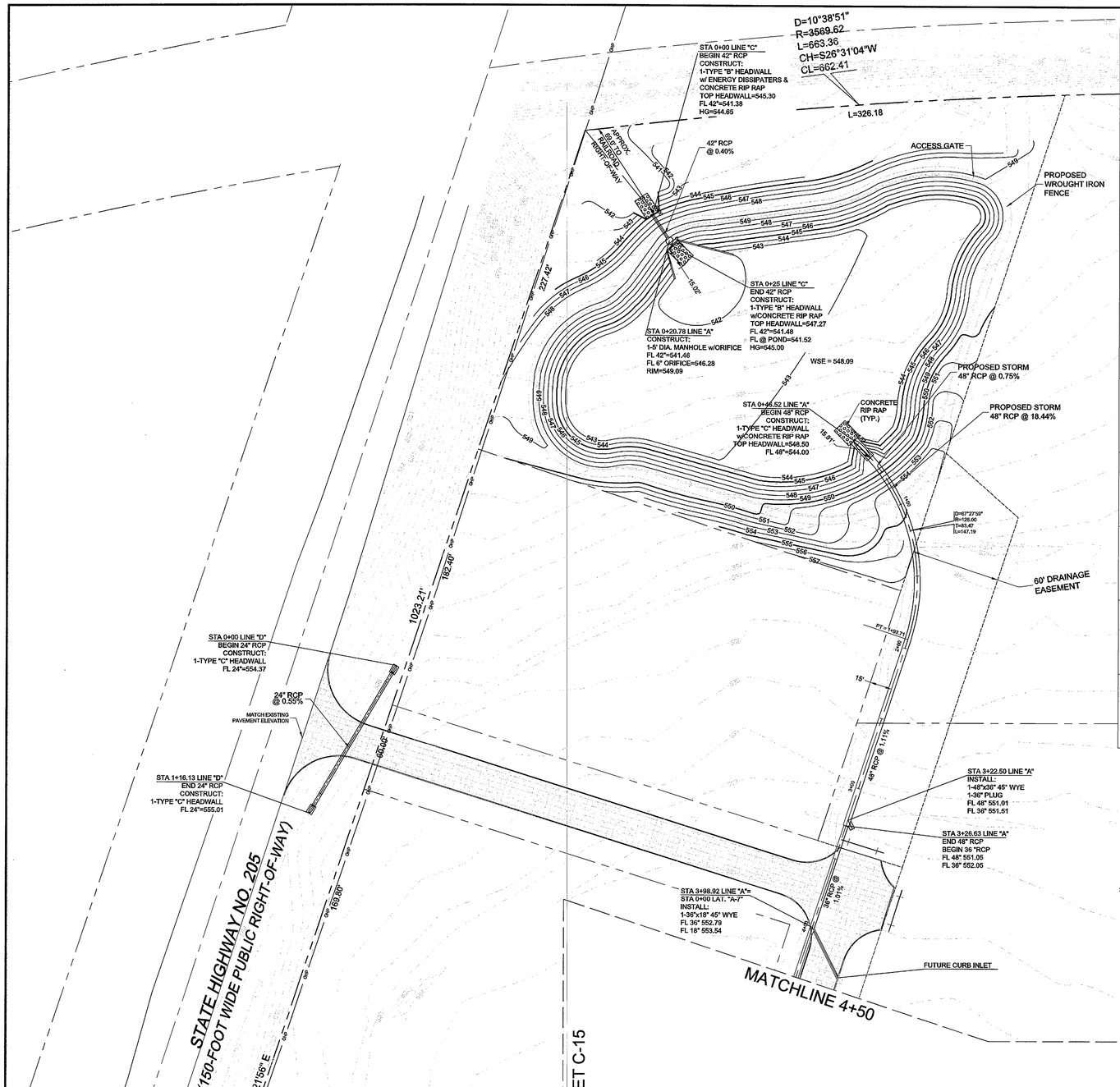
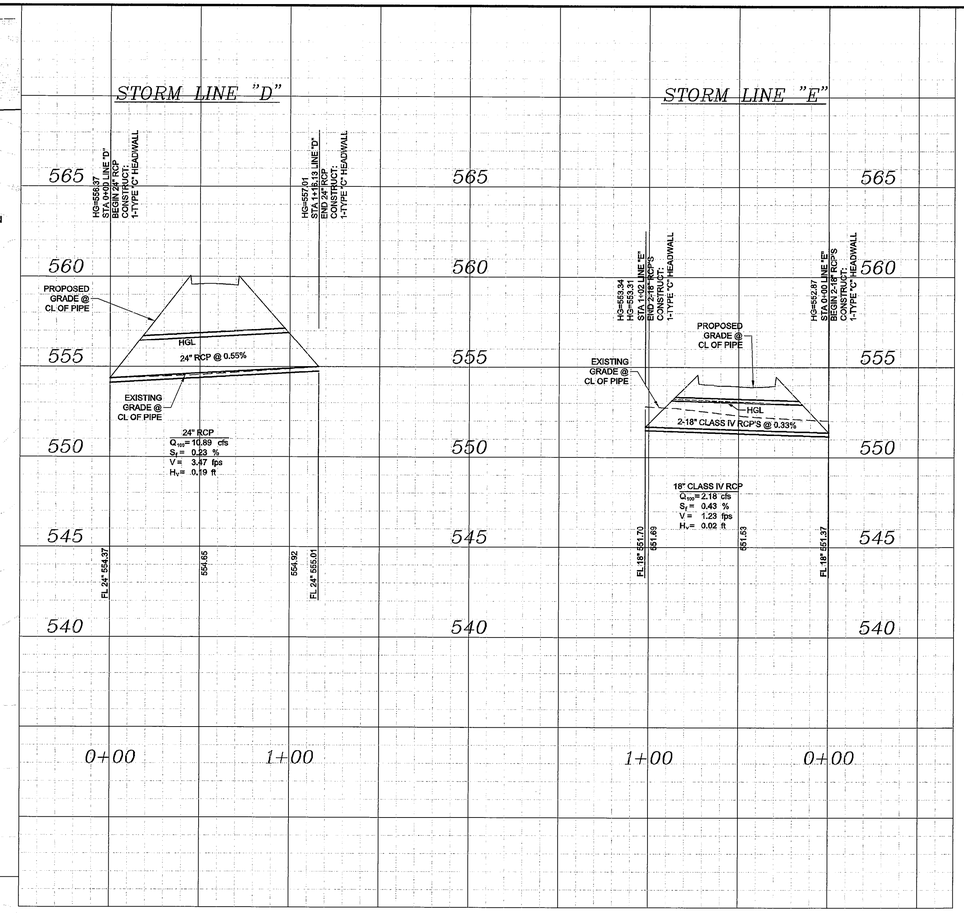
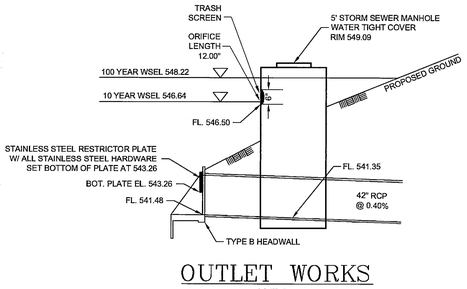






OUTLET WORKS

N.T.S.

CITY OF **ROCKWALL** DETENTION BASIN DESIGN													
TP 40													
GIVEN:									RESULT:				
		Area =		21.36					Maximum				
		Prop C =		0.90					Required Storage =		181,376	cf	
		Prop Tc =		10.00	min								
		Max Q =		61.93	cfs								
100 Year													
5	min.	I=	10.15	Q=	0.9	x	10.15	x	21.36	=	195.12	cfs	
10	min.	I=	9.80	Q=	0.9	x	9.8	x	21.36	=	188.40	cfs	
15	min.	I=	9.00	Q=	0.9	x	9	x	21.36	=	173.02	cfs	
30	min.	I=	6.90	Q=	0.9	x	6.9	x	21.36	=	132.65	cfs	
60	min.	I=	4.50	Q=	0.9	x	4.5	x	21.36	=	86.51	cfs	
80	min.	I=	3.70	Q=	0.9	x	3.7	x	21.36	=	71.13	cfs	
100	min.	I=	3.00	Q=	0.9	x	3	x	21.36	=	57.67	cfs	
120	min.	I=	2.70	Q=	0.9	x	2.7	x	21.36	=	51.90	cfs	
5	min Storm			In	5	x	195.12	x	60	=			58,537	cf
				Out	0.5	x	15	x	61.93	x	60	=	27,869	cf
											Storage	=	30,669	cf
10	min Storm			In	10	x	188.40	x	60	=			113,037	cf
				Out	0.5	x	20	x	61.93	x	60	=	37,158	cf
											Storage	=	75,879	cf
15	min Storm			In	15	x	173.02	x	60	=			155,714	cf
				Out	0.5	x	25	x	61.93	x	60	=	46,448	cf
											Storage	=	109,267	cf
30	min Storm			In	30	x	132.65	x	60	=			238,762	cf
				Out	0.5	x	40	x	61.93	x	60	=	74,316	cf
											Storage	=	164,446	cf
60	min Storm			In	60	x	86.51	x	60	=			311,429	cf
				Out	0.5	x	70	x	61.93	x	60	=	130,053	cf
											Storage	=	181,376	cf
80	min Storm			In	80	x	71.13	x	60	=			341,418	cf
				Out	0.5	x	90	x	61.93	x	60	=	167,211	cf
											Storage	=	174,207	cf
100	min Storm			In	100	x	57.67	x	60	=			346,032	cf
				Out	0.5	x	110	x	61.93	x	60	=	204,369	cf
											Storage	=	141,663	cf
120	min Storm			In	120	x	51.90	x	60	=			373,715	cf
				Out	0.5	x	130	x	61.93	x	60	=	241,527	cf
											Storage	=	132,188	cf

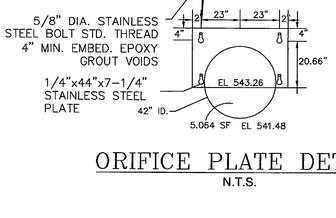
STORM EVENT	WSEL	Q allowable (cfs)
10–year	546.64	43.28
25–year	547.28	50.00
50–year	548.09	54.47
100–year	548.22	61.93

OUTFALL STRUCTURE
RESTRICTOR PLATE

Invert	541.48	
Theta	3.162	radians
Area	4.873	SF
FL Plate	543.26	
Height	21.21	inches
C	0.6	
Centroid	543.24	

RECTANGULAR ORIFICE

Invert	546.50	
Height	6	inches
Length	12.00	inches
Area	0.50	ftz
Cerifice	0.6	
Cweir	3	
Centroid	546.75	



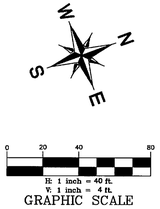
ORIFICE PLATE DETAIL

N.T.S.

100–Year Discharge		25–Year Discharge	
Q–discharge	55.28 cfs	Q–discharge	48.91 cfs
Q–100, allow	61.93 cfs	Q–25, allow	50.00 cfs
50–Year Discharge		**10–Year Discharge**	
Q–discharge	54.46 cfs	Q–discharge	43.26 cfs
Q–50, allow	54.47 cfs	Q–10, allow	43.28 cfs

RECORD DRAWING

THIS RECORD DRAWING HEREIN REFLECTS TO THE BEST OF THE DESIGN ENGINEER'S KNOWLEDGE, THE APPROXIMATE LOCATION OF THE CONSTRUCTED WORK, USING INFORMATION AS PROVIDED BY THE CONTRACTORS AND SURVEYED GRADES.



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12700 Park Central Drive, Suite 1800
Dallas, Texas 75251

STATE OF TEXAS
JENNIFER M. HAYNES
90167
LICENSED
PROFESSIONAL ENGINEER
05/15/08

EVERGREEN AT ROCKWALL

DETENTION POND/ DRAINAGE CHANNEL PLAN

Scale:	AS SHOWN
Designed by:	KHA
Drawn by:	KHA
Checked by:	KHA
Date:	DECEMBER 2006
Project No.	063890013

SHEET

C-16

Date:dnconnt = 5/7/2008 2:16pm [C-16]
File: J:\063890013 - EVERGREEN\Dwg\ [C-16]
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