SHEET STATE **PROJECT**

CATTLE GUARD

STRUCTURAL STEEL AND CRID UNIT TARLE OF QUANTITIES

REINFORCING STEEL, CONCRETE, STRUCTURAL STEEL, AND GRID UNIT TABLE OF QUANTITIES																																	
	NOMINAL CATTLE GUARD WIDTH																																
DESCRIPTION	1	2'	1	!4'	1	.6'	1	!8'	2	0'	2.	2'	2	24'	2	26'	2	8'	3	<i>'0'</i>	3	32'	3	4'	3	6'	3	38'	4	10'	4	12'	REMARKS
	QUAN.	.LGTH.	QUAN	LGTH.	QUAN	LGTH.	QUAN	LGTH.	QUAN.	LGTH.	QUAN.	LGTH.	QUAN	LGTH.	QUΑΛ	I.LGTH.	QUAN.	LGTH.	QUAN.	LGTH.	QUAN.	LGTH.	QUAN.	LGTH.	QUAN.	LGTH.	QUAN.	.LGTH.	QUAN	LGTH.	QUAN	LGTH.	REMARKS
#4 Reinforcing bars, A1	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	8	92"	
#4 Reinforcing bars, A2	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	20	86"	See Bar Bending Detail
#4 Reinforcing bars, A3	32	108"	36	108"	40	108"	46	108"	50	108"	54	108"	60	108"	64	108"	70	108"	74	108"	80	108"	84	107"	90	108"	94	108"	98	108"	102	108"	See Bar Bending Detail
#4 Reinforcing bars, A4	10	156"	10	180"	10	204"	10	228"	10	252"	10	<i>276</i> "	10	300"	10	324"	10	348"	10	<i>372</i> "	100	396"	10	420"	10	444"	10	468"	10	492"	10	516"	
#4 Reinforcing bars, A5	8	140"	8	164"	8	188"	8	212"	8	236"	8	260"	8	284"	8	308"	8	332"	8	356"	8	380"	8	404"	8	428"	8	452"	8	476"	8	500"	
Grid unit A (6 ft)	2		1				3		2		1				3		2		5				3		6		1				7		See Grid Unit List of Materials
Grid unit B (8 ft)			1		2				1		2		3		1		2				4		2				4		5				See Grid Unit List of Materials
Concrete lateral supports, yd3	1.56		1.56		1.56		1.56		1.56		1.56		1.56		1.56	i	1.56		1.56		1.56		1.56		1.56		1.56		1.56		1.56		
Concrete end supports, yd3	4.03		4.70		5.37		6.04		6.71		7.38		8.05		8.73	?	9.40		10.07		10.74		11.41		12.08		<i>12.75</i>	7	13.42	?	14.10	7	
Total concrete, yd3	5.59		6.26		6.93		7.60		8.27		8.94		9.61		10.29	9	10.96		11.63		12.30		12.97		13.64		14.31		14.98	3	15.66	5	
W 8 x 18 beams	936		1053		1170		1404		1521		1638		1755		1989	9	2106		2340		2340		<i>2574</i>		2808		2808		2925	•	3276		Beams 18 lb/ft
Rail, ASCE 40	2052		2398		2744		3078		3424		3770		4116		4450		4796		<i>5130</i>		5488		<i>5822</i>		6156		6514		6860		7182		13.30 lb/ft
g Rail, Type I	806		942		1078	'	1209		1345		1481		1617	7	1748	3	1884		2015		2156		2287		2418		2559		2695		2821		Approx. 5.22 lb/ft
Rail, Type II	1060		1238		1416		1590		1768		1946		2124		2298	3	2476		2650		2832		3006		3180		3362		3540		3710		6.86 lb/ft
Reinforcing steel, lb	478		526		574		634		683		731		791		839		899		947		1007		1055		1115		1164		1212		1260		0.668 lb/ft

^{*} Structural steel weights do not include hardware or guard angle.

anchor

assembly

w/nuts & washers

embedded in concrete.

Toenail diagonal

supports to wooden sill

w/16d galvanized nails.

1	-							
		MATERIALS PER WING UIRED PER INSTALLATION)						
PART DESCRIPTION	WOOD WING	ANGLE IRON WING	ALUMINUM TUBING WING					
Outside diagonal supports	Two 2" x 6" x 84" treated S4S	Two 2" x 2" x ½" x 87" galvanized steel angle	One 2" OD $x \frac{1}{8}$ " x 165" aluminum tubing					
Middle support	One 2" x 6" x 72" treated S4S	One 2" x 2" x ½" x 73" galvanized steel angle						
Horizontal brace no.1	One 2" x 6" x 66" treated S4S	One $\frac{1}{2}$ " x 78" galvanized steel bar	One 2" OD $x \frac{1}{8}$ " x 72" aluminum tubing					
No. 2	One 2" x 6" x 48" treated S4S	One $\frac{1}{2}$ " x 66" galvanized steel bar	One 2" OD $x \frac{1}{8}$ " x 30" aluminum tubing					
No. 3	One 2" x 6" x 18" treated S4S	One $\frac{1}{2}$ " x 54" galvanized steel bar	None					
No. 4	None	One $\frac{1}{2}$ " x 39" galvanized steel bar	None					
No. 5	None	One $\frac{1}{2}$ " x 24" galvanized steel bar	None					
No. 6	None	One ½" x 9" galvanized steel bar	None					
Post	6" x 6" x 96" treated S4S	One 6" x 6" x 84" treated S4S or approved alternate	One 6" x 6" x 96" treated S4S or approved alternate					
Top anchor assembly	Toenail diagonal supports to the post with 16d galvanized nails as required.	¾8" dia. x 6" galvanized hex bolt w/nut and flat washer	³ / ₄ " dia. x 16" galvanized steel rod threaded on one end w/nut and washers & 3" radius hook in other end.					
Bottom anchor	2" x 8" x 96" treated S4S sill attached to concrete w/3 each ½" dia. x 7" hex bolts w/nuts & washers	3 each 3/8" dia. x 6" galvanized hex bolts embeded in concrete.	2 each ½" x 5" x 10" flat irons welded to 4" tubing. 4 each 34" dia. x 6"					

Attach steel L iron to

bolt w/flat washer

and nut

galvanized hex bolts

embedded in concrete.

CATTLE GUARD WING

