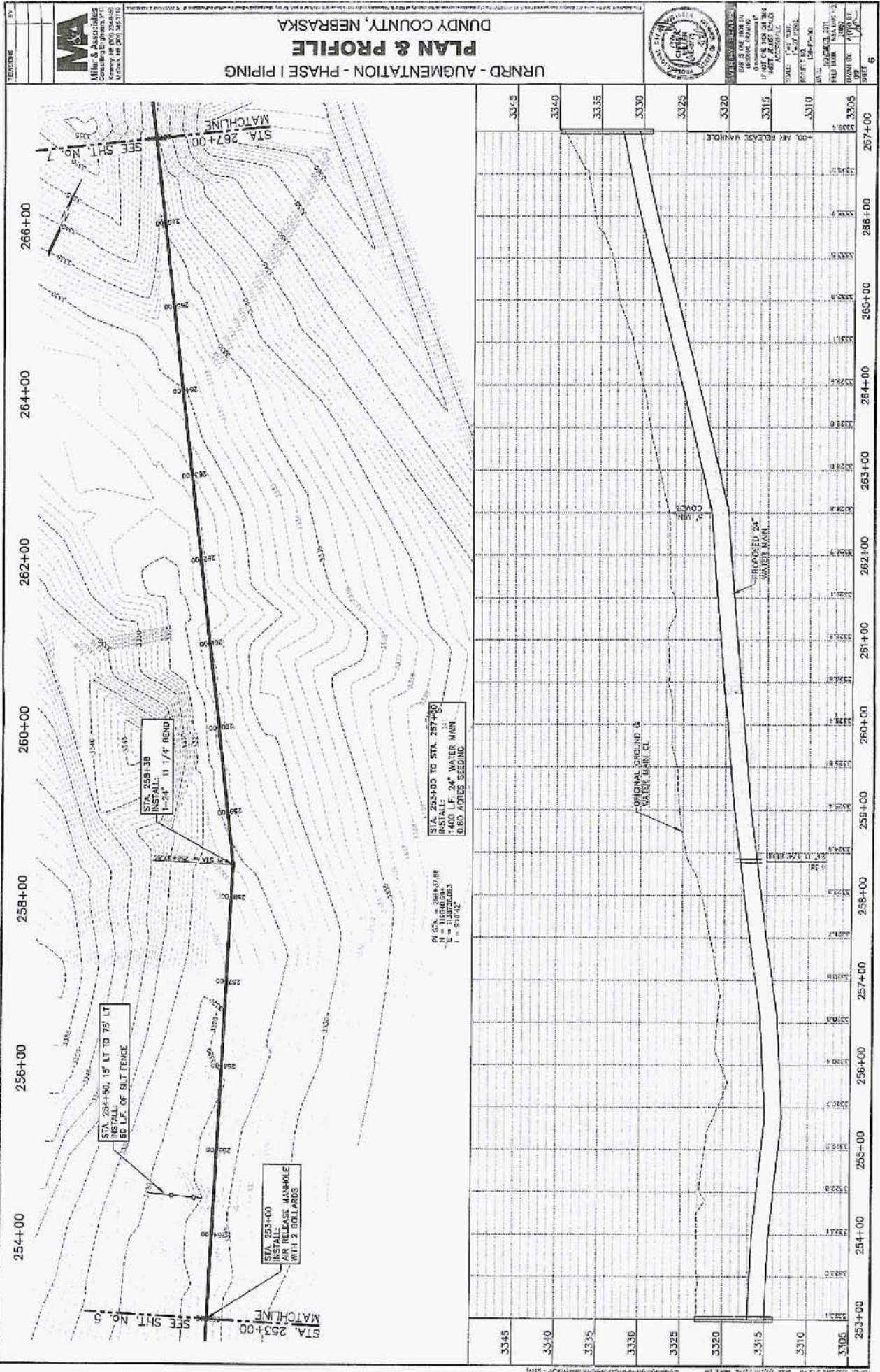
STATION	PROPOSED 24" WATER MAIN	ORIGINAL GROUND & WATER MAIN C.
225+00	3298.8	3298.8
226+00	3303.1	3303.1
227+00	3307.2	3307.2
228+00	3311.5	3311.5
229+00	3315.7	3315.7
230+00	3319.9	3319.9
231+00	3324.2	3324.2
232+00	3328.4	3328.4
233+00	3332.6	3332.6
234+00	3336.8	3336.8
235+00	3340.9	3340.9
236+00	3345.1	3345.1
237+00	3349.2	3349.2
238+00	3353.4	3353.4
239+00	3357.5	3357.5
3320	3361.7	3361.7
3315	3365.8	3365.8
3310	3370.0	3370.0
3305	3374.1	3374.1
3300	3378.3	3378.3
3295	3382.4	3382.4
3290	3386.5	3386.5
3295	3390.7	3390.7
3280	3394.8	3394.8

PI STA. = 238+86.28
ST. 1 = 115244.152
E = 115244.152
I = 1654.457

PI STA. = 233+16.21
ST. 1 = 115244.116
E = 115244.116
I = 1525.571

STA. 225+00 TO STA. 239+00
1400 L.F. 24" WATER MAIN
0.80 ACRES SEEDING



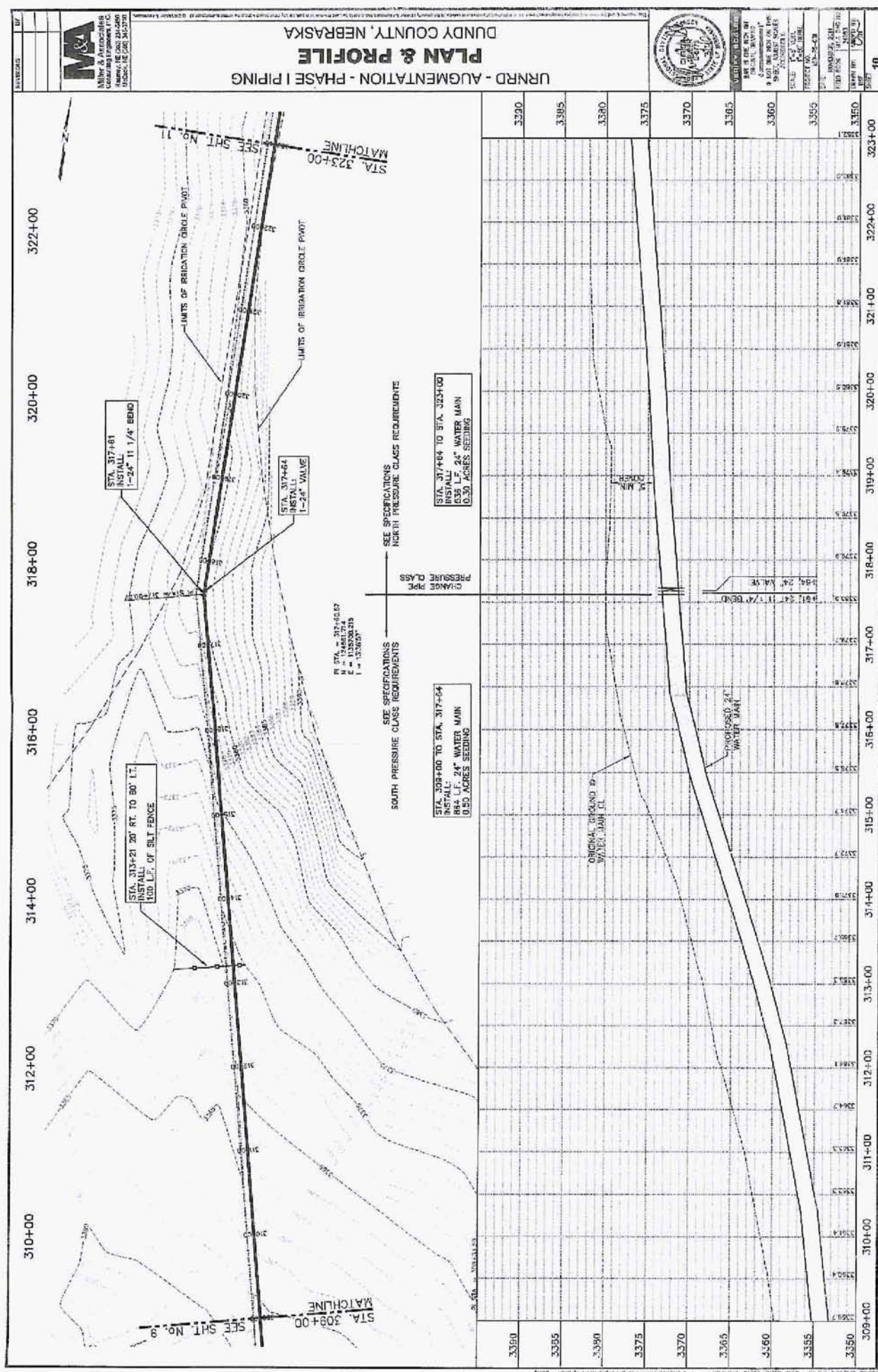


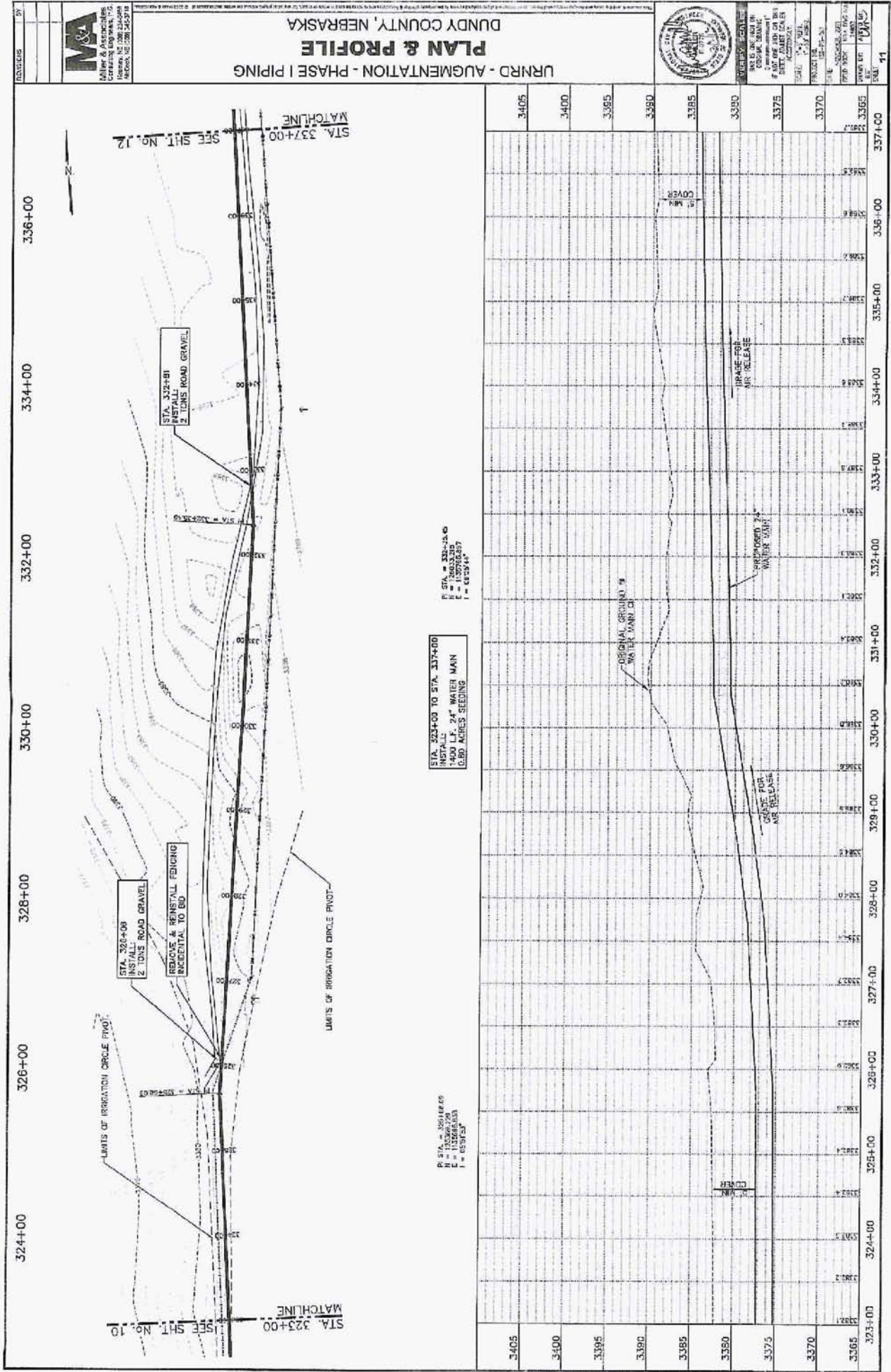
Miller & Associates
 Consulting Engineers, P.C.
 1000 N. 10th Street, Suite 200
 Lincoln, NE 68502-3010
 Phone: 402.441.2222

URRD - AUGMENTATION - PHASE I PIPING
PLAN & PROFILE
 DUNDY COUNTY, NEBRASKA

CITY OF LINCOLN
 PUBLIC WORKS DEPARTMENT
 1000 N. 10th Street, Suite 200
 Lincoln, NE 68502-3010
 Phone: 402.441.2222

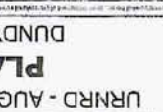
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DRAWN BY:	AP/DC
CHECKED BY:	AP/DC
SCALE:	AS SHOWN
PROJECT NO.:	11-000000
SHEET NO.:	6



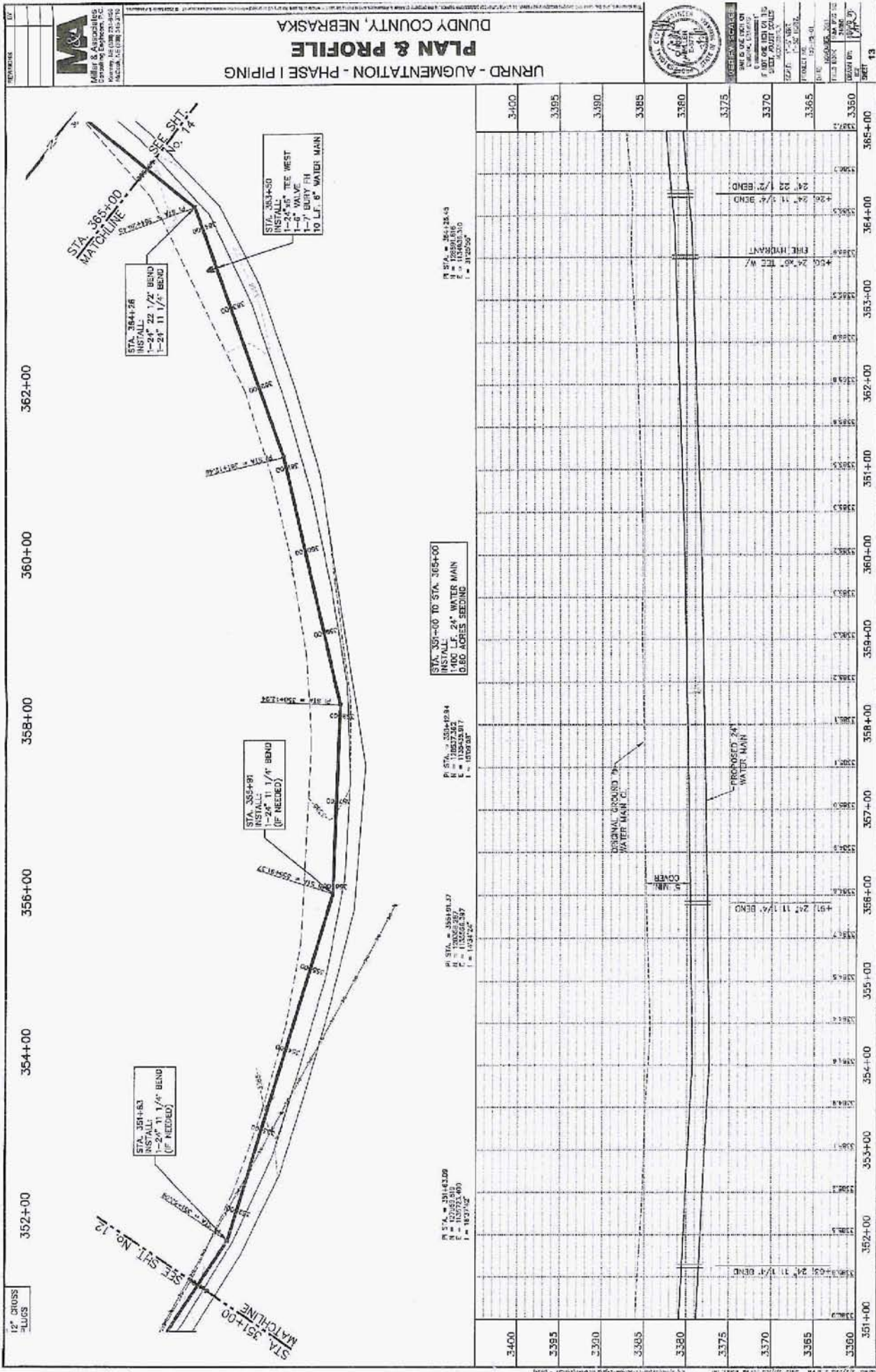


Miller & Associates
 Consulting Engineers, P.C.
 1000 North 17th Street
 Lincoln, NE 68502-4458
 Phone: 402.441.2200
 Fax: 402.441.2201

DUNDY COUNTY, NEBRASKA
PLAN & PROFILE
 URNRD - AUGMENTATION - PHASE I PIPING



DATE: 11/15/11
 DRAWN BY: J. W. HARRIS
 CHECKED BY: J. W. HARRIS
 PROJECT NO.: 11-001
 SHEET NO.: 11 OF 11



12" CROSS
FLUGS

352+00

354+00

356+00

358+00

360+00

362+00

364+00

366+00

368+00

370+00

372+00

374+00

376+00

378+00

380+00

382+00

384+00

386+00

388+00

390+00

392+00

394+00

396+00

398+00

400+00

402+00

404+00

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410+00

412+00

414+00

416+00

418+00

420+00

422+00

424+00

426+00

428+00

430+00

432+00

434+00

436+00

438+00

440+00

442+00

444+00

446+00

448+00

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724+00

726+00

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730+00

732+00

734+00

736+00

738+00

740+00

742+00

744+00

746+00

748+00

750+00

752+00

754+00

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760+00

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764+00

766+00

768+00

770+00

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774+00

776+00

778+00

780+00

782+00

784+00

786+00

788+00

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798+00

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818+00

820+00

822+00

824+00

826+00

828+00

830+00

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844+00

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918+00

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922+00

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926+00

928+00

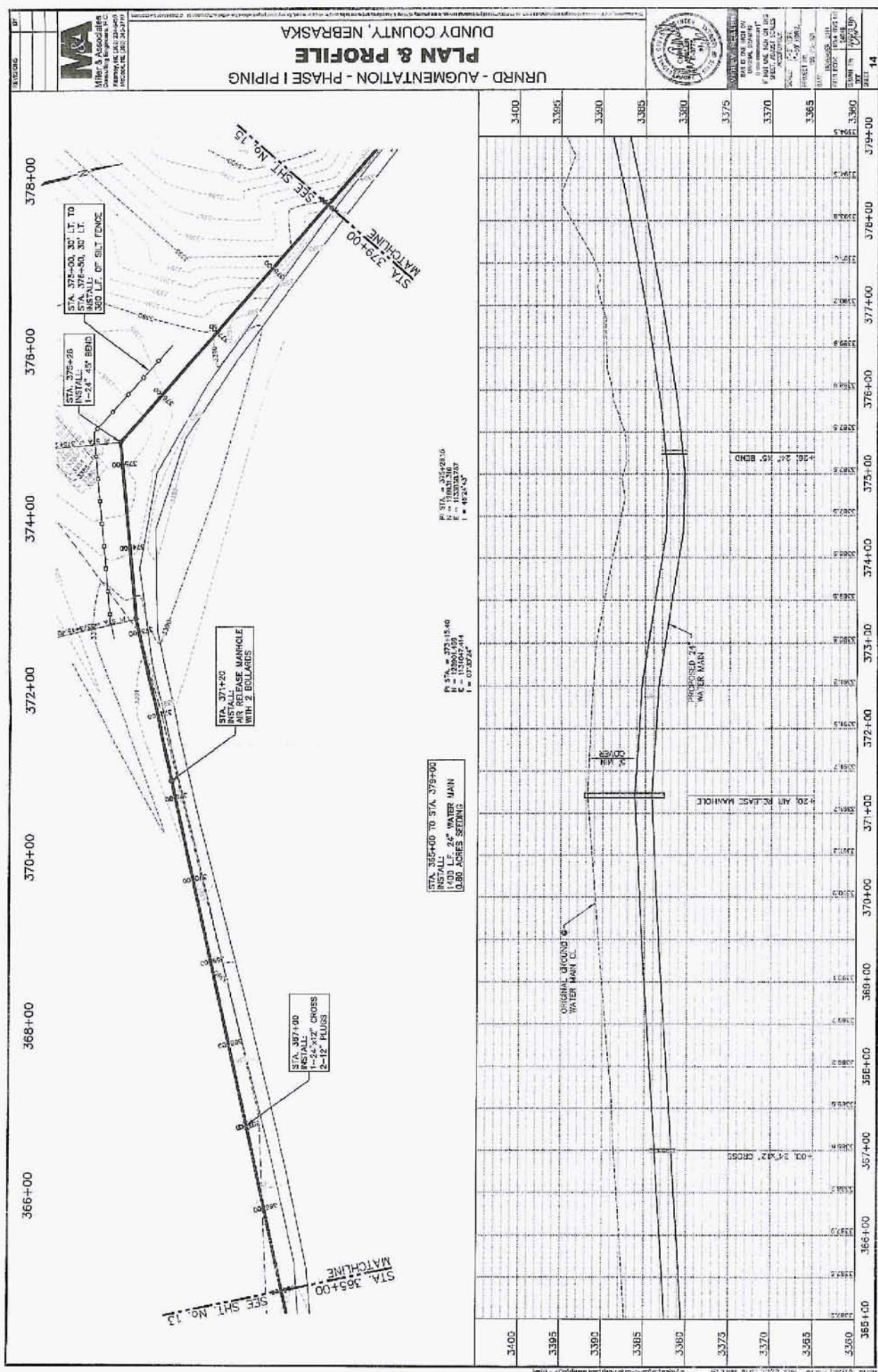
930+00

932+00

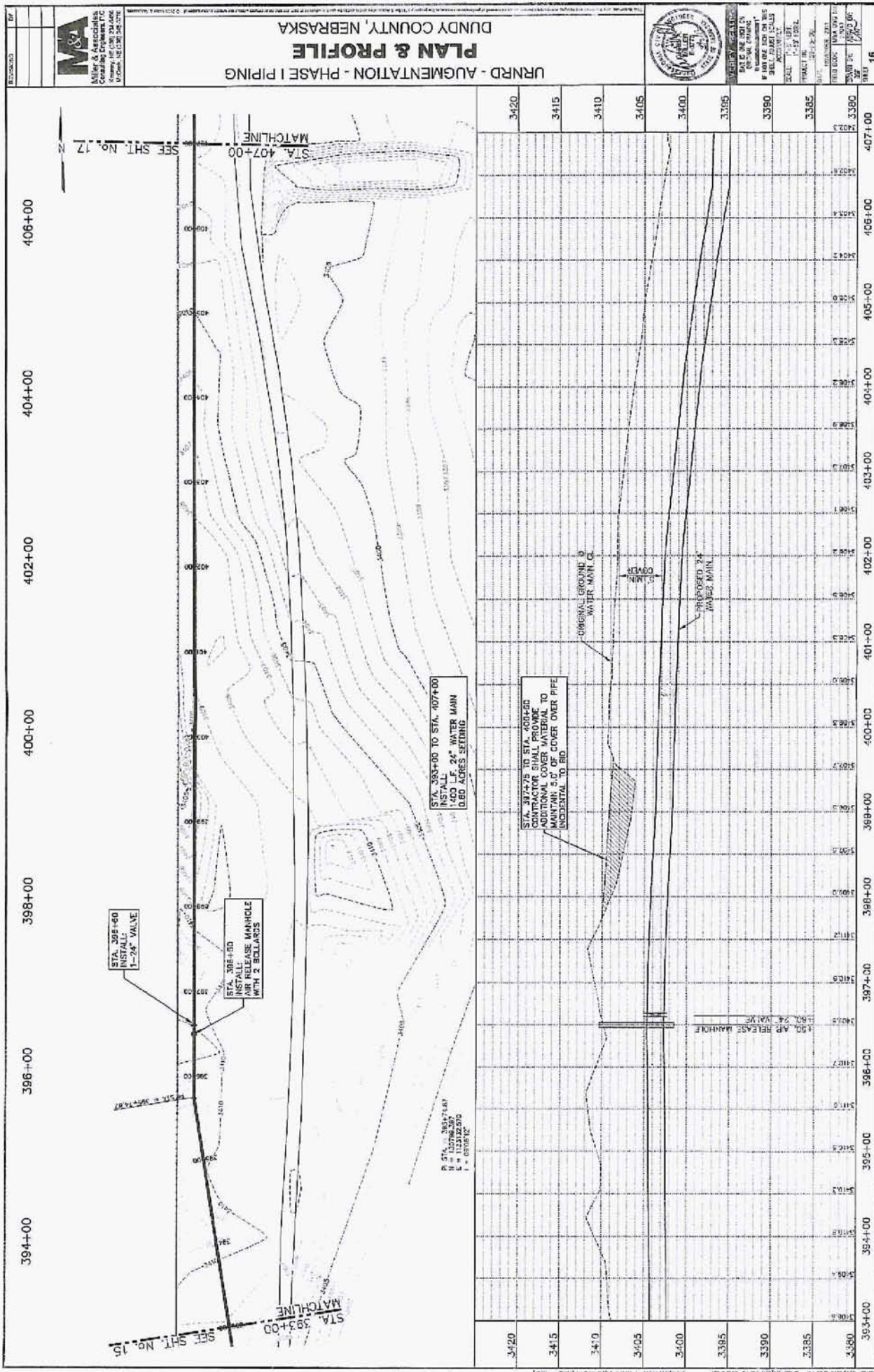
934+00

936+00

938+00



DATE: 07/23/24
 PROJECT: URNRD - AUGMENTATION - PHASE I PIPING
 SHEET NO. 14 OF 14
 DRAWN BY: JPM
 CHECKED BY: JPM
 SCALE: AS SHOWN
 PROJECT NO. 24-0001
 SHEET NO. 14 OF 14



DATE	
BY	
APP'D	

M&A
Miller & Associates
Consulting Engineers, P.C.
1000 N. 10th St., Suite 200
Lincoln, NE 68502-3200
PHONE: (402) 441-2400
FAX: (402) 441-2401

URRD - AUGMENTATION - PHASE I PIPING
PLAN & PROFILE
DUNDY COUNTY, NEBRASKA

REVISIONS

NO.	DATE	DESCRIPTION
1	08/15/11	ISSUED FOR PERMITS
2	08/15/11	REVISED FOR COMMENTS
3	08/15/11	REVISED FOR COMMENTS
4	08/15/11	REVISED FOR COMMENTS
5	08/15/11	REVISED FOR COMMENTS
6	08/15/11	REVISED FOR COMMENTS
7	08/15/11	REVISED FOR COMMENTS
8	08/15/11	REVISED FOR COMMENTS
9	08/15/11	REVISED FOR COMMENTS
10	08/15/11	REVISED FOR COMMENTS
11	08/15/11	REVISED FOR COMMENTS
12	08/15/11	REVISED FOR COMMENTS
13	08/15/11	REVISED FOR COMMENTS
14	08/15/11	REVISED FOR COMMENTS
15	08/15/11	REVISED FOR COMMENTS
16	08/15/11	REVISED FOR COMMENTS

SCALE

PLAN: 1" = 20' HORIZ.

PROFILE: 1" = 2' VERT.

DATE OF PLOT: 08/15/11

PROJECT NO.: 11-001

PROJECT NAME: URRD - AUGMENTATION - PHASE I PIPING

CLIENT: DUNDY COUNTY, NEBRASKA

DESIGNED BY: J. W. MILLER

CHECKED BY: J. W. MILLER

IN CHARGE: J. W. MILLER

DATE OF PLOT: 08/15/11

SCALE: 1" = 20' HORIZ. 1" = 2' VERT.

PROJECT NO.: 11-001

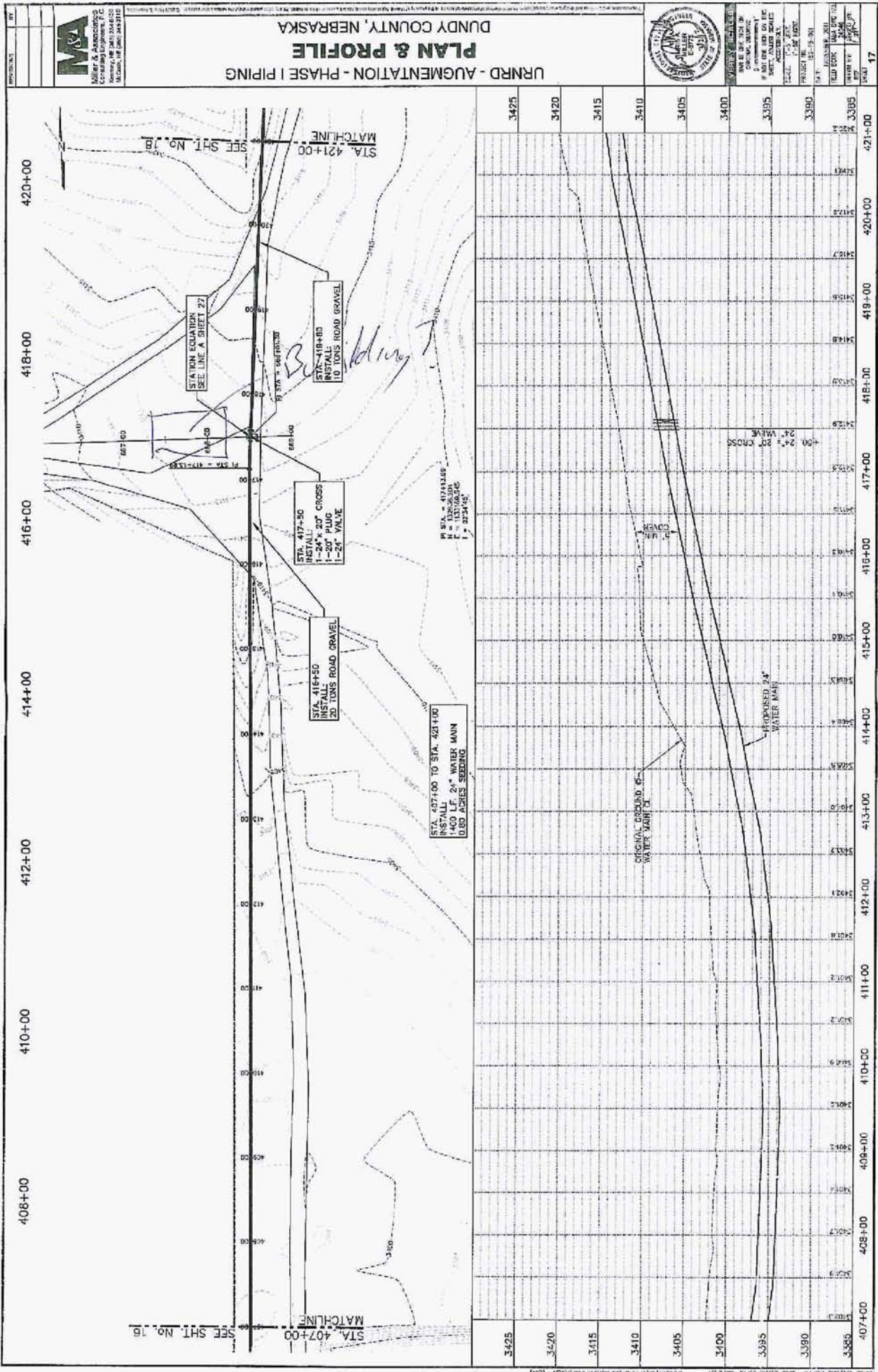
PROJECT NAME: URRD - AUGMENTATION - PHASE I PIPING

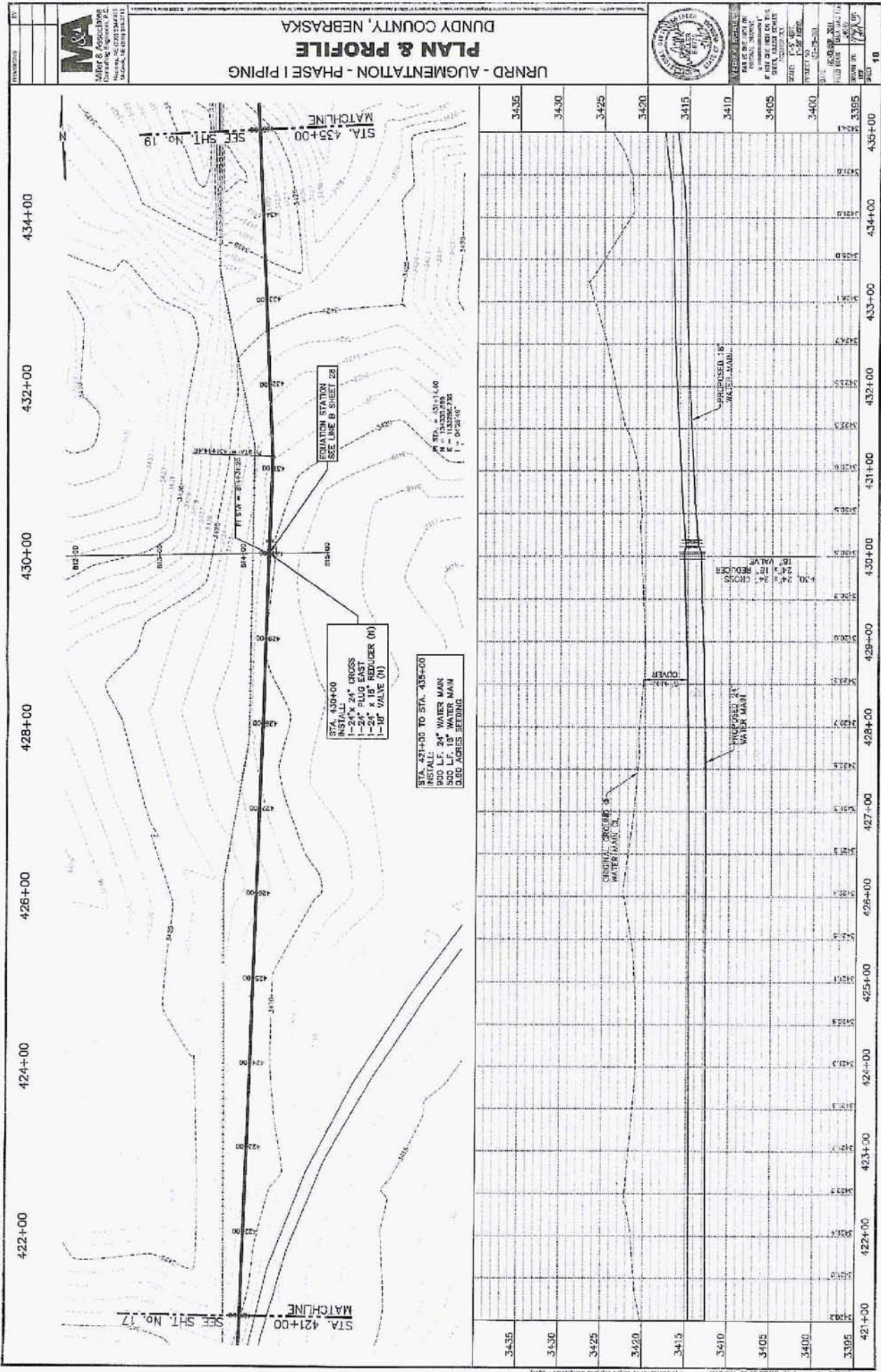
CLIENT: DUNDY COUNTY, NEBRASKA

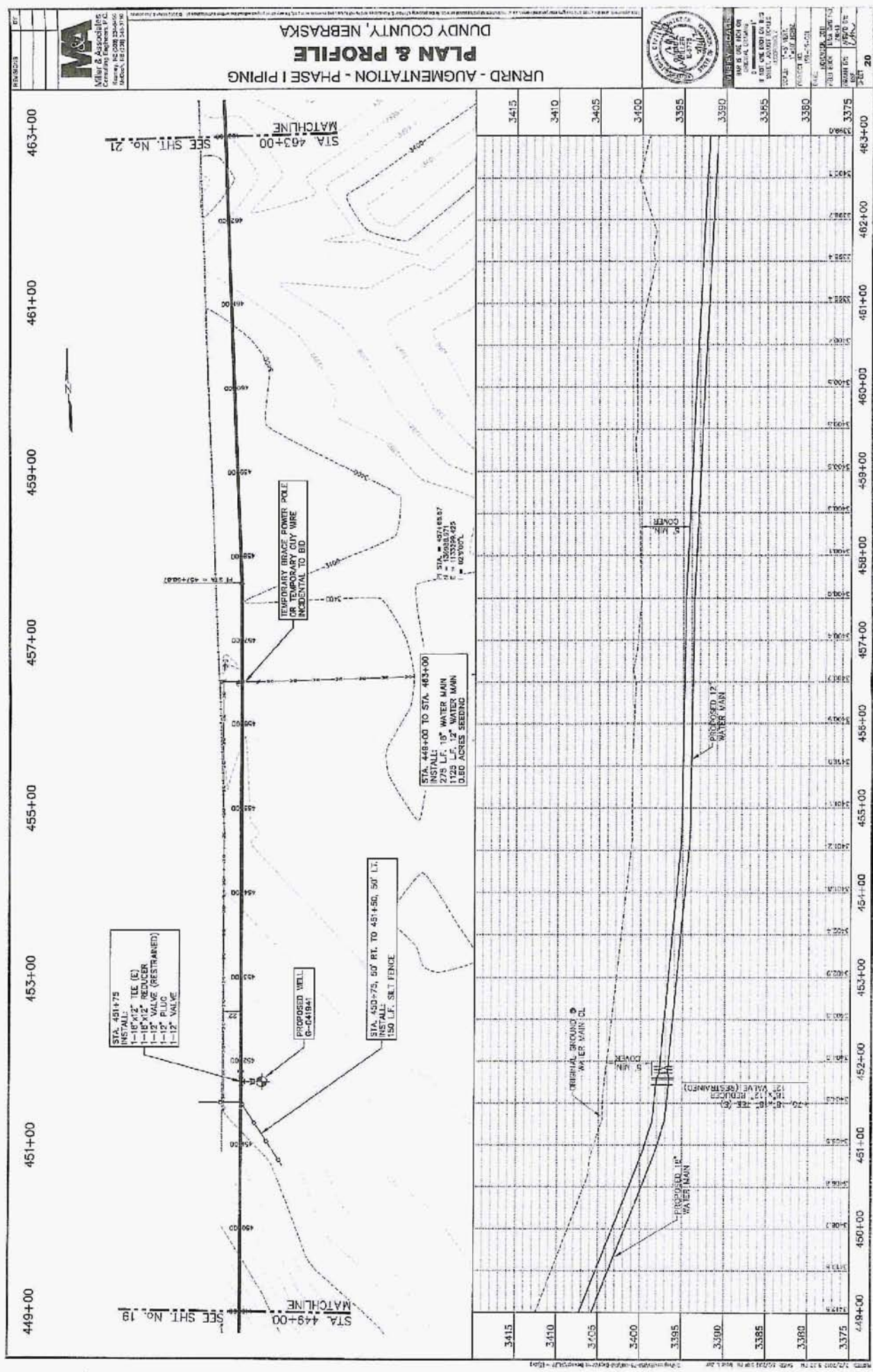
DESIGNED BY: J. W. MILLER

CHECKED BY: J. W. MILLER

IN CHARGE: J. W. MILLER



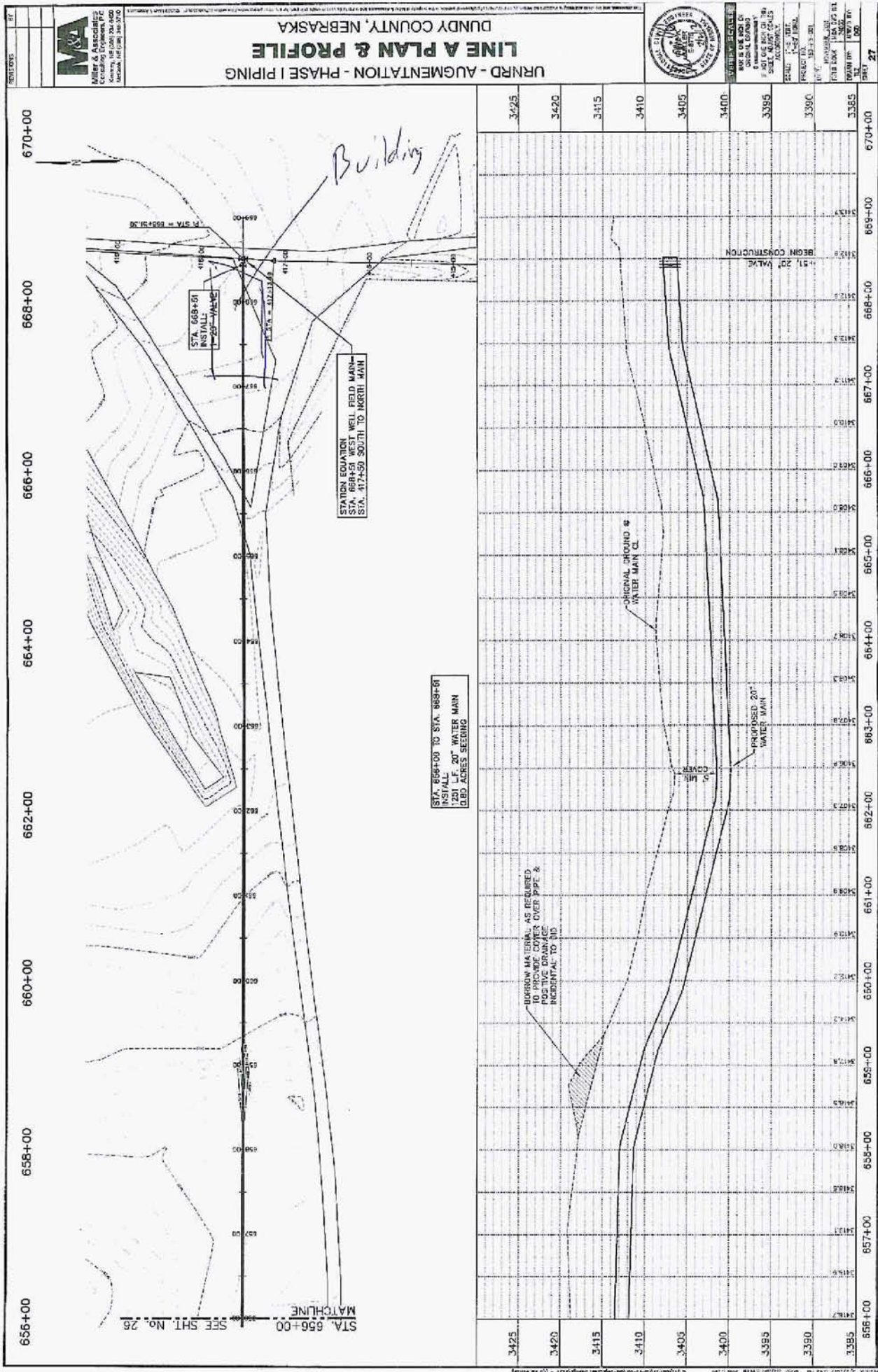




DUNDY COUNTY, NEBRASKA
PLAN & PROFILE
URRND - AUGMENTATION - PHASE I PIPING



DATE: 11/15/2011
PROJECT: URRND - AUGMENTATION - PHASE I PIPING
SHEET: 20 OF 21
DRAWN BY: [Name]
CHECKED BY: [Name]



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1000 North 17th Street
Lincoln, NE 68502-3470
PHONE: 402.441.2200
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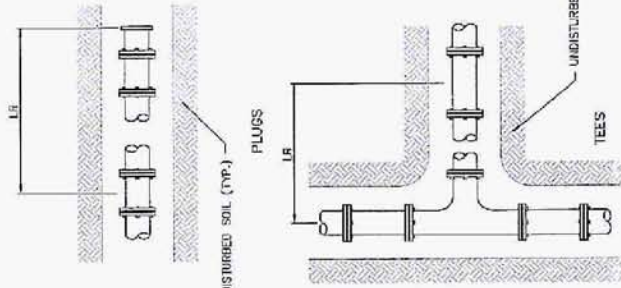
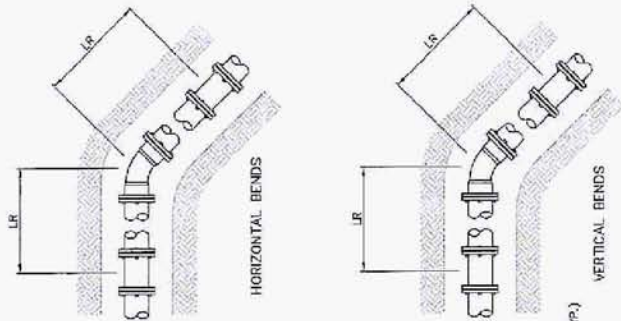
URNRD AUGMENTATION - PHASE I PIPING
DETAILS
DUNDY COUNTY, NEBRASKA



REVISIONS

NO.	DATE	DESCRIPTION
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SCALE: AS SHOWN
PROJECT: DUNDY COUNTY
SHEET: 29

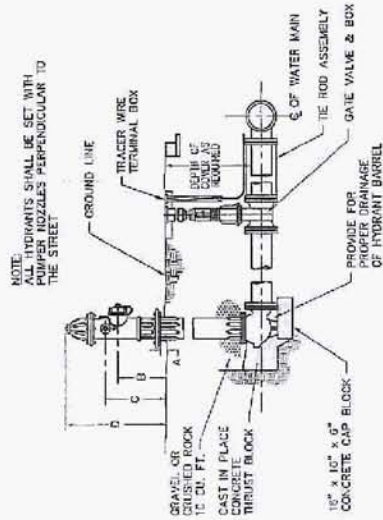
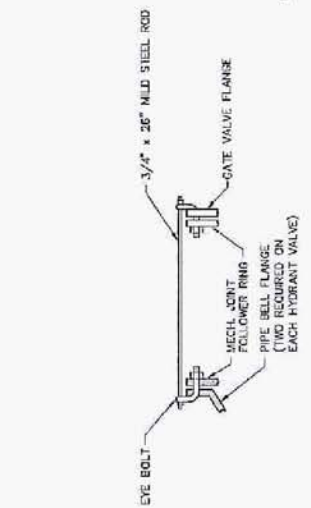


ALL LENGTHS ARE GIVEN IN FEET

NOMINAL PIPE SIZE INCHES	RESTRAINED LENGTHS "LR"		TEE BRANCH & PLUGS	VERTICAL BENDS
	HORIZONTAL BENDS	VERTICAL BENDS		
8	90	45	22 1/2"	45
10	108	54	27	54
12	126	63	32	63
14	144	72	37	72
16	162	81	42	81
18	180	90	47	90
20	198	99	52	99
24	234	117	63	117

- NOTES:**
- ALL JOINTS WITHIN THE SPECIFIED LENGTH "LR" MUST BE RESTRAINED.
 - THE MINIMUM DEPTH OF BURY SHALL BE 5' TO TOP OF PIPE.

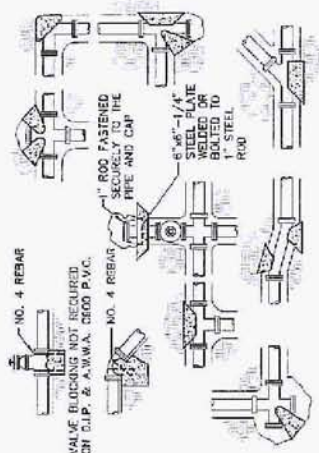
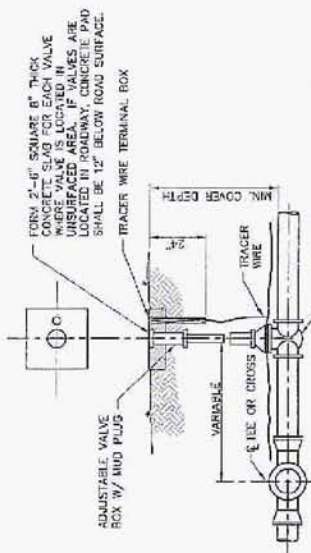
ALTERNATE JOINT RESTRAINT FOR D.I. PIPE
NO SCALE



DIMENSIONAL REQUIREMENTS

SIZE	A	B	C	D
4" x 4"	2"	16"	21"	35"
4" x 6"	2"	16"	21"	35"
6" x 6"	2"	18"	23"	38"
6" x 8"	2"	18"	23"	38"

FIRE HYDRANT DETAIL
NO SCALE



BEARING AREA OF BLOCK IN SQ. FT.

FITTING SIZES	VALVES 18" & 24" PDS	80" & 90" BENDS	45" & 54" BENDS	22-1/2" & 27" BENDS
3" & SMALLER	0.5	0.5	0.5	0.2
4"	1.0	1.0	1.0	0.4
6"	2.0	2.0	2.0	0.8
8"	4.0	4.0	4.0	1.6
10"	6.0	6.0	6.0	2.4
12"	8.0	8.0	8.0	3.2
14"	10.0	10.0	10.0	4.0
16"	12.0	12.0	12.0	4.8
18"	14.0	14.0	14.0	5.6
20"	16.0	16.0	16.0	6.4
24"	20.0	20.0	20.0	8.0
30"	25.0	25.0	25.0	10.0

- NOTES:**
- CARE SHALL BE EXERCISED TO ASSURE JOINT, INCLUDING BRIS, WILL BE ACCESSIBLE UNLESS OTHERWISE SPECIFIED.
 - CONC. MIX COMPRESSIVE STRENGTH SHALL BE 3,000 PSI.
 - THIS DETAIL FOR BOTH VERT. AND HORIZ. PIPE.

STANDARD BLOCKING DETAILS
NO SCALE

MA
Miller & Associates
Consulting Engineers, P.C.
1000 N. 10th Street, Suite 200
Lincoln, NE 68502-3678
PHONE: (402) 441-1111
FAX: (402) 441-1112
WWW: www.millerandassociates.com

UNRSD AUGMENTATION - PHASE I PIPING
DETAILS
DUNDY COUNTY, NEBRASKA

REVISIONS

NO.	DATE	DESCRIPTION

SCALE
SECTION: NO SCALE

DATE
11/15/2011

PROJECT
UNRSD AUGMENTATION - PHASE I PIPING

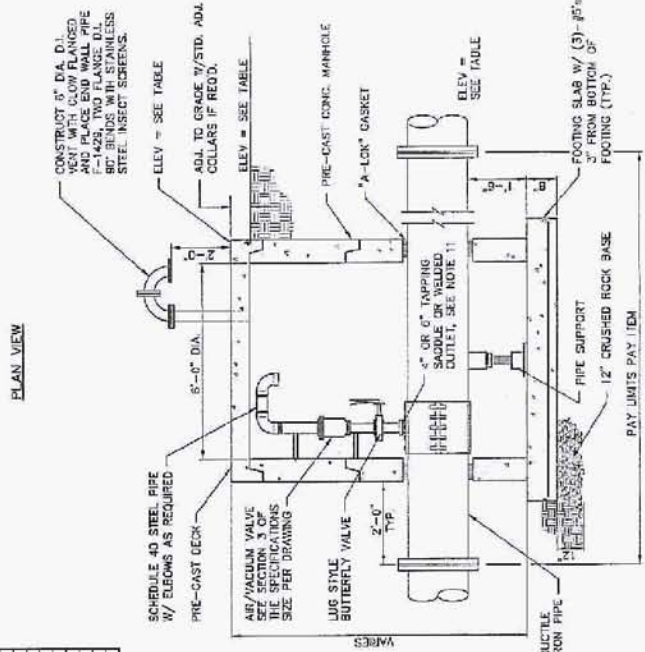
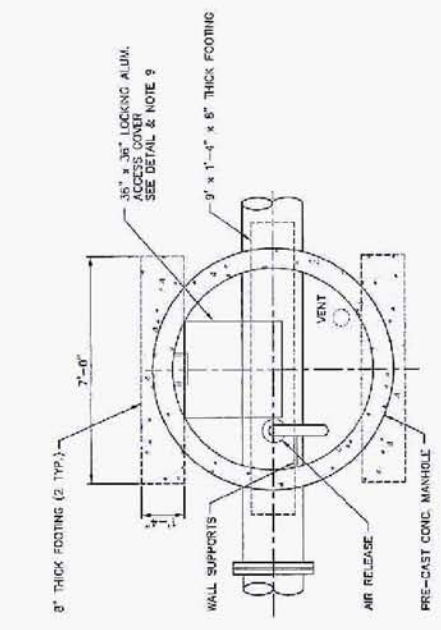
CLIENT
DUNDY COUNTY, NEBRASKA

DESIGNED BY
M.A. MILLER

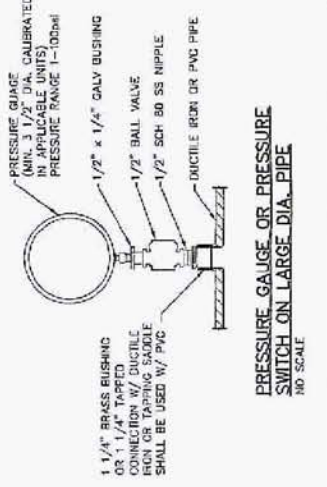
CHECKED BY
M.A. MILLER

DATE
11/15/2011

SCALE
SECTION: NO SCALE



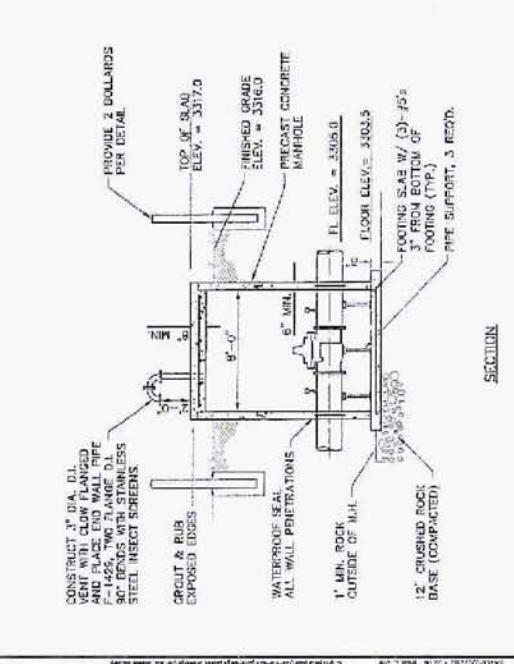
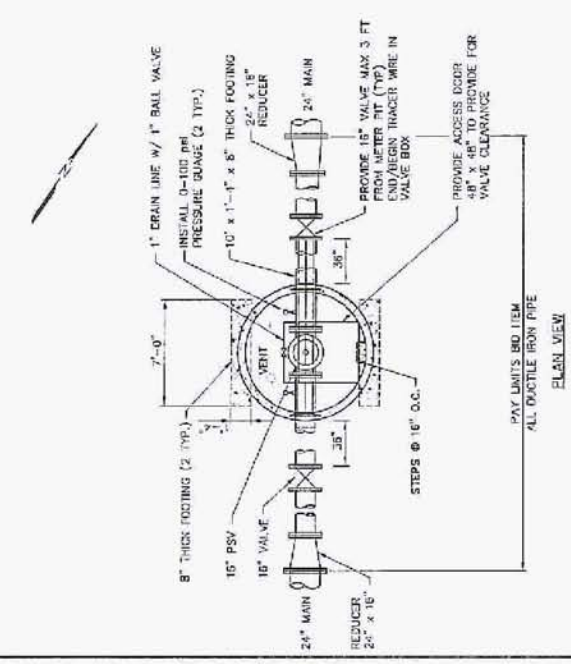
TYPICAL AIR RELEASE MANHOLE
SECTION
NO SCALE



AIR RELEASE MANHOLE ELEVATIONS

STATION	TOP OF MANHOLE	GRADE MANHOLE	E PIPE	MANHOLE FLOOR	TOTAL DEPTH	AIR RELEASE SIZE
253+00	3333.7	3323.0	3323.0	3313.5	10.2	4"
267+00	3356.0	3345.3	3345.3	3335.8	11.0	4"
275+31	3353.7	3343.0	3343.0	3333.5	9.7	4"
337+00	3393.0	3382.3	3382.3	3372.8	9.0	4"
381+50	3257.0	3246.3	3246.3	3236.8	10.0	4"
386+50	3410.5	3400.0	3400.0	3390.5	10.0	4"
439+00	3450.0	3440.0	3440.0	3430.0	10.0	4"
507+50	3444.0	3434.0	3434.0	3424.0	9.0	4"
613+50	3455.0	3445.0	3445.0	3435.0	10.0	4"
648+00	3468.0	3458.0	3458.0	3448.0	10.0	4"
811+90	3476.0	3466.0	3466.0	3456.0	9.0	4"

- AIR RELEASE MANHOLE NOTES:**
- MANHOLE SECTIONS SHALL BE PRECAST WITH A LUG OR BOLT TYPE GASKET. MP SHALL CONFORM TO CHAS OR APPROVED EQUAL.
 - PIPES ENTERING MANHOLE SHALL BE FULLY SUPPORTED BY CONCRETE OR UNDISTURBED EARTH.
 - TOTAL DEPTH OF MANHOLE SHALL BE AS SPECIFIED ON CONSTRUCTION DRAWINGS TO ACCOMMODATE PIPE DEPTHS.
 - PROVIDE 2 BOLLARDS AT AIR RELEASE MANHOLES, INCIDENTAL TO BID ITEM.
 - STEPS SHALL BE DEETER 1607, HENKAI R-1682-W OR APPROVED EQUAL, 18" C-C.
 - ALL HORIZONTAL MATING SURFACES BETWEEN CONCRETE AND CONCRETE OR CONCRETE AND METAL SHALL BE SEALED WITH RAM-SEK OR EQUAL, PREMOULDED MASTIC COMPOUND.
 - ALL VERTICAL EXTERIOR WALL SURFACES SHALL RECEIVE A FIBERED ASPHALT COMPOUND TO A FINAL NET THICKNESS OF 1/8 INCH. PROVIDE COATING MEETING ASTM D449 EQUAL TO SEMIFLEXIBLE HYDROGEO 700 B SEMI-MASTIC.
 - AIR RELEASE ASSEMBLY SHALL INCLUDE TAP, SHUT OFF VALVE, AND DISCHARGE PIPING AS REQUIRED. PIPING SHALL BE SUPPORTED OFF MANHOLE WALL SECTION WITH SS OR FIBERGLASS SUPPORTS EVERY 2'.
 - THE VERTICAL DISCHARGE MAY HAVE TO BE PLUMBED TO AVOID CONFLICT WITH MANHOLE ACCESS.
 - ALL 24" WATER MAIN PIPING INSIDE MH TO 2' OUTSIDE SHALL BE DUCTILE IRON.
 - AIR RELEASE SHALL HAVE A SS OR DUCTILE IRON TAPPING SADDLE WITH 200 PSI RATING OR WELDED FLANGED OUTLET WITH FLANGE PLATE AND PLATE OPENING. CONTRACTOR TO COORDINATE CONNECTION WITH VALVE.



PRESSURE SUSTAINING VALVE MANHOLE - STA 218+35
SECTION
NO SCALE

