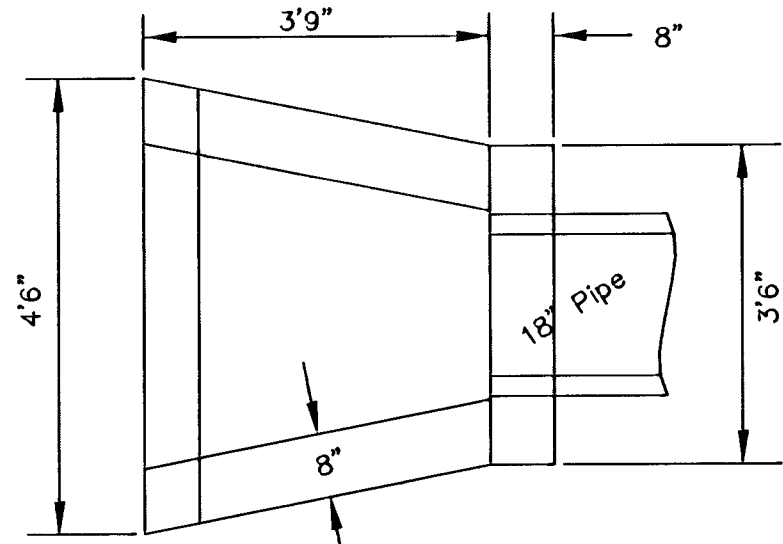
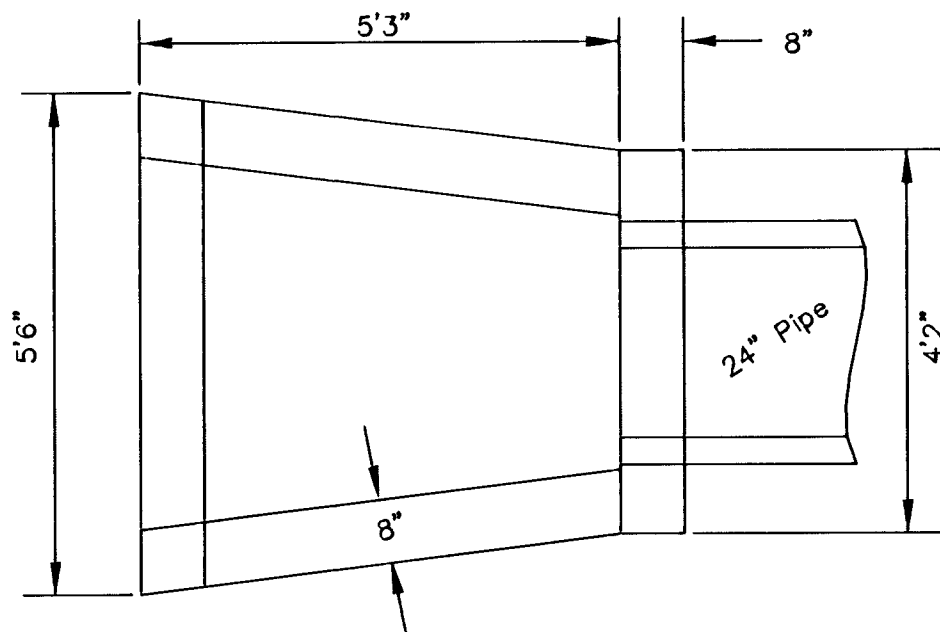
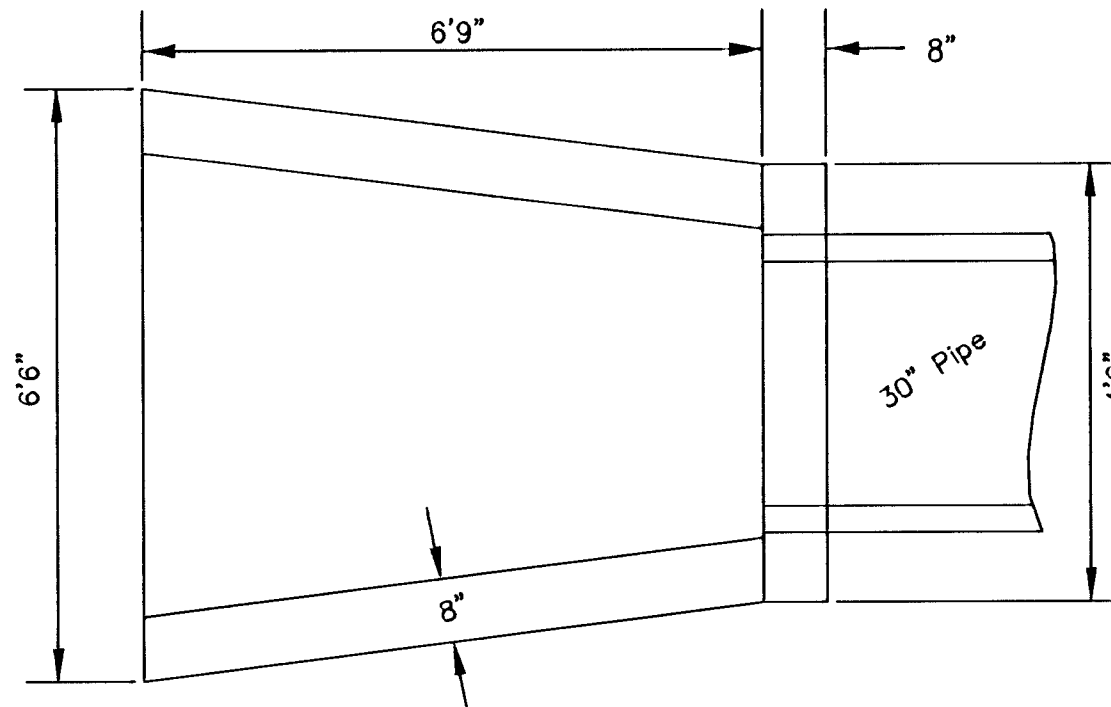




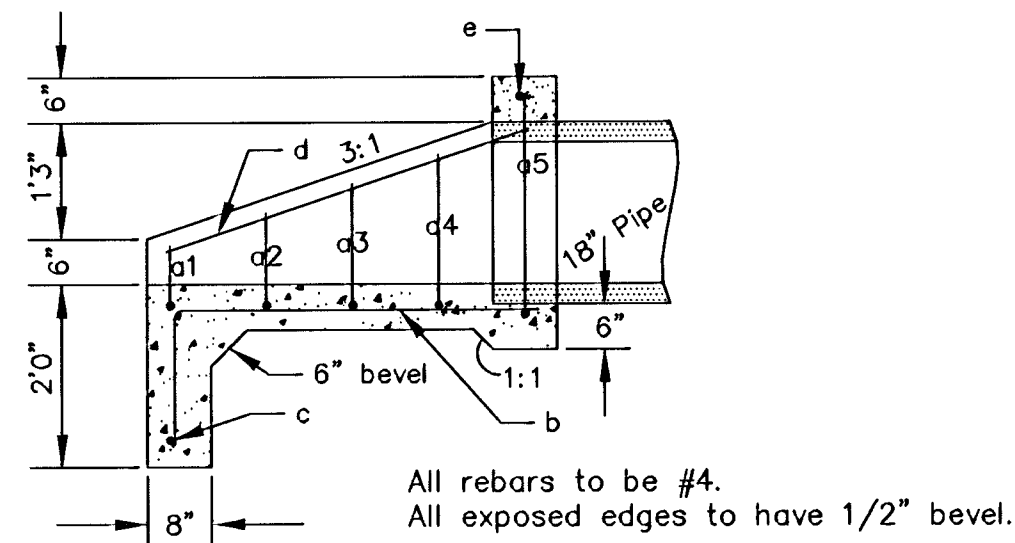
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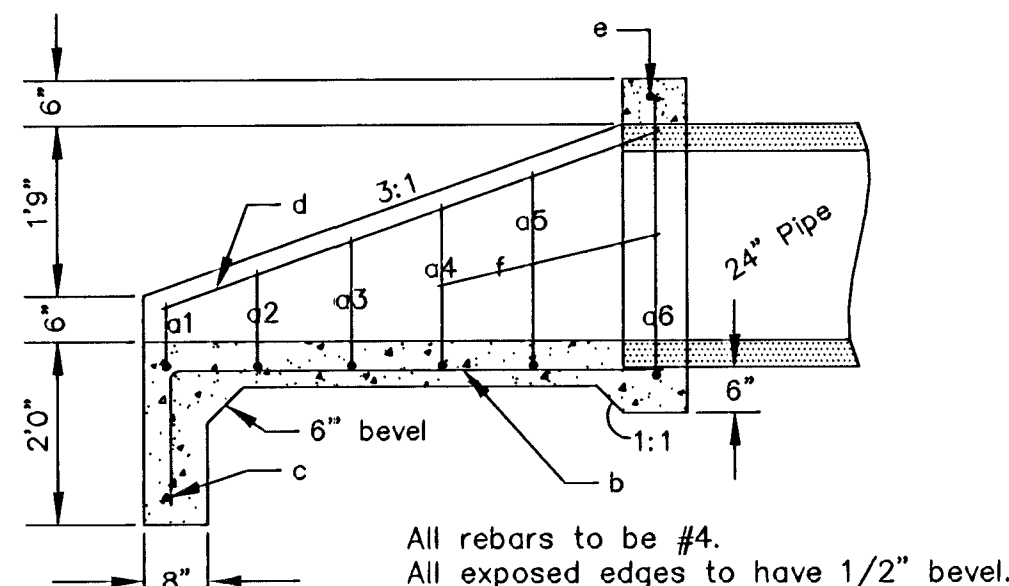
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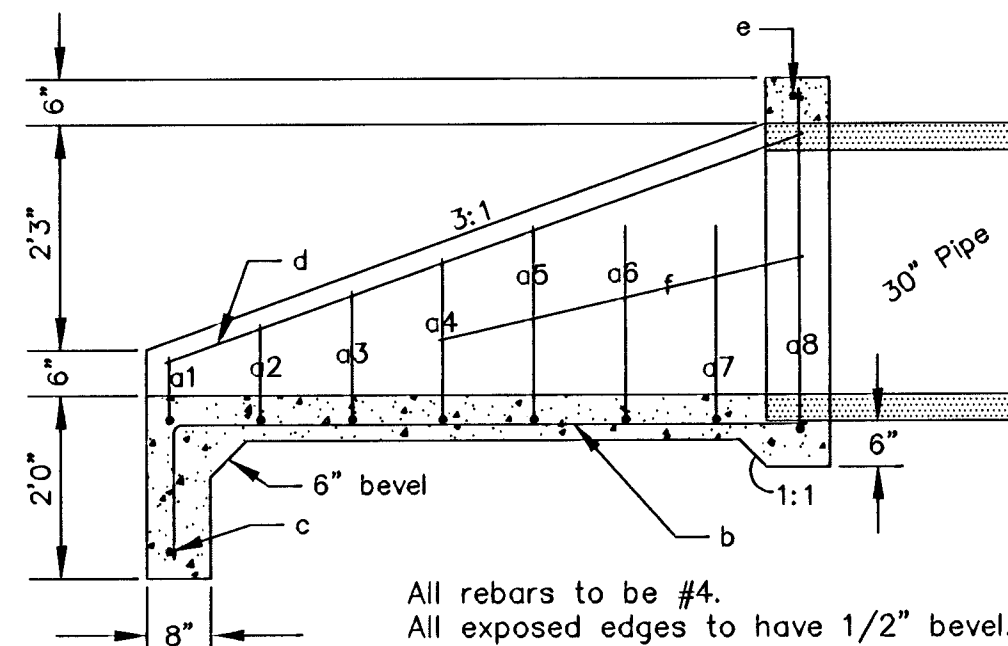
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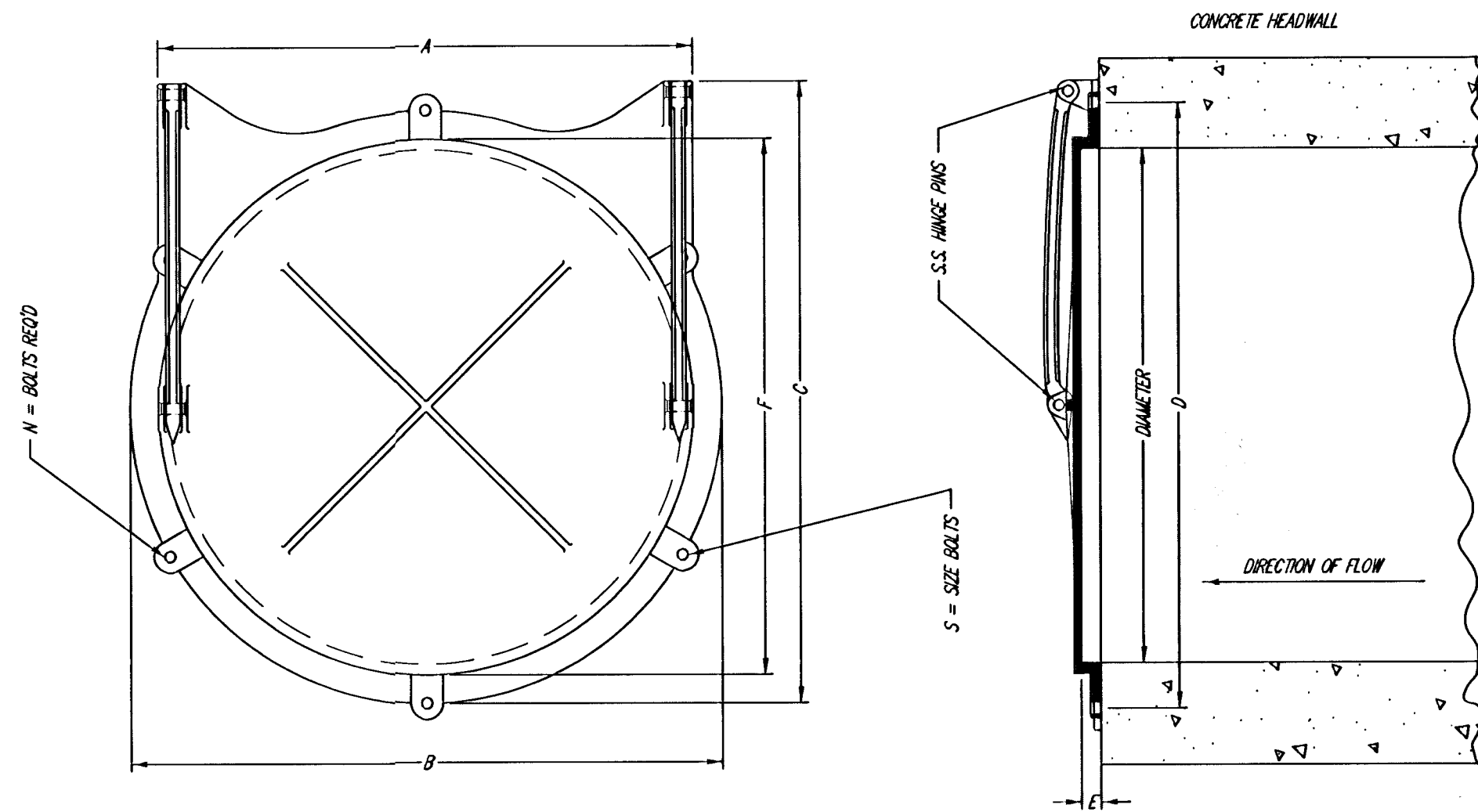
SECTION



SECTION



SECTION



Dimensions for Type SF Vertical Closure Flap Gate (inches)*							
DIAMETER	A	B	C	D	E	F	H
15"	16 1/4"	19"	21"	18 3/4"	1 1/8"	16 1/4"	4
18"	19 1/4"	22 1/8"	24 1/4"	22 1/8"	1 1/4"	19 1/4"	4
24"	25 1/4"	28 1/4"	30 1/4"	28 1/4"	1 1/4"	25 1/4"	6
30"	31 1/4"	34 1/4"	36 1/2"	34 1/4"	1 1/4"	31 1/4"	6
36"	37 1/2"	41 1/2"	43 1/2"	41 1/2"	1 3/8"	37 1/2"	6

* Values given by KEENAH FOUNDRY COMPANY

TABLE OF QUANTITIES				
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	5'0"	┌┐	3.34
a2	1	5'3"	┌┐	3.51
a3	1	5'8"	┌┐	3.79
a4	1	6'1"	┌┐	4.06
a5	1	7'2"	┌┐	4.79
b	5	5'6"	┌┐	18.37
c	1	4'0"	┌┐	2.67
d	2	4'0"	┌┐	5.34
e	1	3'2"	┌┐	2.12
Total Rebar, lbs				47.99
Concrete, C.Y.				0.91

All rebars to be #4.

HEADWALL FOR 18" PIPE

TABLE OF QUANTITIES				
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	6'1"	┌┐	4.06
a2	1	6'4"	┌┐	4.23
a3	1	6'9"	┌┐	4.51
a4	1	7'2"	┌┐	4.79
a5	1	7'7"	┌┐	5.07
a6	1	9'5"	┌┐	6.29
b	6	6'11"	┌┐	27.72
c	1	5'0"	┌┐	3.37
d	2	5'10"	┌┐	7.79
e	1	3'10"	┌┐	2.56
f	2	2'9"	┌┐	3.67
Total Rebar, lbs				74.03
Concrete, C.Y.				1.40

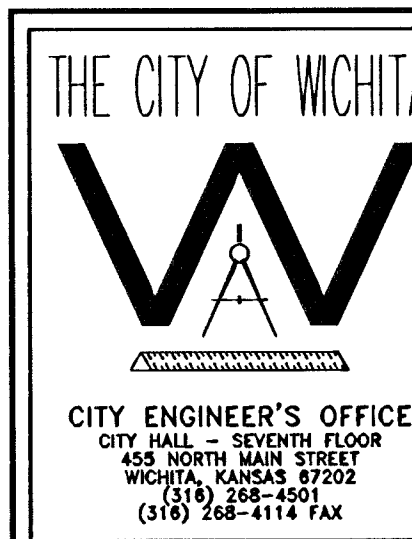
All rebars to be #4.

HEADWALL FOR 24" PIPE

TABLE OF QUANTITIES				
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	7'0"	┌┐	4.68
a2	1	7'4"	┌┐	4.90
a3	1	7'9"	┌┐	5.18
a4	1	8'2"	┌┐	5.46
a5	1	8'6"	┌┐	5.68
a6	1	9'0"	┌┐	6.01
a7	1	9'5"	┌┐	6.29
a8	1	11'1"	┌┐	7.40
b	7	8'6"	┌┐	35.07
c	1	6'0"	┌┐	4.01
d	2	7'6"	┌┐	10.02
e	1	4'5"	┌┐	2.95
f	2	4'3"	┌┐	5.68
Total Rebar, lbs				103.33
Concrete, C.Y.				2.01

All rebars to be #4.

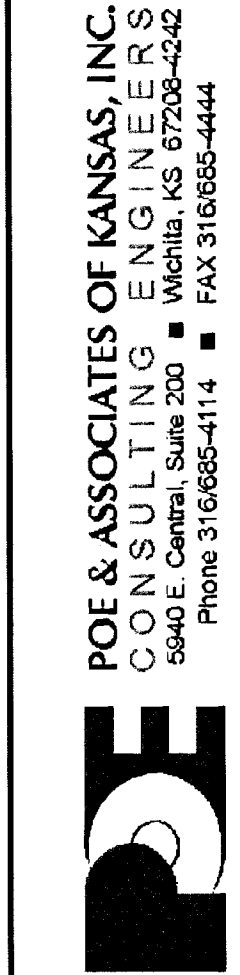
HEADWALL FOR 30" PIPE



HEADWALL DETAILS FOR 18", 24", & 30" PIPE & FLAP GATE DETAIL	
M. E. LINDEBAK P.E. - CITY ENGINEER	
PROJECT NUMBER	INDEX CODE
DATE	SHEET 70 OF 88

Designed By: J. Ubert / B. Kulla
 Drawn By: B. Kulla
 P.O. Job No.: 1748A
 Date: May 2003

FINAL



FALCON FALLS - PHASE 1
 STREET IMPROVEMENTS
 HEADWALL DETAIL W/ FLAP GATE
 CITY OF WICHITA, KANSAS
 NEL D. CABLE, P.E. - CITY ENGINEER
 C.O.W. Project # 472-83687 O.C.A. # 765782

No.	Date	By	Approved	Revision
1				
2				
3				