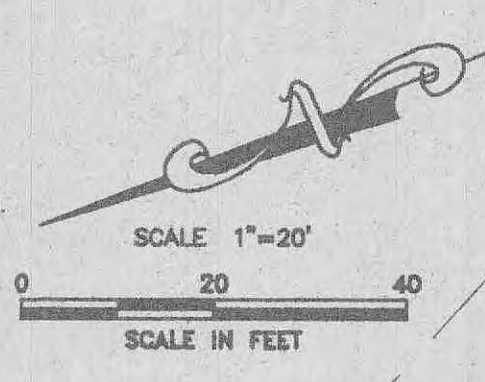


UTILITIES:  
 Electric: Ameren UE  
 Wentzville District Office  
 200 North Colahan Rd  
 Wentzville, MO 63385-1999  
 (314) 639-8317  
 Telephone: Southwestern Bell Telephone  
 402 North Third Street  
 St. Charles, MO 63301  
 William Botz (314) 949-1320  
 Gas: St. Charles Gas Co  
 1 Westbury Blvd O  
 St. Charles, MO 63301  
 (314) 639-8210  
 Sewer: Duckett Creek Sewer Dist.  
 2550 Greens Bottom Rd  
 St. Charles, MO 63303  
 (314) 441-1244  
 Water: St. Charles Public Water Dist. 2  
 100 Meter Dr  
 PO Box 967  
 O'Fallon, MO 63366  
 (314) 561-1737  
 Fire District: Callaway Fire Protection  
 1385 Motherhead Dr.  
 (636) 447-6655



RUNOFF CALCULATIONS

D.A. #	PERVIOUS ACREAGE	IMPERVIOUS ACREAGE	TOTAL ACREAGE	COMPOSITE PI FACTOR AND TOTAL Q								
				2 YEAR	5 YEAR	15 YEAR	25 YEAR	100 YEAR				
				PI	Q (cfs)	PI	Q (cfs)	PI	Q (cfs)	PI	Q (cfs)	
1		0.48	0.48	1.27	0.57	1.55	0.70	1.87	0.84	2.31	1.04	2.95
2		0.10	0.10	2.65	0.26	3.22	0.32	3.85	0.39	4.75	0.48	6.08
3	0.01	0.40	0.41	2.60	1.07	3.19	1.31	3.81	1.56	4.69	1.92	6.01
4		0.13	0.13	2.63	0.34	3.22	0.42	3.85	0.50	4.75	0.62	6.08
5		0.22	0.22	2.61	0.58	3.22	0.71	3.85	0.85	4.75	1.05	6.08
6	0.10	0.10	0.10	1.27	0.13	1.55	0.16	1.87	0.19	2.31	0.23	2.95
7	0.03	0.17	0.19	2.49	0.47	3.04	0.58	3.64	0.69	4.49	0.85	5.75
8	0.60	0.63	1.23									
9		0.42	0.42									
10	4.82	0.41	5.23									
11	0.02	0.02	0.04	1.95	0.08	2.50	0.10	2.86	0.11	3.53	0.14	4.52
12		0.37	0.37	2.63	0.71	3.22	0.87	3.85	1.04	4.75	1.28	6.08

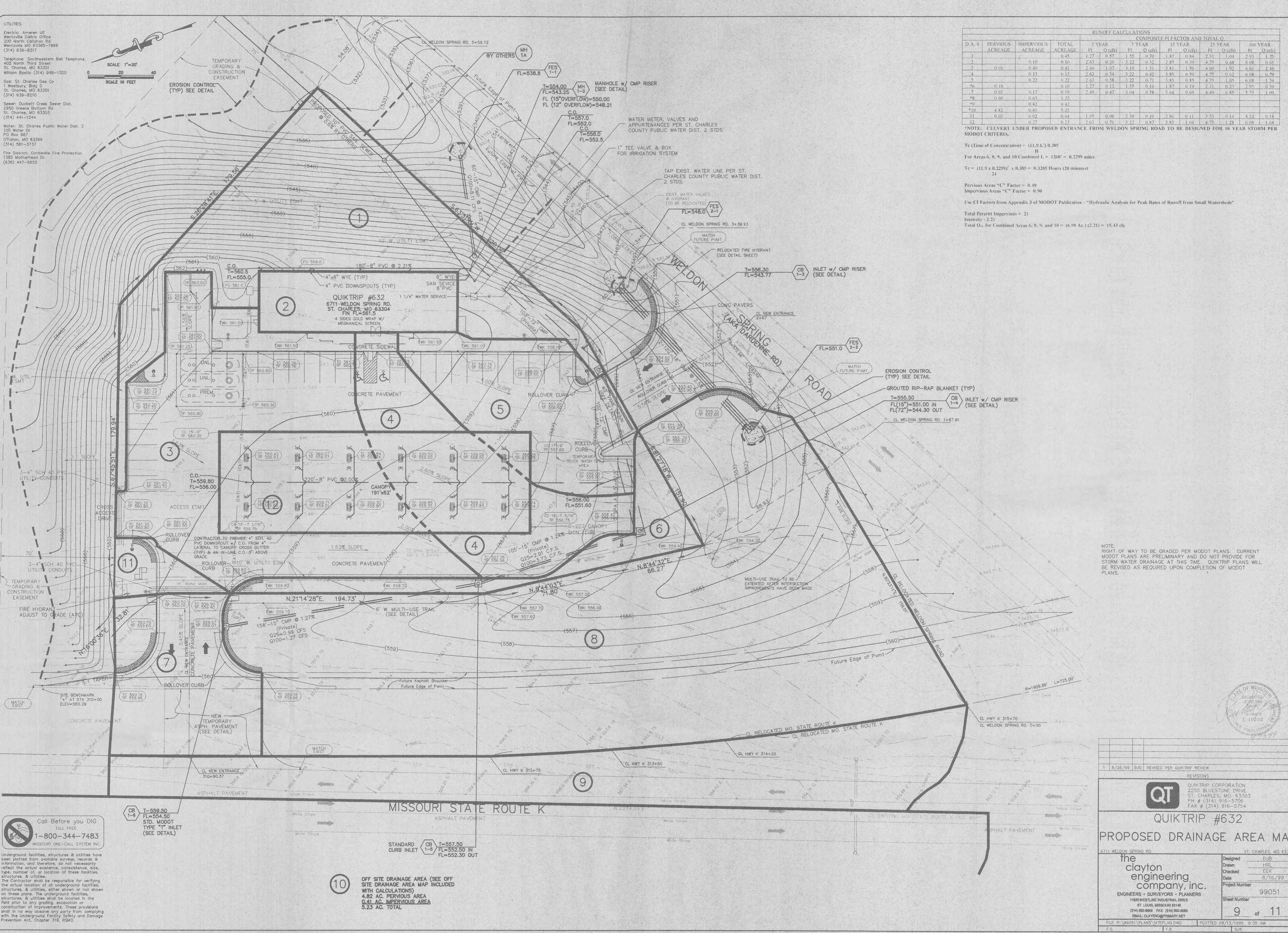
NOTE: CULVERT UNDER PROPOSED ENTRANCE FROM WELDON SPRING ROAD TO BE DESIGNED FOR 10 YEAR STORM PER MODOT CRITERIA.

$T_c$  (Time of Concentration) =  $(11.9 \cdot L)^{0.385}$   
 For Areas 6, 8, 9, and 10 Combined  $L = 1260' = 0.2299$  miles  
 $T_c = (11.9 \cdot 0.2299)^{0.385} = 0.3285$  Hours (20 minutes)

Pervious Areas "C" Factor = 0.40  
 Impervious Areas "C" Factor = 0.90

Use C1 Factors from Appendix 3 of MODOT Publication - "Hydraulic Analysis for Peak Rates of Runoff from Small Watersheds"

Total Percent Impervious = 21  
 Intensity = 3.21  
 Total  $Q_p$  for Combined Areas 6, 8, 9, and 10 =  $(6.98 \text{ Ac.}) (2.21) = 15.43 \text{ cfs}$



NOTE: RIGHT OF WAY TO BE GRADED PER MODOT PLANS. CURRENT MODOT PLANS ARE PRELIMINARY AND DO NOT PROVIDE FOR STORM WATER DRAINAGE AT THIS TIME. QUIKTRIP PLANS WILL BE REVISED AS REQUIRED UPON COMPLETION OF MODOT PLANS.

Call Before you DIG  
 TOLL FREE  
 1-800-344-7483  
 MISSOURI ONE-CALL SYSTEM INC.

Underground facilities, structures & utilities have been plotted from available surveys, records & information, and therefore, do not necessarily reflect the actual existence, nonexistence, size, type, number of, or location of these facilities, structures, & utilities. The Contractor shall be responsible for verifying the actual location of all underground facilities, structures, & utilities, either shown or not shown on these plans. The underground facilities, structures, & utilities shall be located in the field prior to any grading, excavation or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMo.

10 OFF SITE DRAINAGE AREA (SEE OFF SITE DRAINAGE AREA MAP INCLUDED WITH CALCULATIONS)  
 4.82 AC. PERVIOUS AREA  
 0.41 AC. IMPERVIOUS AREA  
 5.23 AC. TOTAL

1 8/26/99 B/G REVISED PER QUIKTRIP REVIEW

REVISIONS

**QT** QUIKTRIP CORPORATION  
 2255 BLUESTONE DRIVE  
 ST. CHARLES, MO. 63303  
 PH # (314) 916-5706  
 FAX # (314) 916-5754

**QUIKTRIP #632**

**PROPOSED DRAINAGE AREA MAP**

6711 WELDON SPRING RD. ST. CHARLES, MO 63304

the clayton engineering company, inc.  
 ENGINEERS + SURVEYORS + PLANNERS  
 1180 WESTLINE INDUSTRIAL DRIVE  
 ST. LOUIS, MISSOURI 63146  
 (314) 892-8888 FAX: (314) 892-8888  
 EMAIL: CLAYTON@PRIMARY.NET

Designed: DUB  
 Drawn: HRL  
 Checked: EEF  
 Date: 8/16/99  
 Project Number: 99051  
 Sheet Number: 9 of 11

FILE P:\99051\PLANS\STEP1AN.DWG PLOTTED 09/13/99 9:05 AM  
 F.S. F.B. SUR