HYDROLOGY

F18/D2B
TWO PLANS

F 18/D2B

2 PLANS

DRAINAGE DATA

FOR AREA WITHIN LINCOLN PLACE

EXISTING CONDITIONS

TOTAL AREA UNDER CONSIDERATION	174,080 SQ FT
SLOPE	3% TYPICAL
SURFACE CHARACTER	NO DEVEL., SPARSE VEGETATION
LENGTH OF RUN	825 E-W
TIME OF CONCENTRATION	18.8 MINUTES
INLET INTENSITY $\left(1.00 = \frac{80}{T_c + 20}\right)$	4.67 IN/HR
100-YEAR PRECIPITATION	2.5 IN
NATURAL RUNOFF COEFFICIENT	.40
NAT. RATE OF RUNOFF	7.46 CFS
NAT. VOLUME OF RUNOFF	14507 FT³

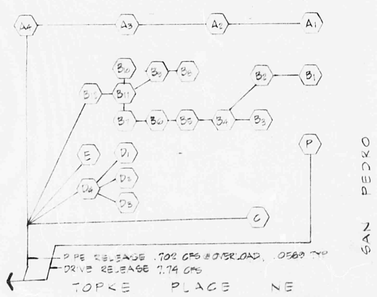
DEVELOPED CONDITIONS — NO CONTROLS ASSUMED

	A	C	RATE	VOLUME
OPEN AREA SLOPE: 3% T_c: 18 MIN.; 4.73 IN/HR	87347	.40	2.49	4777
PARKING SLOPE: 1.25% MEAN T_c: 6 MIN.; 6.1 IN/HR	55067	1.00	7.74	11318
OTHER IMPERVIOUS (ROOF, WALKS, ETC.) SLOPE: N/A T_c: 10 MIN.; 3.4 IN/HR	60658	1.00	7.31	12086
			17.74 CFS	28028 FT³

REQUIRED ON-SITE RETENTION

28028 − 14507 = **13421 FT³**

FLOW SCHEMATIC



INTERNAL DRAINAGE AREAS

	AREA DRAINED	NAT. VOL. (C = .40)	DEVELOPED CONDITIONS IMPERVIOUS	VOLUME	OPEN	VOLUME	DEV. VOL. PER AREA	POND DATA POND	SURFACE AREA	BOTTOM AREA	DEPTH	CAPACITY	DISCHARGE Q = FREE (2)	SUBM. (4)	INTO	
A	31411	2618	15686	3068	15725	1310	4378	A1	485	—	1.5	217	.186	—	A2	
								A2	205	—	1.3	132	.186	—	A3	
								A3	405	—	1.5	202	.414	.388	A4	
								A4	2280	804	1.0	1478		.146 (5)	DRAIN TO TOPKE PL.	
B	58984	4896	27214	3668	25062 (1)	2163	7832	B1	200	56	1.0	120	.674	.254	B2	
								B2	773	220	1.2	592	.586	.448	B4	
								B3	207	27	1.4	234	.230	.156	B4	
								B4	886	282	1.5	754	.832	.518	B5	
								B5	837	480	1.0	656	.604	.254	B6	
								B6	175	50	1.0	106	.720	.254	B7	
								B7	385	46	1.4	286	.764	.312	B11	
								B8	190	52	1.0	114	.168	.064	B9	
								B9	84	—	1.2	84	.188	.078	B11	
								B10	112	—	0.8	30	.158	.100	B11	
								B11	3040	1808	2.5	5984	2.08	.314	B12	PONDS B11 AND B12 DEVELOPERATELY OVERSIZED.
								B12	1550	760	2.0	2274		.180 (5)	DRAIN TO TOPKE PL.	
C	11720	877	8802	1834	2918	243	2077	C	536	164	1.4	465		.100 (5)		
D	15590	1200	8254	1720	7336	611	2331	D1	756	176	1.5	648	.487	.201	D4	
								D2	111	85	1.0	69	.184	.064	D4	
								D3	210	68	1.0	139	.184	.064	D4	
								D4	1140	345	1.5	1237		.089 (5)	DRAIN TO TOPKE PL.	
E	4887	380	2082	561	1865	155	716	E	535	—	0.8	148		.167 (5)	DRAIN TO TOPKE PL.	
P	56818	4287	58277	11093	3541	295	11384	NONE	—	—	—	—		7.74	THRU DRIVE TO TOPKE PL.	
TOTALS	174080	14507	115035	24150	87347 (1)	4777	28028					15747 (3)		8.442 CFS		

(1) DOES NOT INCLUDE AREA OF SWIMMING POOL (808 FT²). POOL DOES NOT CONTRIBUTE TO RUNOFF.

(2) 15747 CUBIC FEET TOTAL RETENTION VOLUME EXCEEDS REQUIREMENT BY 1320 FT³.

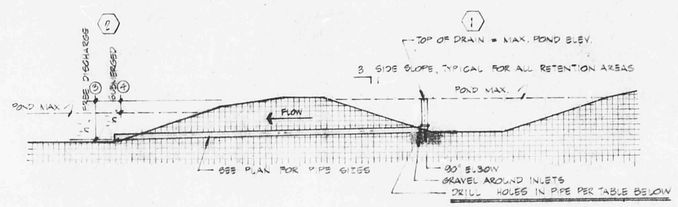
(3) RELEASE RATE FROM PONDS (THROUGH PIPE) IS DETERMINED BY: $Q = .86 a\sqrt{2gh}$ (a IS IN FT², "g" = 32.2 FT/SEC², "h" IS MAXIMUM HEAD W/ FREE DISCHARGE @ OUTLET — SEE PLAN FOR PIPE SIZES

(4) RELEASE RATE - ASSUMING SUBMERGED OUTLET - TYPICAL CONDITION WHERE UNIFORM LOADING OCCURS (STORM CONDITION). NO SUBMERGED CONDITION CAN EXIST WHERE DATA OMITTED.

(5) Q AT NEAREST INVERT OF DRAIN JUNCTION. TOTAL DISCHARGE (SUM OF Q'S) FROM PIPE = .702 CFS

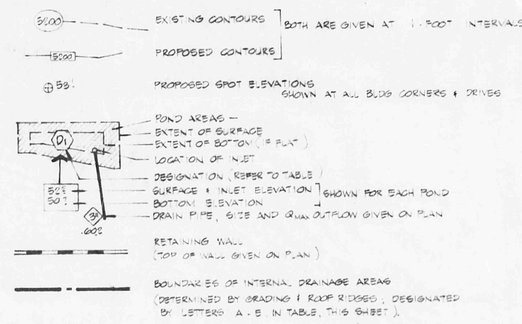
TYPICAL POND SECTION

SEE TABLE OR PLAN FOR SPECIFIC SIZES/ELEVATIONS

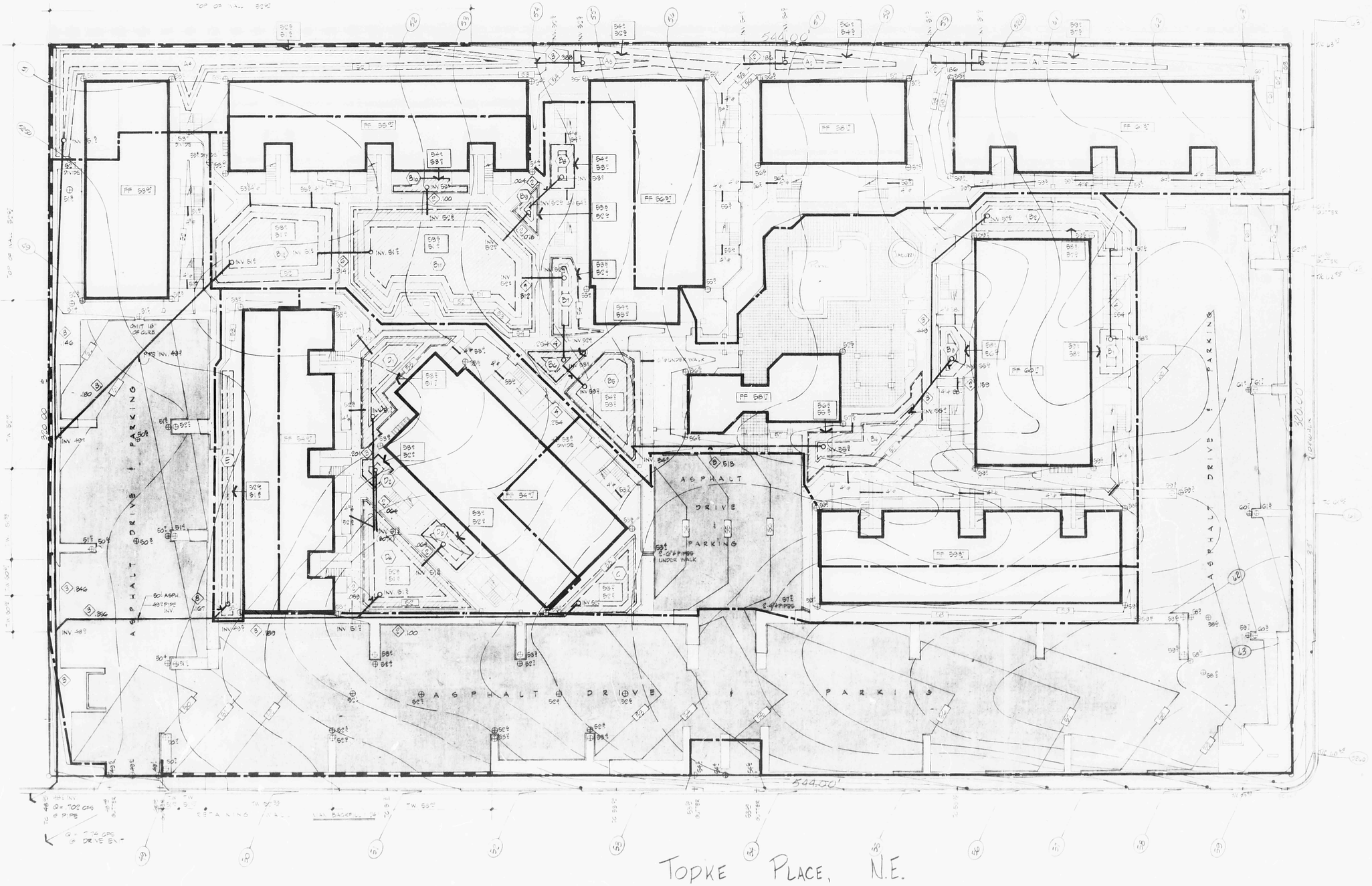


A4	3 − 1/2" ø HOLES	TIME TO COMPLETE DISCHARGE: 24½ HR	Q max = .0137 CFS
B12	4 − 1/2 ø (I.D. INLET = B11)	25½ HR	Q max = .0262 CFS
C	3 − 1/4 ø	24 HR	Q max = .0054 CFS
D4	3 − 1/4 ø	30 HR	Q max = .0060 CFS
E	1 − 1/4 ø	25 HR	Q max = .0016 CFS
TOTAL	RUNOFF RATE @ PIPE SYSTEM BEFORE OVERLOAD OCCURRENCE		.0580 CFS

SYMBOLS USED ON PLAN SHEET



F18/D2B



NOTICE

THIS BUILDING(S) IS REQUIRE... TO HAVE A FINAL INSPECTION BY THE REFUS... THE REFUSE CONTAINER(S) ... SHALL BE IN PLACE PRIOR TO THE ... OF OCCUPANCY BEING ISSUED. PHONE 766-7789 OR 766-7426

F18/D2B