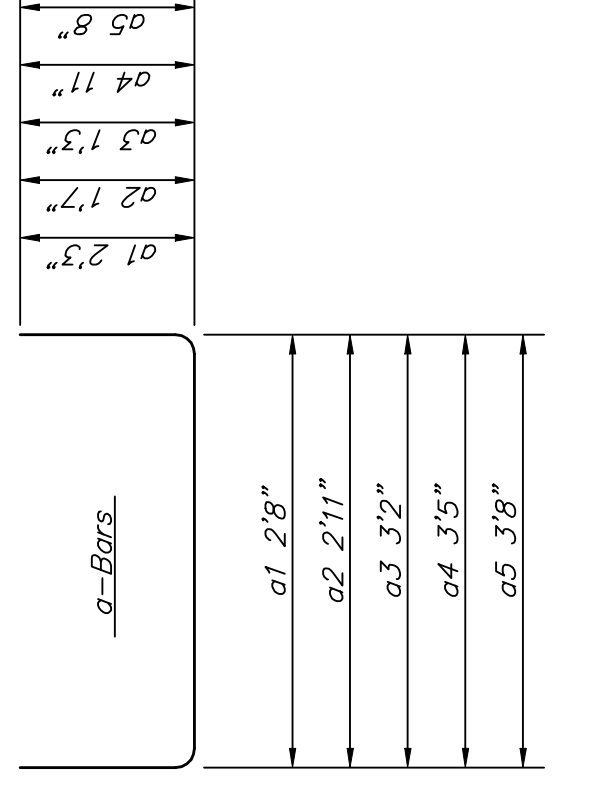
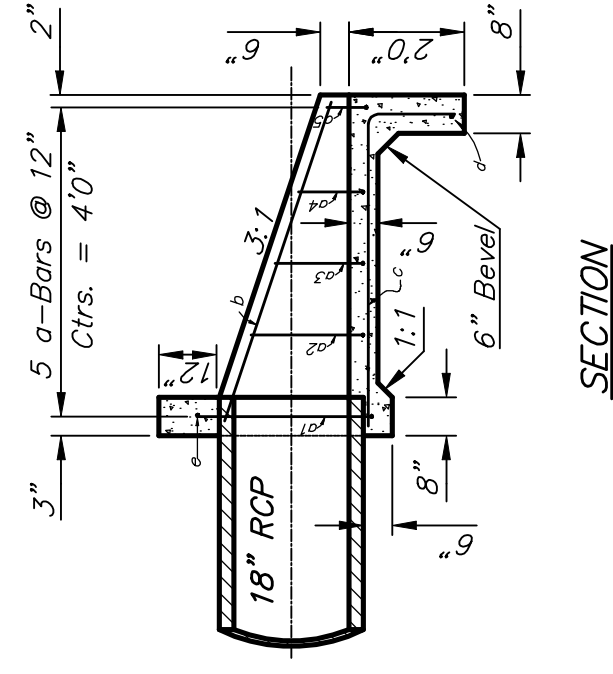
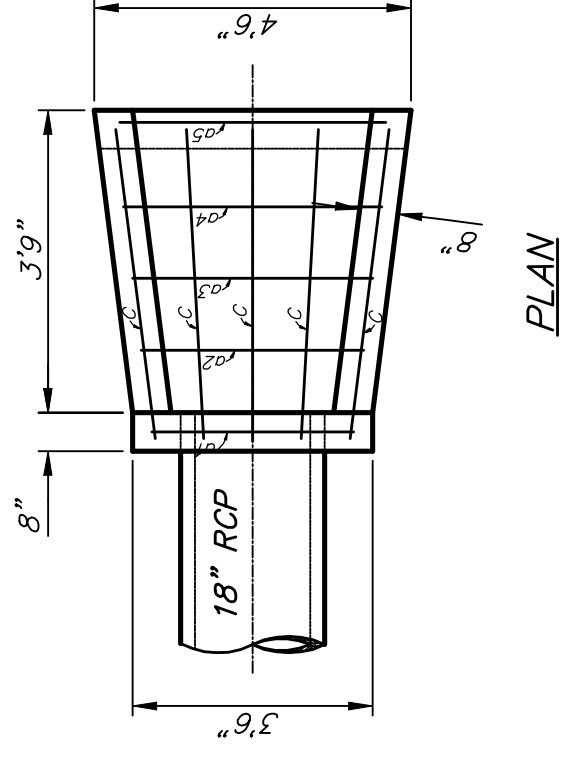


REBAR SCHEDULE

Bar	Shape	No.	Length	Weight
a1	[U]	1	9'5"	6.29
a2	[U]	1	7'7"	5.07
a3	[U]	1	7'2"	4.79
a4	[U]	1	6'9"	4.51
a5	[U]	1	6'4"	4.23
a6	[U]	1	6'1"	4.06
b1	[U]	2	2'9"	3.67
b2	[U]	2	5'10"	7.79
c	[U]	6	6'11"	27.72
d	[U]	1	5'10"	3.37
e	[U]	1	3'10"	2.56
Total Rebar				74.03 Lbs.
Concrete				1.40 C.Y.

A Deduction in Concrete Quantities Has Been Made for Pipe Openings Through the Headwall
 * Field Bend or Cut Reinforcing as Required for Clearance.
 All Concrete Reinforcement to be #4 Rebar.
 All Rebar to Have Min. of 1 1/2" Conc. Cover

HEADWALL FOR 24" RCP

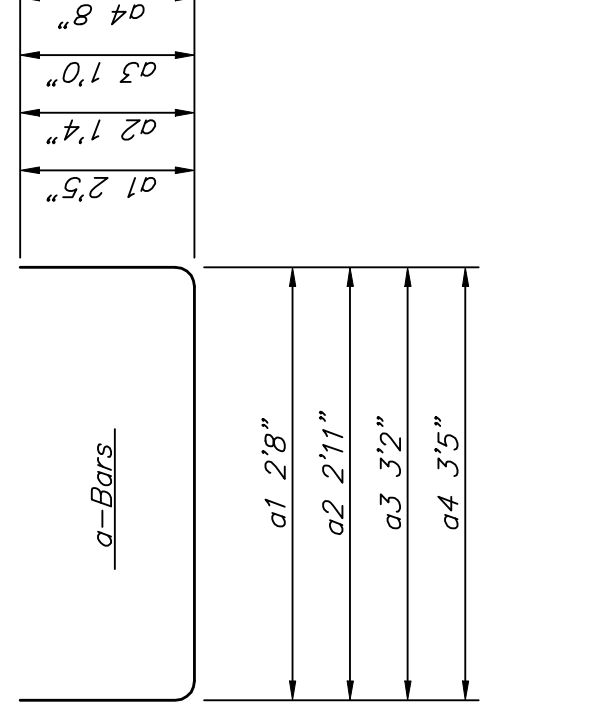
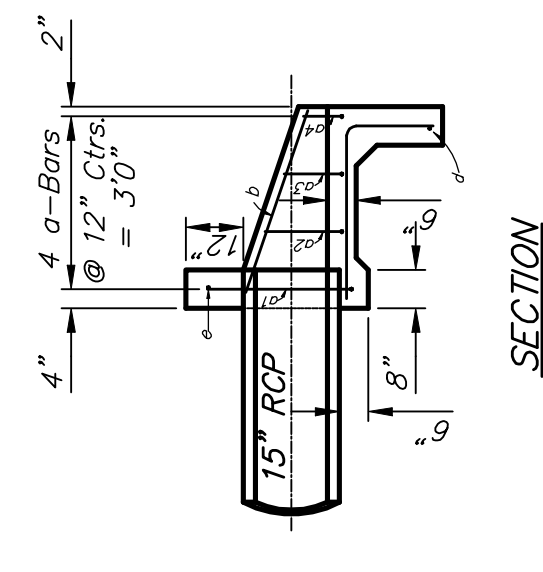
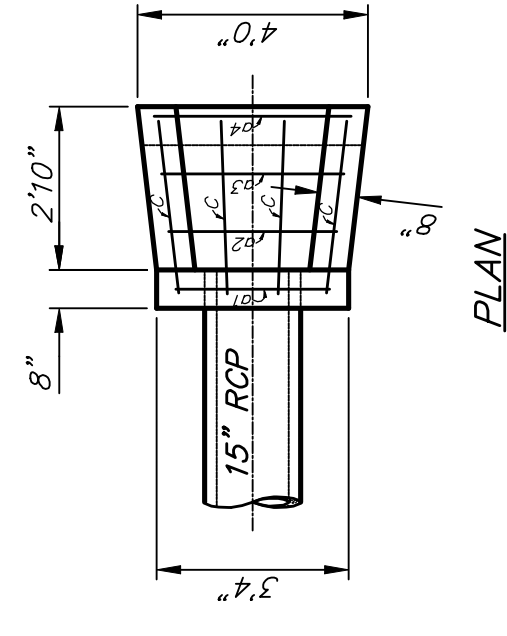


REBAR SCHEDULE

Bar	Shape	No.	Length	Weight
a1	[U]	1	7'2"	4.79
a2	[U]	1	6'1"	4.06
a3	[U]	1	5'8"	3.79
a4	[U]	1	5'3"	3.51
a5	[U]	1	5'0"	3.34
b	[U]	2	4'0"	5.34
c	[U]	5	5'6"	18.37
d	[U]	1	4'0"	2.67
e	[U]	1	3'2"	2.12
Total Rebar				47.99 Lbs.
Concrete				0.91 C.Y.

A Deduction in Concrete Quantities Has Been Made for Pipe Openings Through the Headwall
 * Field Bend or Cut Reinforcing as Required for Clearance.
 All Concrete Reinforcement to be #4 Rebar.
 All Rebar to Have Min. of 1 1/2" Conc. Cover

HEADWALL FOR 18" RCP



REBAR SCHEDULE

Bar	Shape	No.	Length	Weight
a1	[U]	1	7'6"	5.01
a2	[U]	1	5'7"	3.73
a3	[U]	1	5'2"	3.45
a4	[U]	1	4'9"	3.17
b	[U]	2	4'0"	5.34
c	[U]	4	5'6"	14.70
d	[U]	1	3'5"	2.28
e	[U]	1	2'8"	1.78
Total Rebar				39.46 Lbs.
Concrete				0.67 C.Y.

A Deduction in Concrete Quantities Has Been Made for Pipe Openings Through the Headwall
 * Field Bend or Cut Reinforcing as Required for Clearance.
 All Concrete Reinforcement to be #4 Rebar.
 All Rebar to Have Min. of 1 1/2" Conc. Cover

HEADWALL FOR 15" RCP

GENERAL NOTES

- ALL PIPES SHALL BE FLUSH CUT PRIOR TO BEING CAST INTO CONCRETE HEADWALL
- CONCRETE USED IN HEADWALL CONSTRUCTION SHALL BE SAME AS PER CITY STANDARD PAVING MIX EXCEPT THAT IT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
- ALL EXPOSED EDGES SHALL BE BEVELED 1/2" .
- REINFORCING STEEL SHALL COMPLY TO A.S.T.M. DESIGNATION A615 GRADE 60. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BAR UNLESS OTHERWISE NOTED.
- THE "PREIN. CONC. HEADWALL" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH IN PLACE WHICH SHALL INCLUDE ALL LABOR MATERIALS, EXCAVATION, CONCRETE REINFORCING STEEL AND ALL OTHER INCIDENTAL ITEMS NECESSARY TO COMPLETE THE WORK. MATERIAL QUANTITIES SHOWN ARE FOR INFORMATION ONLY.

Baughman
ENGINEERING

HEADWALL DETAIL

PROJECT NUMBER 488-84333	DESIGNER BLP/DNV	DRAWN JAK
REVISIONS:	APPROVED	DATE 09/07
SCALE Noted		SHEET 17 OF 44

Baughman Engineering, P.A., 11115 WALKERS WAY, #600, FARGO, ND 58103
 ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE