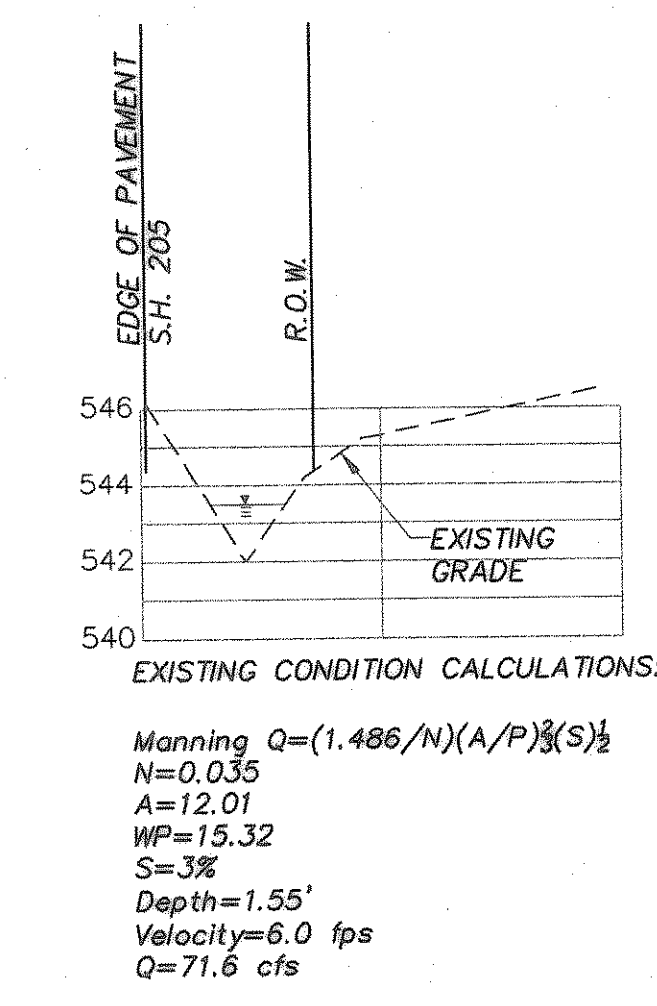


Detention Basin Design					
Q=CIA	PEI #: 078700400				
Drainage Area (ac.): 11.2		Project Name: TA Rockwall			
Design Storm (yrs): 100		By: JEM			
Present Conditions			Proposed Conditions		
C=	0.60	C=	0.90		
Tc(min)=	10.0	Tc(min)=	10.0		
I(in/hr)=	9.8	I(in/hr)=	9.8		
Q(cfs)=	65.6	Q(cfs)=	98.4		
Design discharge = 57.0 cfs					
Storm Duration	I (in/hr)	Q (cfs)	Inflow (cu.ft.)	Outflow (cu.ft.)	Storage (cu.ft.)
5.0		0.0	0.0	29529.4	-29529.4
10.0	9.8	98.4	59058.7	39372.5	19686.2
15.0	9.0	90.4	81358.4	49213.6	32140.8
20.0	8.3	83.4	100038.2	59058.7	40979.5
30.0	6.9	69.3	124746.5	78745.0	46001.5
40.0	5.7	57.3	137401.9	98431.2	38970.7
50.0	5.0	50.2	150660.0	118117.4	32542.6
60.0	4.5	45.2	162712.8	137803.7	24909.1
120.0	2.7	27.1	185255.4	255921.1	-60665.8
180.0		0.0	0.0	374038.6	-374038.6
240.0		0.0	0.0	492156.0	-492156.0

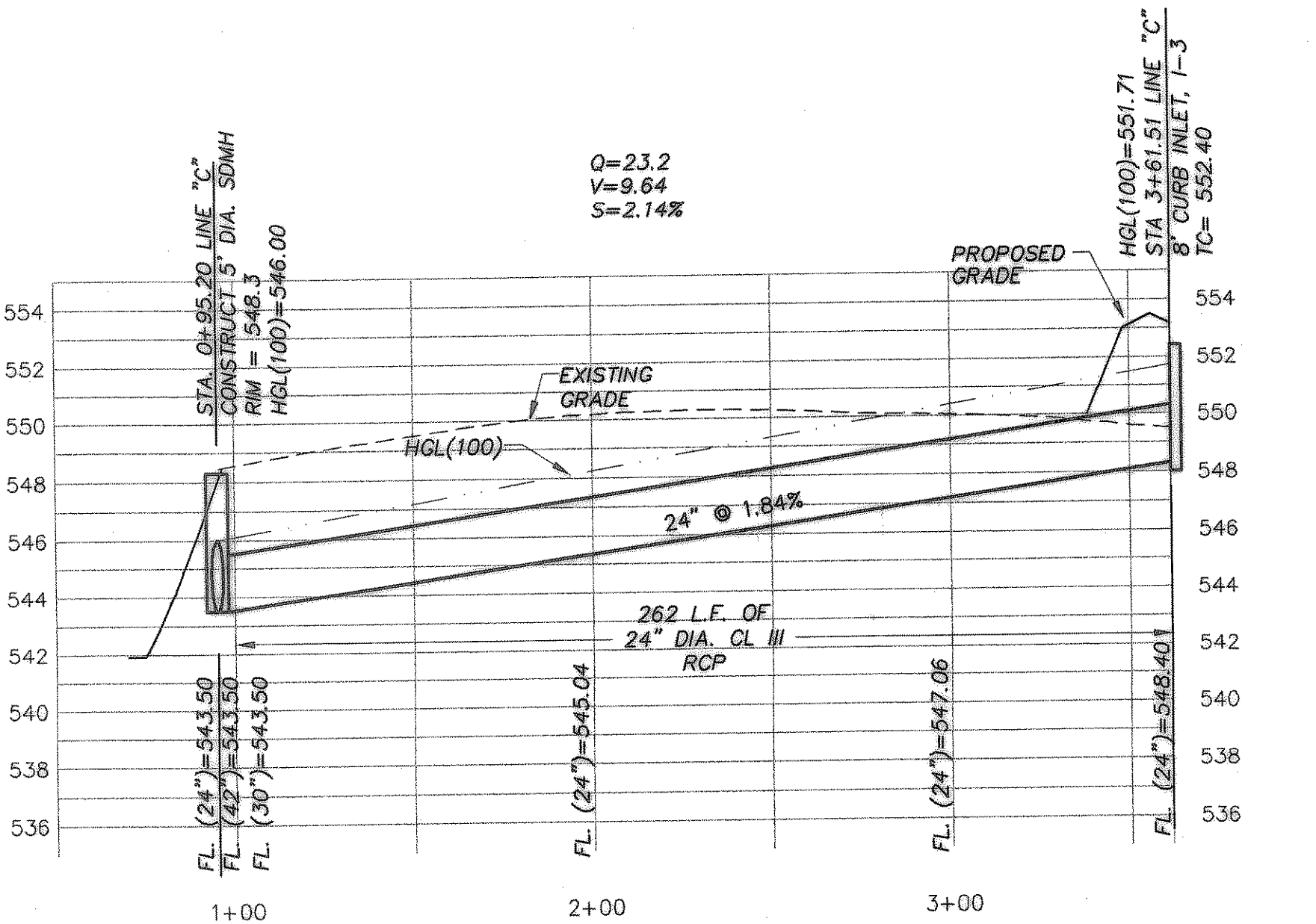
PATE ENGINEERS, INC. Project: TravelCenters - Rockwall PEI #: 078700400

Manning's "n" = 0.013

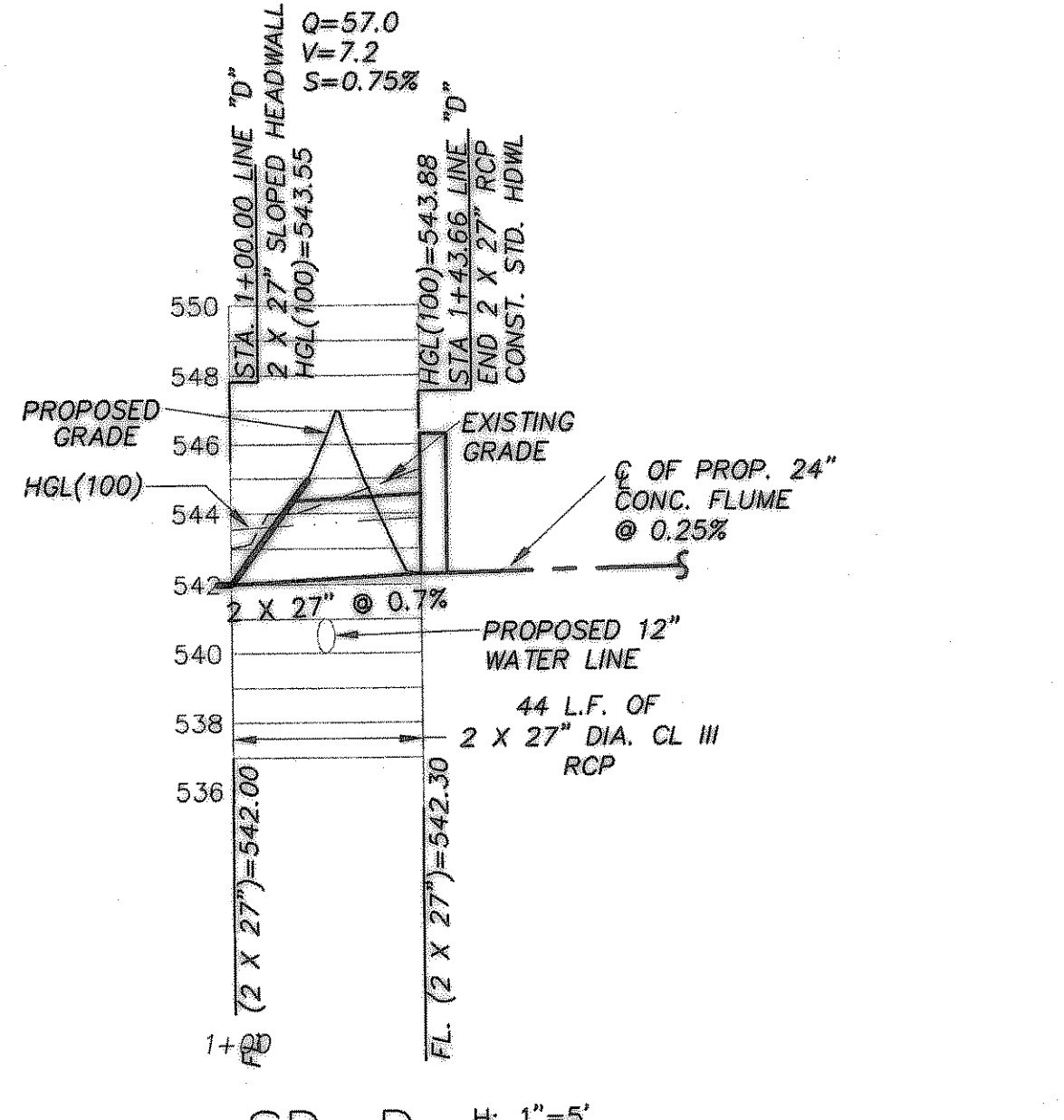
POINT (Inlet or Manhole)	INCREMENTAL DRAINAGE AREA				Time at Design Station (min.)	Storm Intensity (in./hr.)	Storm Runoff (cfs)	Slope of Hydraulic Sewer (ft./ft.)	Velocity Between Manholes & Junctions (fps)	Coefficient of Headloss (K)	Velocity Headloss at Upstream Station (feet)	Flow Time in Sewer (min.)	Time at Downstream Station (min.)	Hydraulic Gradient Elevations						
	Upstream Station	Downstream Station	Collection Points	Area (acres)										Upstream	Downstream					
Line SD-A																				
780.19	578.33	201.86	2	1.27	0.9	1.14	1.14	10.0	100	9.8	11.20	0.50%	21	4.66	1.25	0.42	0.7	10.7	550.15	549.14
578.33	335.96	242.37	58.7	0.58	0.9	0.52	1.67	10.7	100	9.8	16.32	0.52%	24	5.19	0.50	0.25	0.8	11.5	548.89	547.63
335.96	125.12	210.84	8	1.62	0.9	1.46	3.12	11.5	100	9.8	30.61	0.56%	30	6.23	0.75	0.45	0.6	12.1	547.17	546.00
Line SD-B																				
194.79	100.00	94.79	8	2.95	0.9	2.66	2.66	10.0	100	9.8	26.02	2.70%	21	10.82	1.25	2.27	0.1	10.1	549.73	547.17
Line SD-C																				
361.51	95.20	266.31	9	2.63	0.9	2.37	2.37	10.0	100	9.8	23.20	2.14%	21	9.64	1.25	1.81	0.5	10.5	551.71	546.00
Line SD-D																				
143.66	100.00	43.66		5.96	0.9	5.36	5.36	10.0	100	9.8	52.57	2.88%	27	13.22	1.25	3.39	0.1	10.1	544.99	543.73



EXISTING DITCH CAPACITY H: 1"=5', V: 1"=40'



SD-C H: 1"=5', V: 1"=40'



SD-D H: 1"=5', V: 1"=40'

NOTE: THE DEPTH OF WATER IN A 100 YEAR EVENT WILL BE = 4' AND THE WATER SURFACE ELEVATION WILL BE 546.25

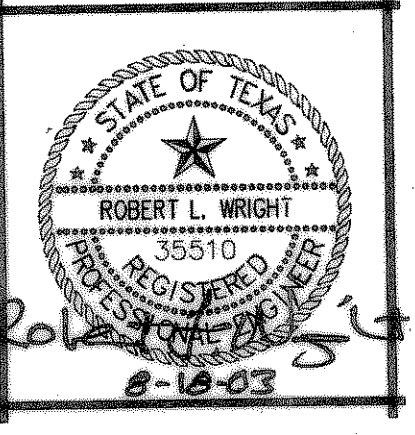
DETENTION POND DEPTH (FT)	DET. POND OUTFLOW IN 2X27" PIPES (CFS)
1.5	23
2.0	30
2.5	38
3.0	46
3.5	52
4.0	57.6

RECORD DRAWING
REVISED TO REFLECT KNOWN CHANGES MADE DURING CONSTRUCTION.
Robert L. Wright DATE 8-18-03

FOR GENERAL NOTES SEE SHEET C-1B

BENCHMARK:
TOP FLANGE BOLT ON FIRE HYDRANT BETWEEN "OPEN & ARROW" AT NORTHWEST CORNER OF I-30 AND GREENCREST BLVD. ELEVATION 570.25

PROJECT NO: TAR2TX



REVISIONS: CONSTRUCTION SET DOCUMENTS, CONSTRUCTION BULLETIN #1 10/18/02
REVISIONS PER OWNER'S COMMENTS
REVISIONS PER CITY COMMENTS

CHECKED BY: JEM

Sheet: **STORM PROFILES**
C-5A
Of:
Date: **SEPTEMBER 25, 2002**