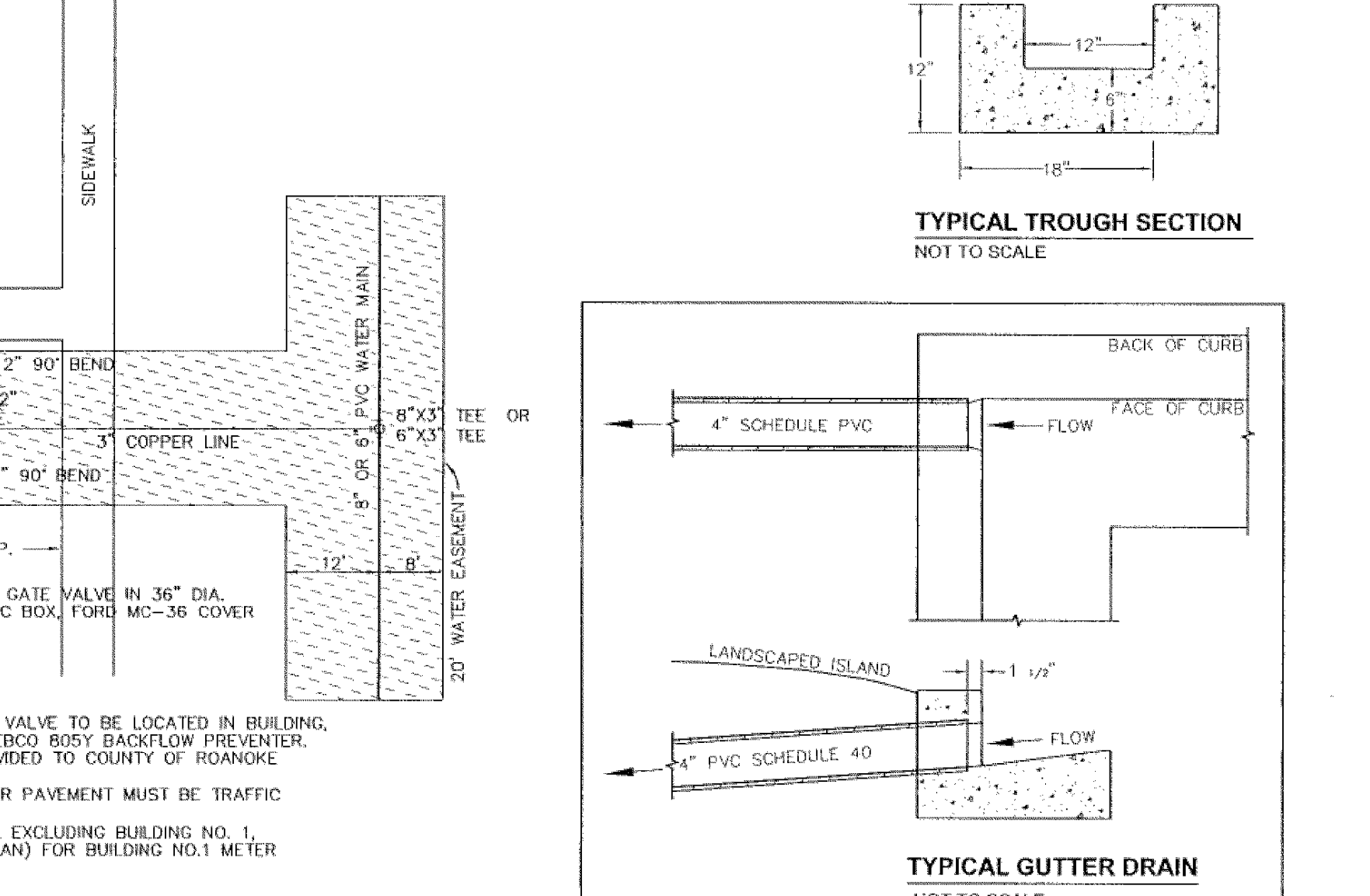
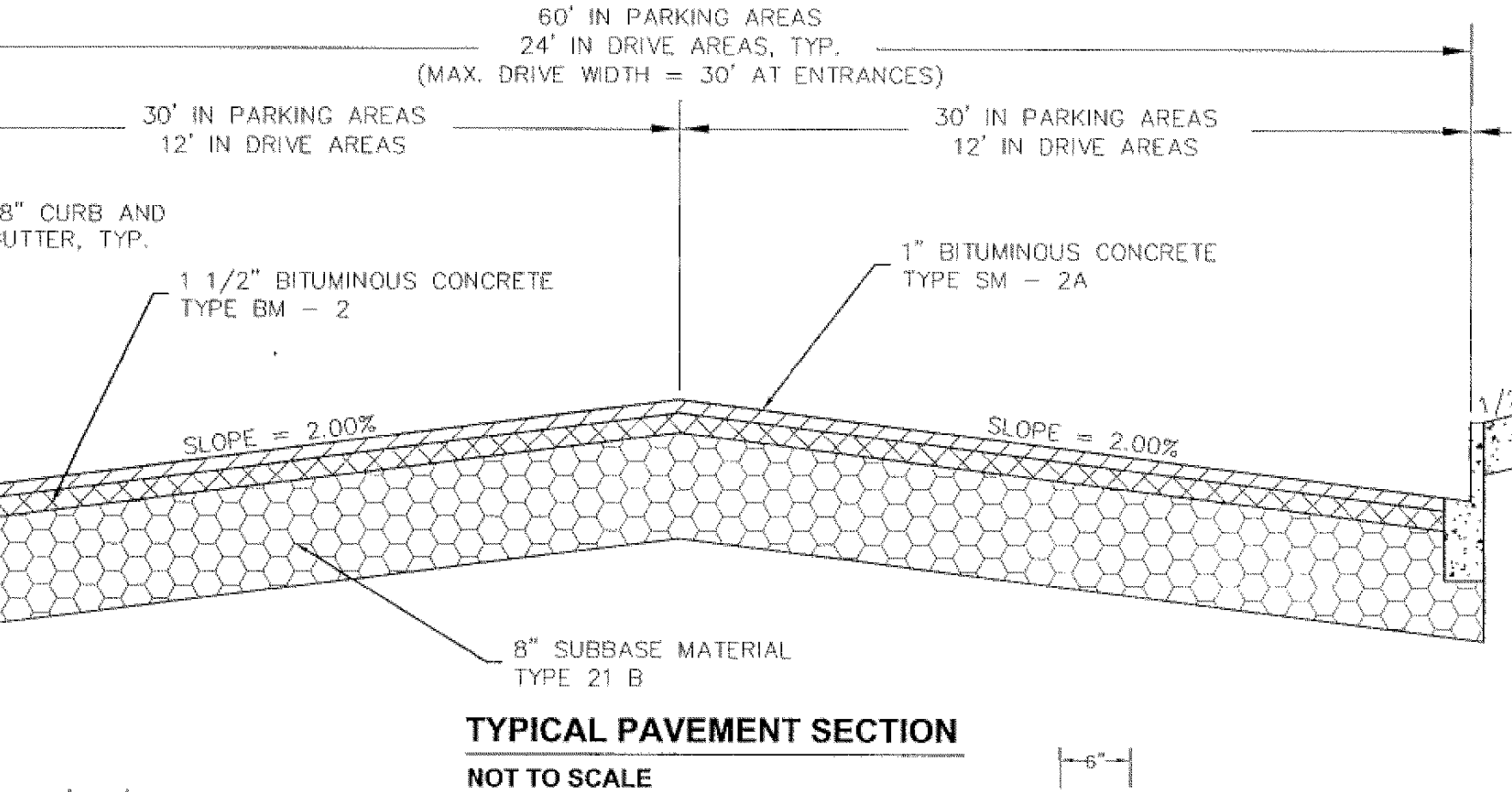
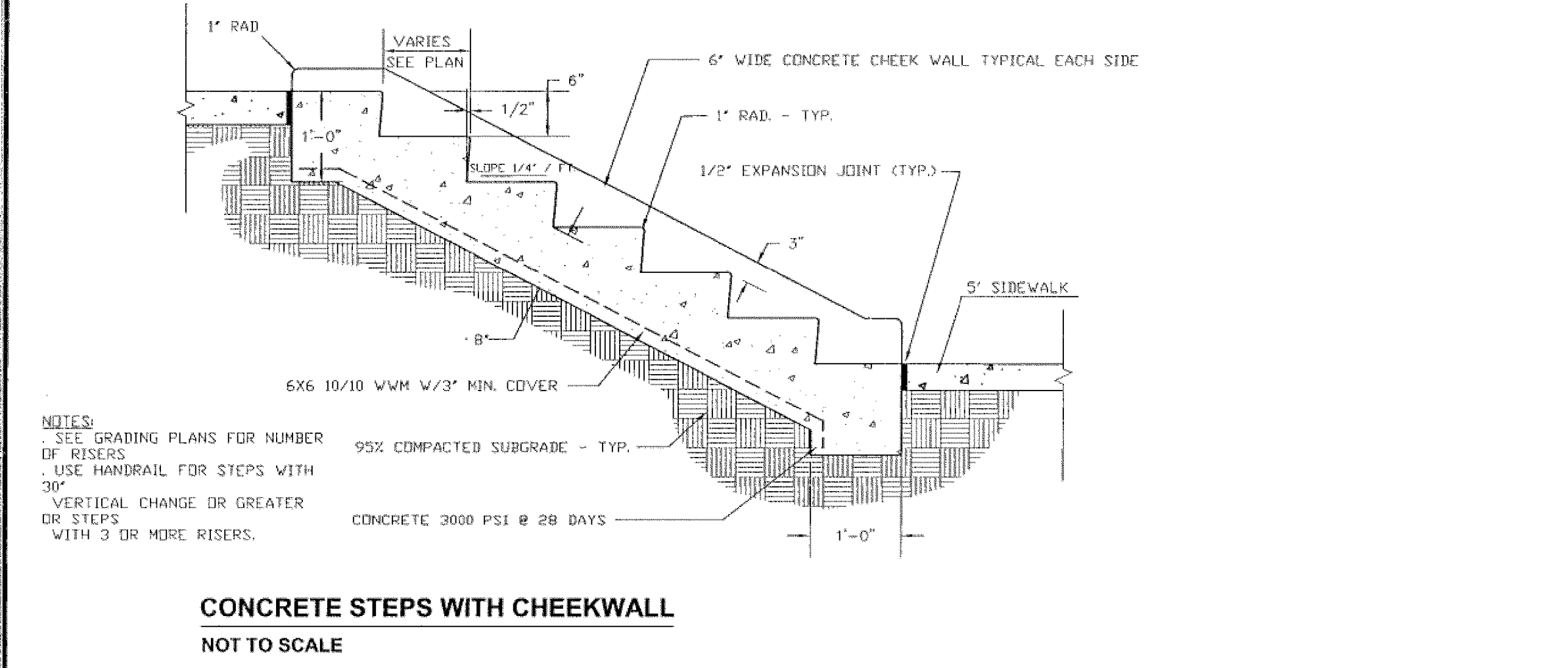
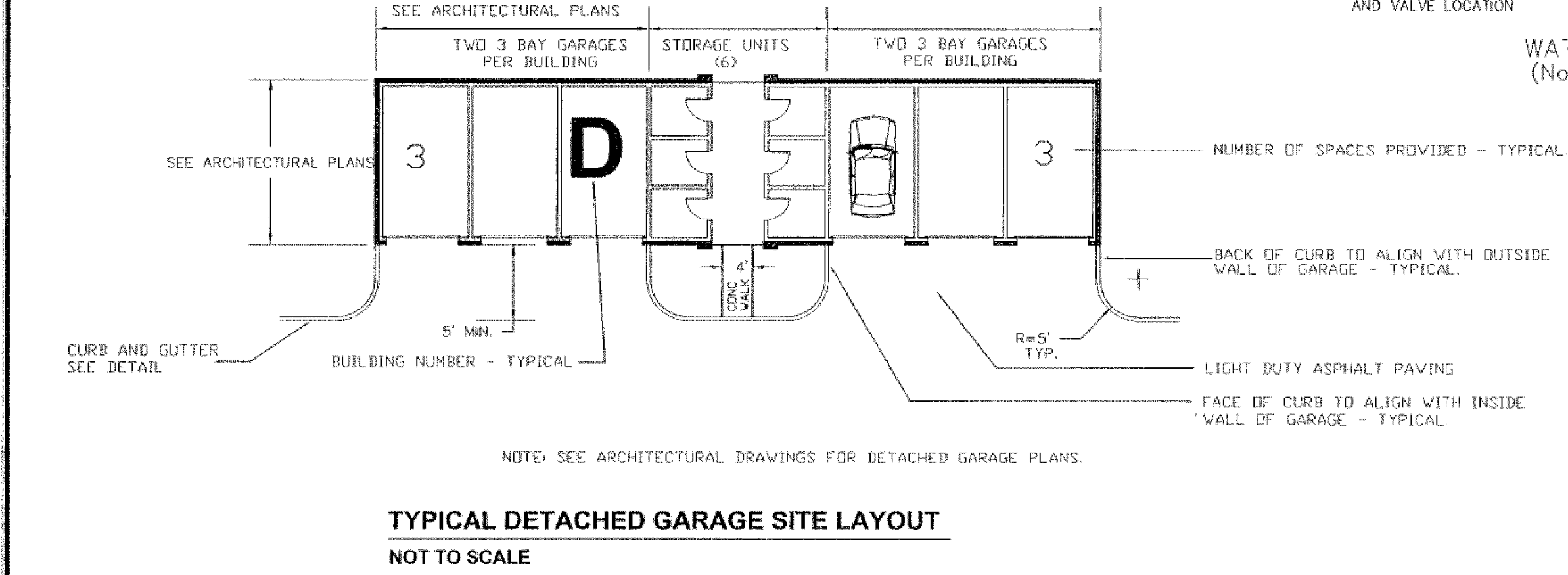
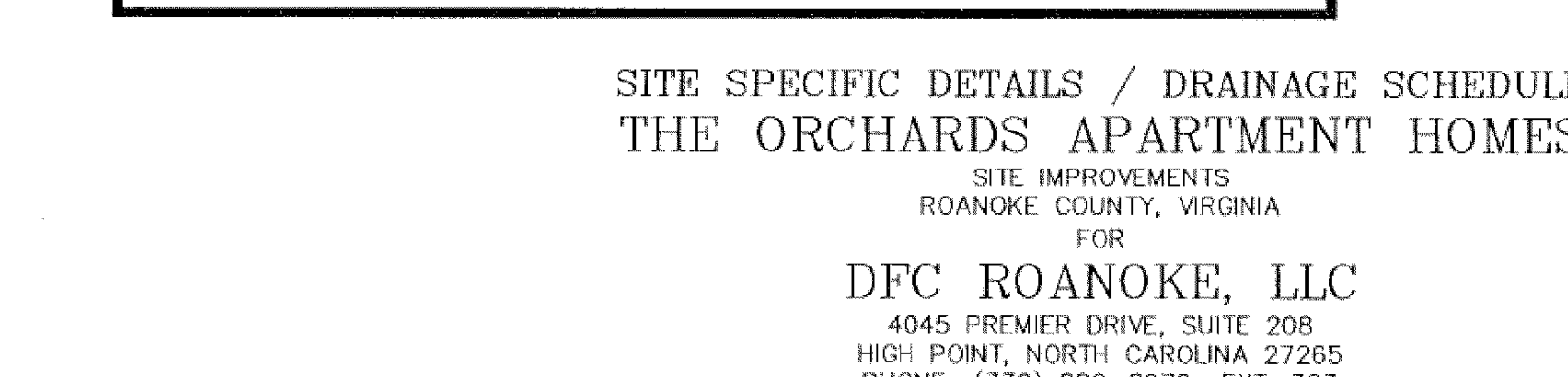
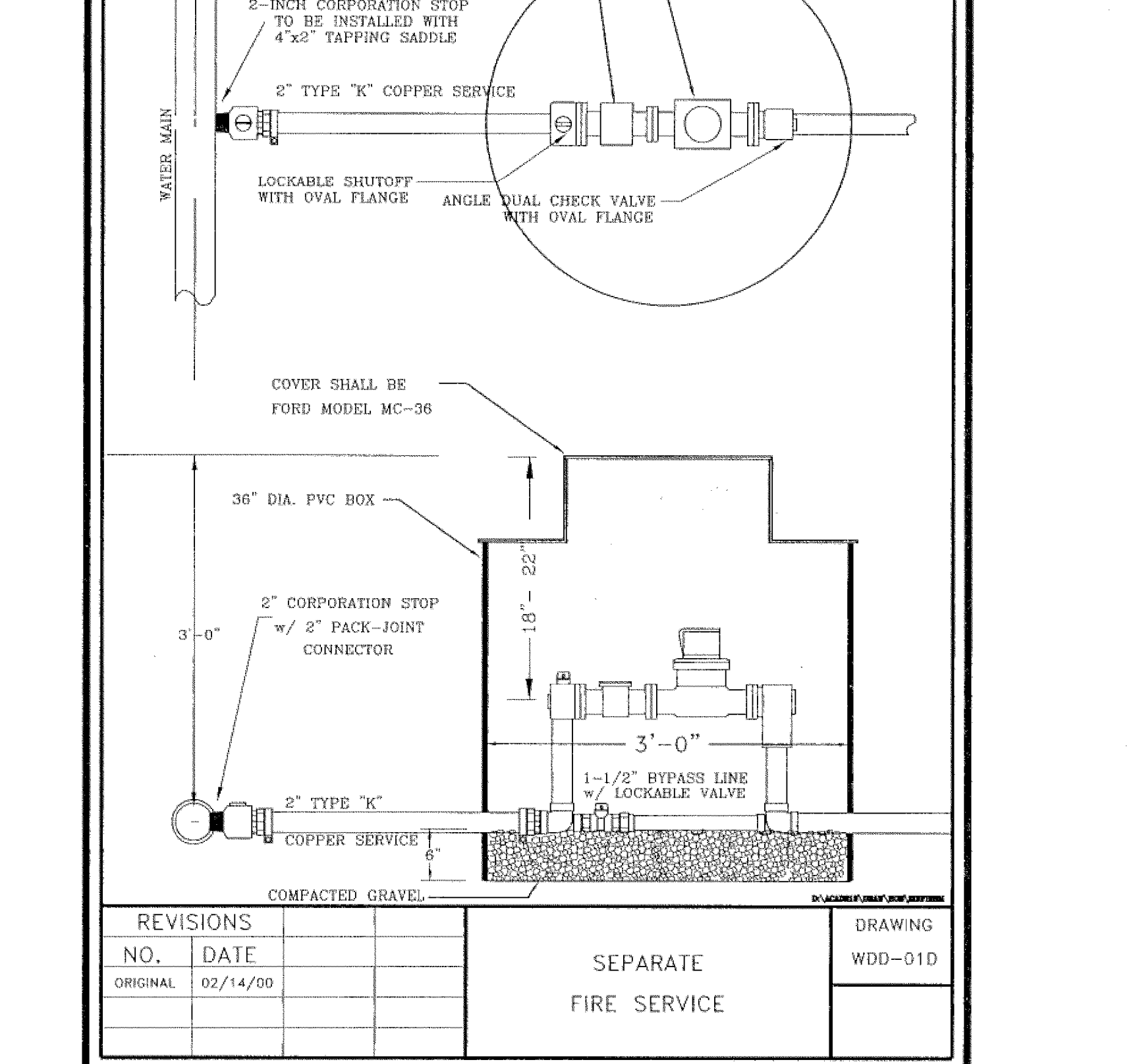
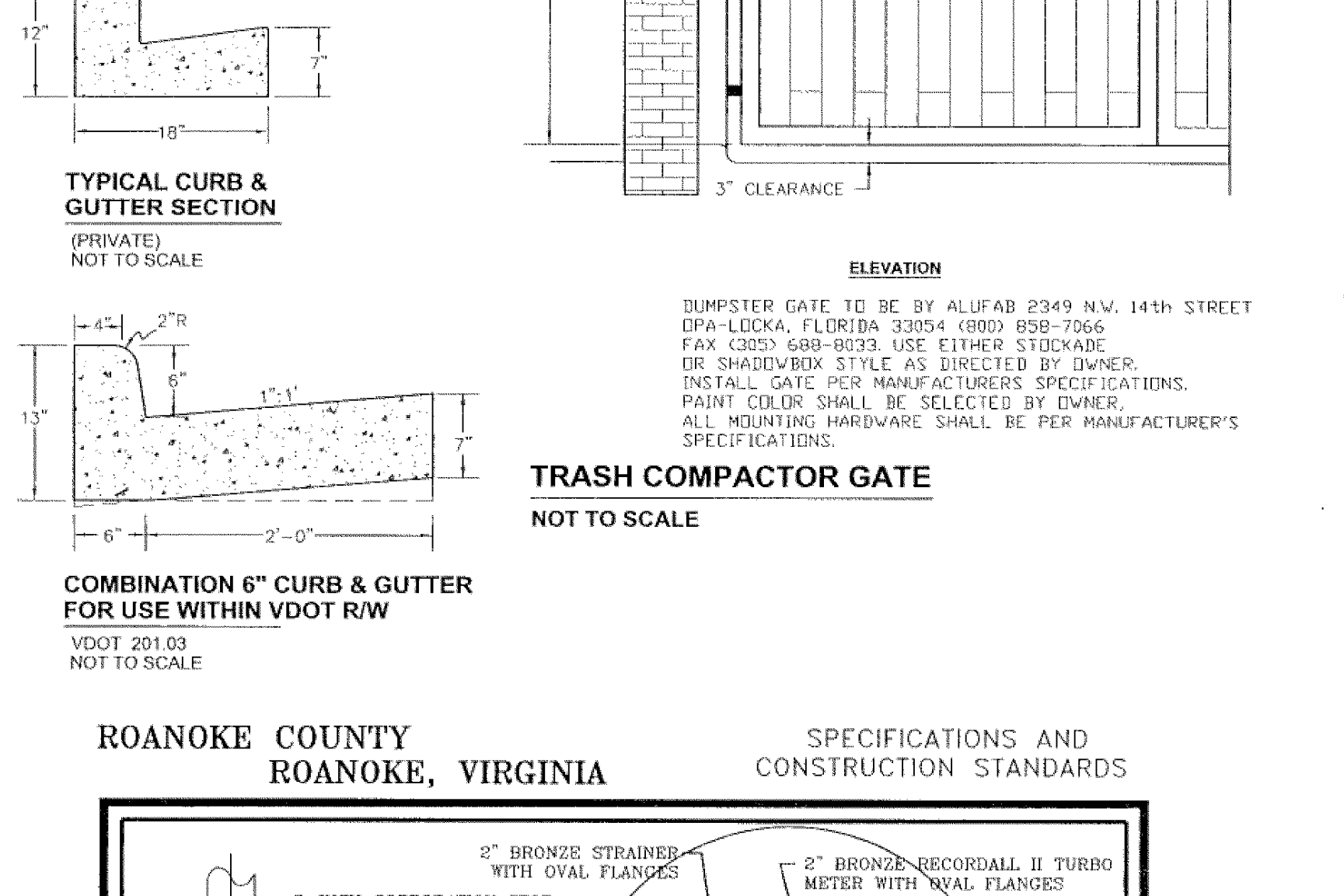
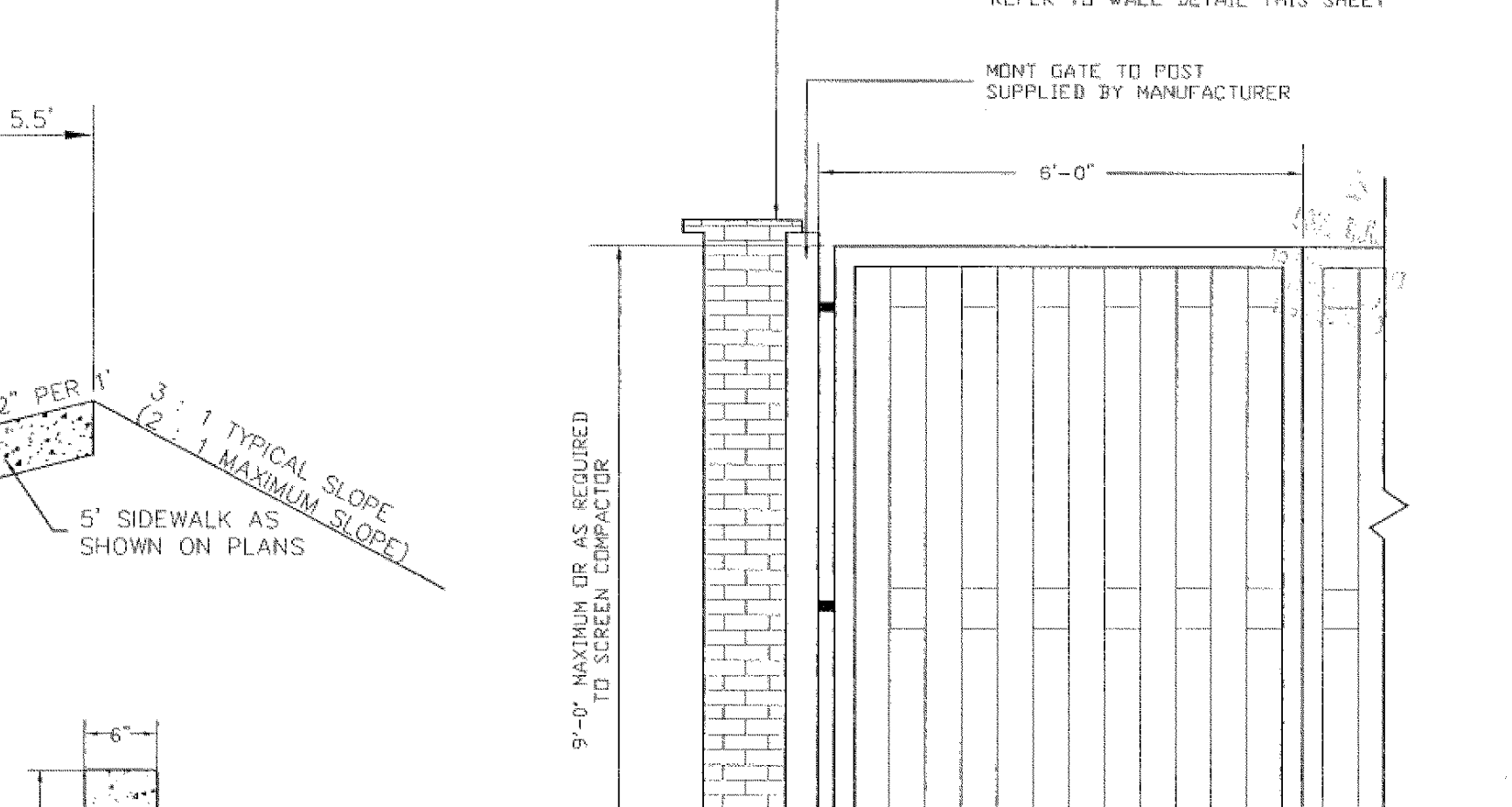
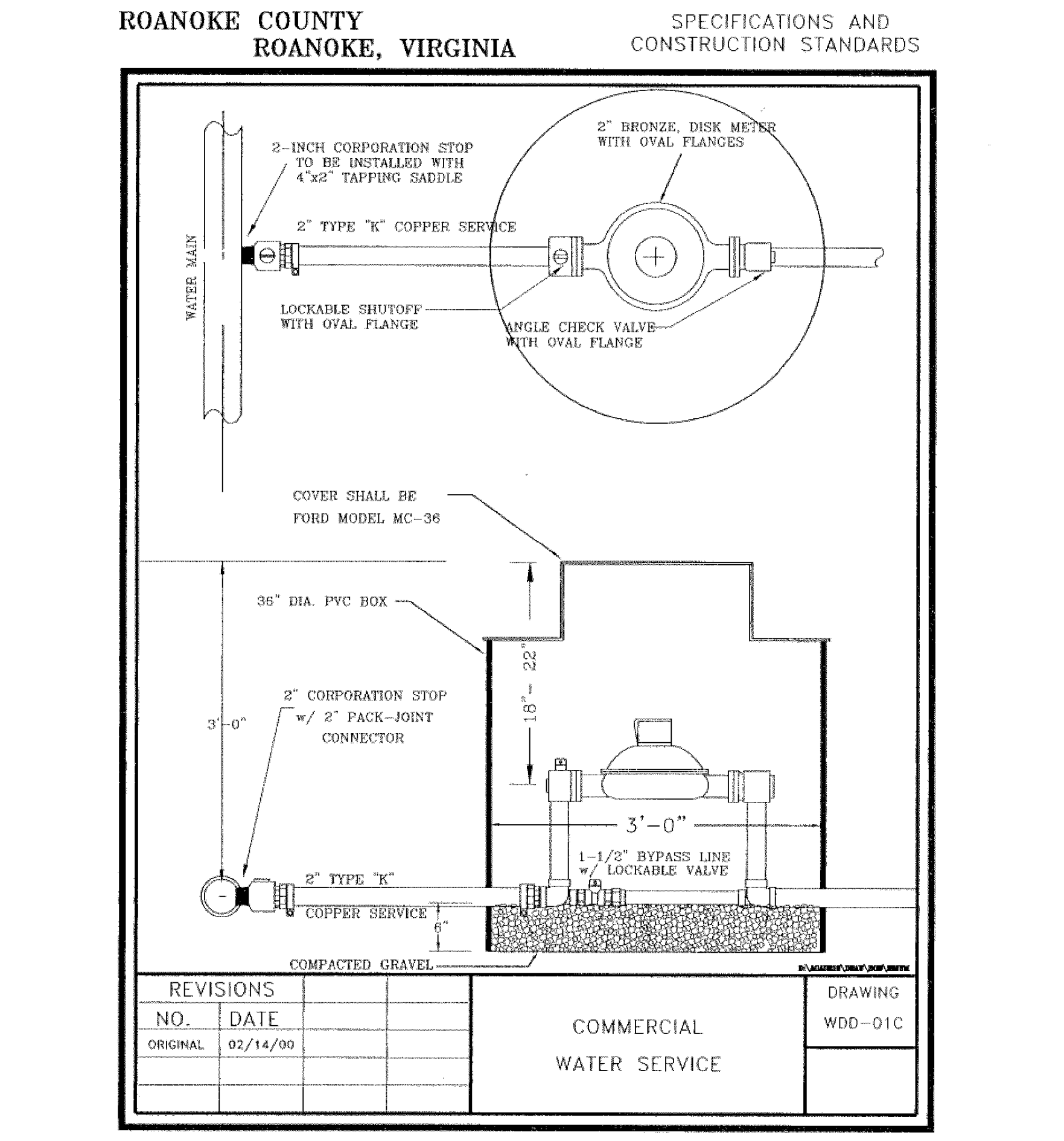


CONSTRUCTION STORM DRAINAGE SCHEDULE											
PROJECT:		DFC Roanoke		FIRM:		Deep River Engineering					
LOCATION:		Crumpacker Rd / Cortland Rd		ENGINEER:		PRB		CHECKED:		PRB	
ASSUMPTIONS:		CB - Catch Basin						MH - Manhole			
		FES - Flared End Section						PI - Pipe Inlet			
		GI - Grated Inlet						PO - Pipe Outlet			
		HW - Headwall						YI - Yard Inlet			
		0.00 JB - Junction Box						MDI-Median Drop Inlet			
STRUCTURES		FROM STRUCTURE		TO STRUCTURE		PIPE DIAMETER (INCHES)	PIPE LENGTH (FEET)	SLOPE (%)	STRUCTURE TYPE	THROAT LENGTH (FT)	PIPE CAPACITY (CFS)
FROM	TO	TOP	INVERT	TOP	INVERT						
CB19	CB18	1092.43	1086.91	1091.50	1086.67	15	48	0.50	DI-3B	4.0	4.57
CB18	CB16	1091.50	1086.57	1093.10	1085.81	15	151	0.50	DI-3B	4.0	4.58
DI17	CB16	1092.40	1086.30	1093.10	1085.81	12	77	0.63	DI-1	4.0	2.84
CB16	CB15	1093.10	1085.61	1091.87	1084.63	18	91	1.00	DI-3A	2.5	10.52
CB15	CB8	1091.87	1084.43	1086.30	1082.55	18	188	1.00	DI-3A	2.5	10.50
DI14	DI11	1088.50	1085.50	1088.75	1084.80	12	98	0.71	DI-1	4.0	3.00
DI13	DI12	1096.30	1086.50	1088.75	1085.50	12	20	5.05	DI-1	4.0	8.00
DI12	DI11	1088.75	1085.30	1088.75	1084.80	15	72	0.69	DI-1	4.0	5.38
DI11	CB10	1088.75	1084.60	1090.12	1083.70	15	89	1.01	DI-1	4.0	6.50
CB10	CB8	1090.12	1083.50	1086.30	1081.05	15	139	1.77	DI-3B	4.0	8.58
CB9	CB8	1087.64	1082.05	1086.30	1081.05	15	58	1.72	DI-3B	4.0	10.37
CB8	CB7	1086.30	1080.85	1085.69	1079.70	24	51	2.27	DI-3B	4.0	34.06
DI33	CB7	1090.00	1086.70	1085.69	1080.70	12	122	4.90	DI-1	4.0	7.88
CB7	CB4	1085.69	1079.50	1072.67	1067.20	24	152	8.07	DI-3B	4.0	64.24
DI6	CB4	1081.25	1071.25	1072.67	1068.20	12	27	11.14	DI-1	4.0	11.89
CB5	CB4	1072.91	1065.55	1072.67	1065.00	15	56	0.99	DI-3A	2.5	6.42
CB4	CB3	1072.67	1064.50	1072.67	1064.00	24	50	1.00	DI-3B	4.0	23.57
CB3	CB2	1072.67	1063.80	1062.50	1056.20	24	101	7.49	DI-3B	4.0	61.90
CB2	MH1	1062.50	1056.00	1050.00	1045.52	24	106	9.91	DI-3A	2.5	71.19
MH1	EX CB	1050.00	1044.52	1049.85	1043.96	36	24	2.30	6" MH	NA	101.22
DI25	CB24	1084.50	1080.50	1083.45	1079.20	15	47	2.75	DI-1	4.0	10.71
CB24	CB23	1083.45	1079.00	1080.80	1076.70	15	109	2.10	DI-3A	2.5	9.36
CB23	CB22	1080.80	1075.50	1079.68	1074.20	15	69	1.88	DI-3B	4.0	8.84
CB22	CB21	1079.68	1074.00	1051.02	1046.20	18	218	12.78	DI-3B	6.0	37.53
CB21	CB20	1051.02	1046.00	1051.02	1045.60	18	36	1.11	DI-3B	6.0	12.18 *
CB20	MH1	1051.02	1045.40	1050.00	1045.02	18	38	1.00	DI-3A	2.5	12.75 *
CB32	CB31	1096.10	1091.00	1095.54	1090.50	15	50	1.00	DI-3B	4.0	6.46
CB31	CB30	1095.54	1088.30	1091.11	1084.70	15	240	1.50	DI-3B	4.0	7.91
CB30	CB27	1091.11	1084.50	1089.14	1082.87	15	163	1.00	DI-3B	4.0	6.46
P29	MH28	1089.00	1082.00	1087.50	1079.96	36	181	1.13	FES	4.0	70.80 *
MH28	CB27	1087.50	1079.96	1089.14	1079.00	36	87	1.10	6" MH	4.0	70.06
CB27	P026	1089.14	1079.00	1086.00	1078.00	42	125	0.80	DI-3B	4.0	89.82
P134	EX GI	1066.00	1063.64	1061.62	1057.20	15	92	7.00	DI-1	4.0	17.08
CB35	CB36	1064.33	1058.00	1064.33	1057.50	15	27	1.86	DI-2B	10.0	8.81
CB36	CB37	1064.33	1057.40	1062.50	1056.70	15	39	1.78	DI-3B	8.0	8.62
CB37	CB38	1062.50	1056.60	1060.57	1056.00	15	45	1.34	DI-3B	8.0	7.47
CB38	CB39	1060.57	1055.90	1054.70	1049.60	15	119	5.27	DI-3B	6.0	14.83
CB39	P040	1054.70	1049.50	1052.50	1048.00	15	104	1.44	DI-3B	6.0	5.64

NOTES:
 1. STRUCTURE TYPES REFER TO VDOT STANDARD SPECIFICATIONS, FROM ROAD AND BRIDGE STANDARDS, 1993.
 2. PIPE CAPACITIES ARE BASED ON MANNINGS EQUATION: FOR RCP - n = 0.013; FOR HDPE n = 0.012.
 3. PIPE CAPACITIES DENOTED BY "*" BASED UPON BERNOULLI'S EQUATION, 10 YEAR FLOW SHOWN (WHICH CAN BE PASSED).



NOTES:
 1. 2" PRESSURE REDUCING VALVE TO BE LOCATED IN BUILDING, SHARING CLOSET WITH 2" FIBRO BOWY BACKFLOW PREVENTER. KEY TO CLOSET TO BE PROVIDED TO COUNTY OF ROANOKE UTILITY DEPARTMENT.
 2. ALL METER BOXES UNDER PAVEMENT MUST BE TRAFFIC BEARING.
 3. THIS LAYOUT IS TYPICAL EXCLUDING BUILDING NO. 1. SEE SHEET 6 (EASEMENT PLAN) FOR BUILDING NO.1 METER AND VALVE LOCATION



DEEP RIVER ENGINEERING, LLC
4045 PREMIER DRIVE, SUITE 206
HIGH POINT, NORTH CAROLINA 27265

115
JOB NUMBER:
DATE: 1/12/00
DESIGNED: JAH/PRB
DRAWN: JAH/PRB
CHECKED: PRB
SCALE: AS NOTED

1
ADDRESS COUNTY COMMENTS
2
ADDRESS COUNTY COMMENTS
3
ADDRESS COUNTY COMMENTS
4
ADDRESS COUNTY COMMENTS

2/16/00
4/12/00
5/08/00
5/25/00

REV. DATE
DESCRIPTION

SITE SPECIFIC DETAILS / DRAINAGE SCHEDULE
THE ORCHARDS APARTMENT HOMES
SITE IMPROVEMENTS
ROANOKE COUNTY, VIRGINIA

SHEET NO.
18
OF 18