

ARLINGTON PLACE ADDITION
DRAINAGE REPORT
JUNE 19, 1991

THE PROPOSED PLAT OF ARLINGTON PLACE ADDITION IS TO BE DEVELOPED FOR SINGLE FAMILY RESIDENTIAL LOTS. THE PROPERTY PRESENTLY DRAINS NORTH AND EAST TO MAIZE ROAD THROUGH AN EXISTING RCBC STRUCTURE.

THE PROPOSED PLAT WILL DRAIN FROM HARVEST LANE THROUGH A STORM SEWER BETWEEN LOTS 5 AND 6, BLOCK 1, INTO RESERVE A AS INDICATED ON THE PLAN.

RESERVE A WILL ALSO RECEIVE RUNOFF FROM A DRAINAGE BASIN TO THE NORTH AND WEST APPROXIMATELY 61.4 ACRES IN SIZE. MAXIMUM RUNOFF FROM THE 24 HOUR STORM EVENT FROM THE BASIN IS CALCULATED TO BE 112 C.F.S. RESERVE A WILL CONVEY THE RUNOFF GENERATED FROM THIS AREA INTO THE RCBC AT MAIZE ROAD.

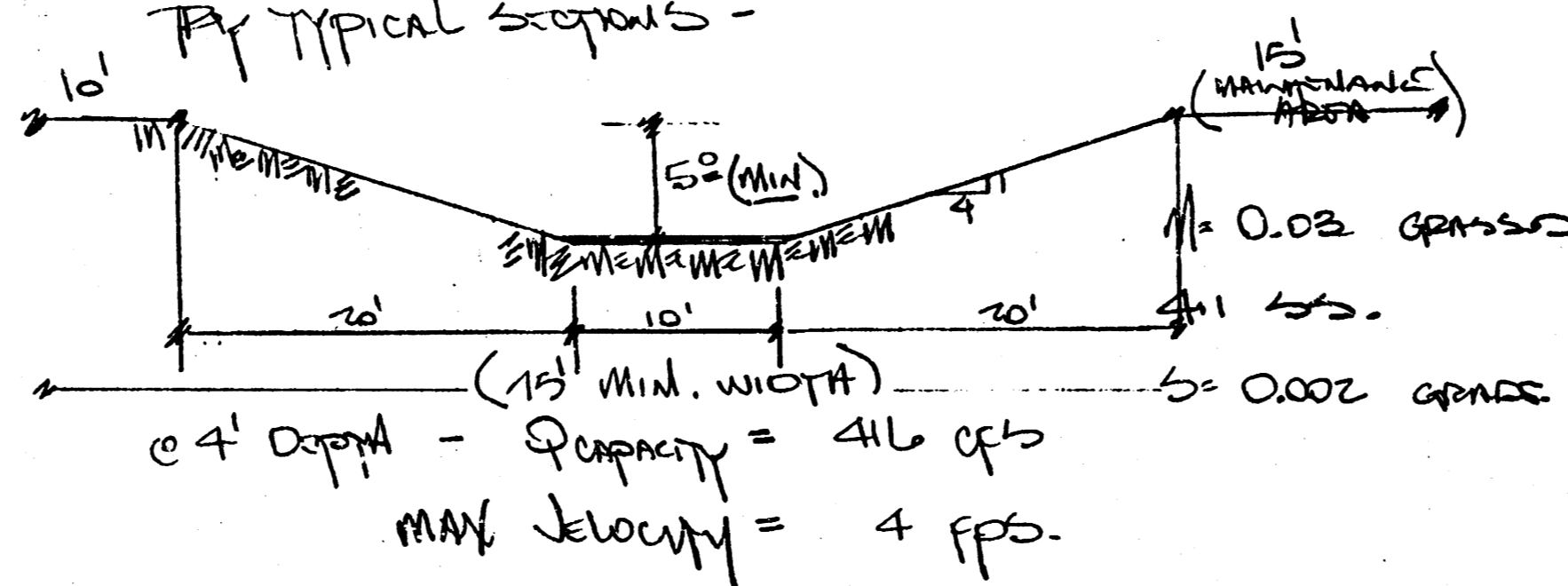
THE EXISTING RCBC AT MAIZE ROAD HAS BEEN CHECKED FOR CAPACITY AND IS SUFFICIENT TO DISCHARGE THE RUNOFF AMOUNT. THE PROPOSED LAKE TO THE NORTHWEST OF THIS PLAT WILL BE DEVELOPED TO A FINISHED STATE IN THE FUTURE AS THE ADJACENT LOTS ARE PLATTED AND DEVELOPED. THE LAKE MAY BE IMPROVED TO INCLUDE A WEIR CONTROL STRUCTURE IN THE FUTURE, BUT FOR THE PRESENT PLAT, AN INFLOW AND OUTFLOW FACILITY IS CONSIDERED FOR THE DESIGN OF THE CHANNEL WITHIN RESERVE A.

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BAUGHMAN COMPANY, P.A.

CHANNEL CALCULATIONS -

$112 \text{ cfs} = Q_{100}$

TRY TYPICAL SECTIONS -



$4' \text{ Depth} - \text{Capacity} = 416 \text{ cfs}$
MAX VELOCITY = 4 FPS.

SUMMARY - A 4' CHANNEL IS SUFFICIENT TO CONVEY THE FLOW. THE 5' SECTION IS SHOWN WITH A 15' FREE BOARD ALLOWANCE.

STORM ROAD THROUGH DOUBLE 4'x6' RCBC AT MAIZE RD.

ASSUME A ONE FOOT HEAD OVER TOP OF BOX
FLOW CAPACITY = $30 \text{ cfs/width} \times 12$
= 360 cfs (TOTAL)

BOX IS ABLE TO PASS 100 YEAR STORM FLOW. OK.
MAXIMUM WATER SURFACE = 153.00
MIN. PTD = 154.00

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BAUGHMAN COMPANY, P.A.

ORIGNAGE CALCULATIONS -

TOTAL DRAINAGE BASIN - 61.4 ACRES
SOIL TYPE No. 10 JARVIS SILTY LOAM
TYPE B.

TOTAL TIME OF CONCENTRATION = 20 MIN.

COMPOSITE LAND USE NO. (CU)

1/4 AC RES. LOTS	61.4%	(73)
APARTMENTS	30%	(85)
WATER SURFACE	3%	(99)
OPEN SPACES	6%	(69)
TOTAL	100%	764

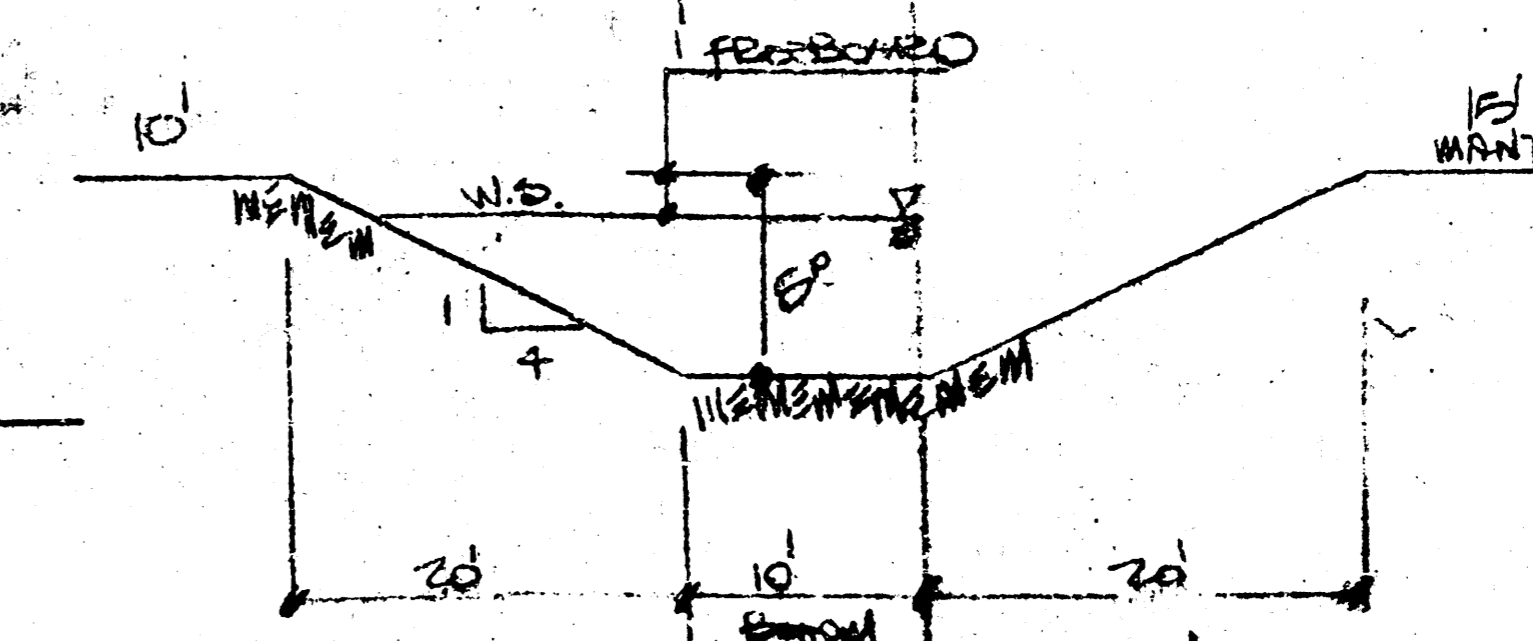
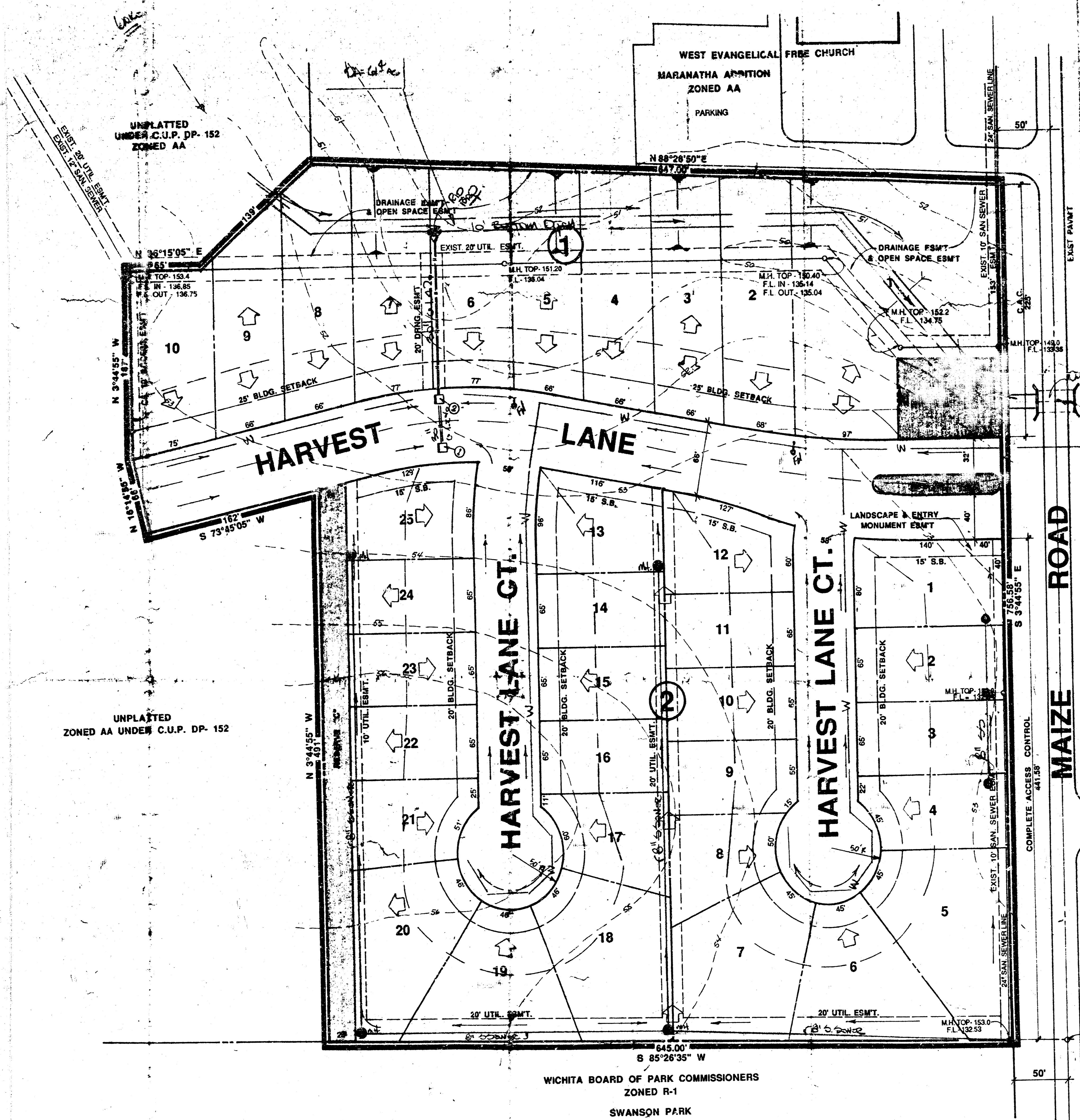
CU-USE 79.

25 TYPE II RAINFALL DIST. - 7.8" TOTAL (100 YEAR) (24 HOUR)

BA = 61.4 AC. = 0.0016 SQ. MI.

WET = 0.07C = 0.6(20/100) = 0.3 HOUR.

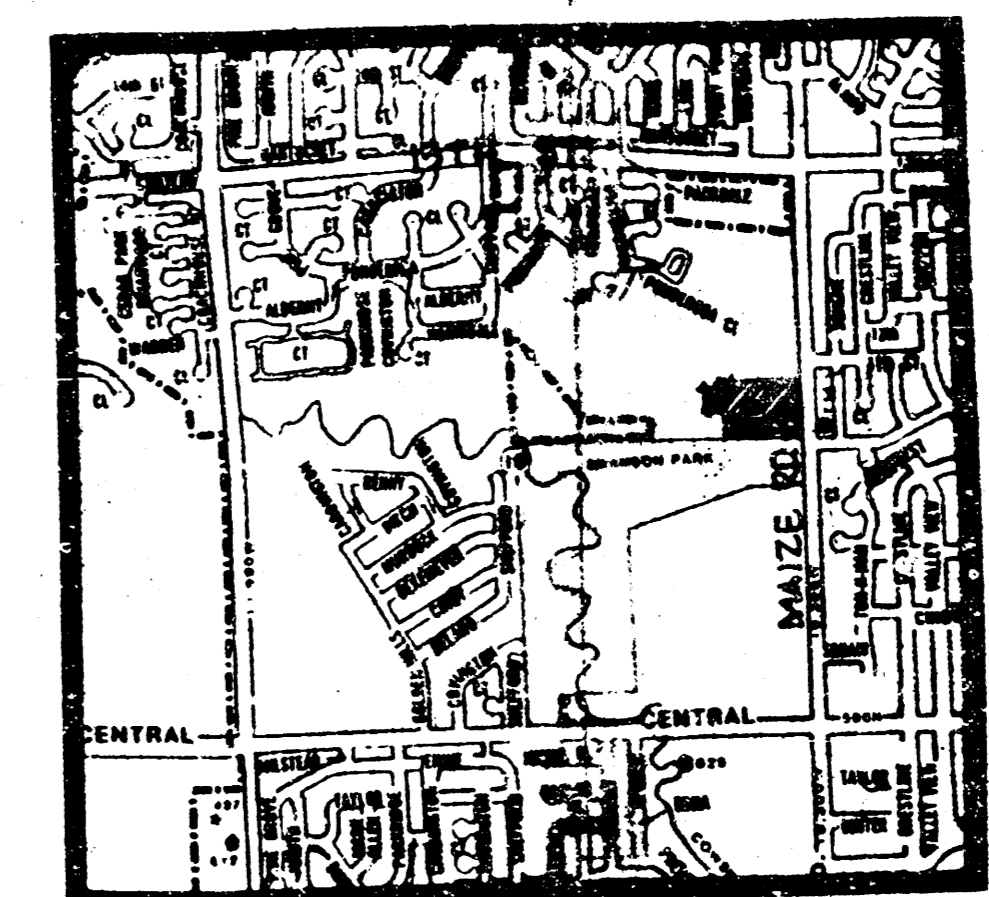
$Q_{100} = 112 \text{ cfs}$.



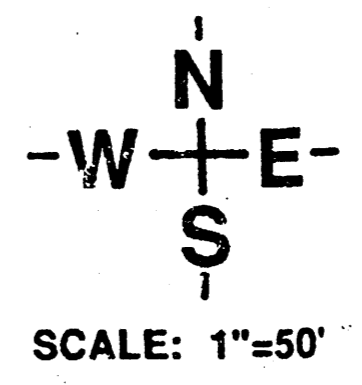
- NOTES:**
- 1.) BENCH MARK: MAIZE AND 9TH STREET NORTH, CITY OF WICHITA BENCH MARK DISC 32' NORTH AND 38' EAST OF QUARTER SECTION CORNER. ELEV. - 152.283 CITY DATUM.
 - 2.) ZONED AA UNDER HUNTINGTON PLACE C.U.P. DP- 152.
 - 3.) A DRAINAGE CONCEPT PLAN IS TO BE PREPARED BY BAUGHMAN CO. AND SUBMITTED TO CITY ENGINEER.
 - 4.) RESERVE "A" TO PERMIT LANDSCAPING, ENTRY MONUMENTS, SIDEWALKS, IRRIGATION, UTILITIES & DRAINAGE CONFINED TO EASEMENTS.
 - 5.) RESERVE "B" TO PERMIT LANDSCAPING, ENTRY MONUMENTS, IRRIGATION, AND UTILITIES CONFINED TO EASEMENTS.
 - 6.) RESERVE "C" TO PERMIT LANDSCAPING, SIDEWALKS, IRRIGATION, & UTILITIES CONFINED TO EASEMENTS.

2 - BOX CULVERTS. FIELD DATA N/A. FIELD VERIFY EXACT LOCATION AND FLOWLINE

TOTAL AREA - 12.4 ACRES



LOCATION MAP



**APPROVED
DRAINAGE PLAN**

DRAINAGE & UTILITY PLAN

PRELIMINARY PLAT
ARLINGTON LAKES

OWNER: FIVE STAR CORPORATION, 1147 COACHHOUSE COURT, WICHITA, KANSAS, 67235

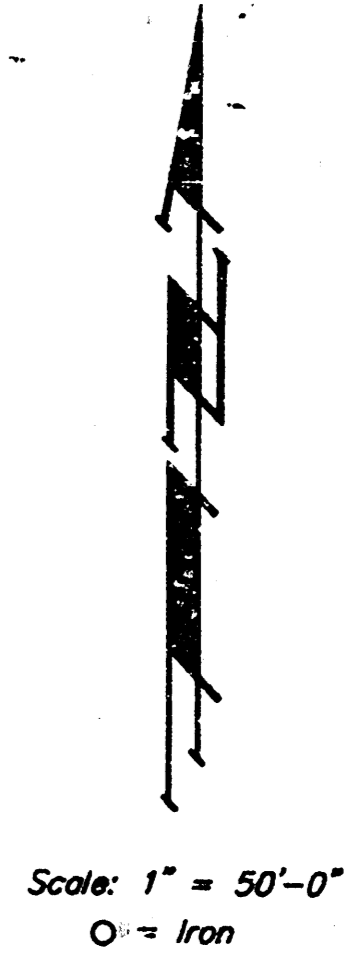
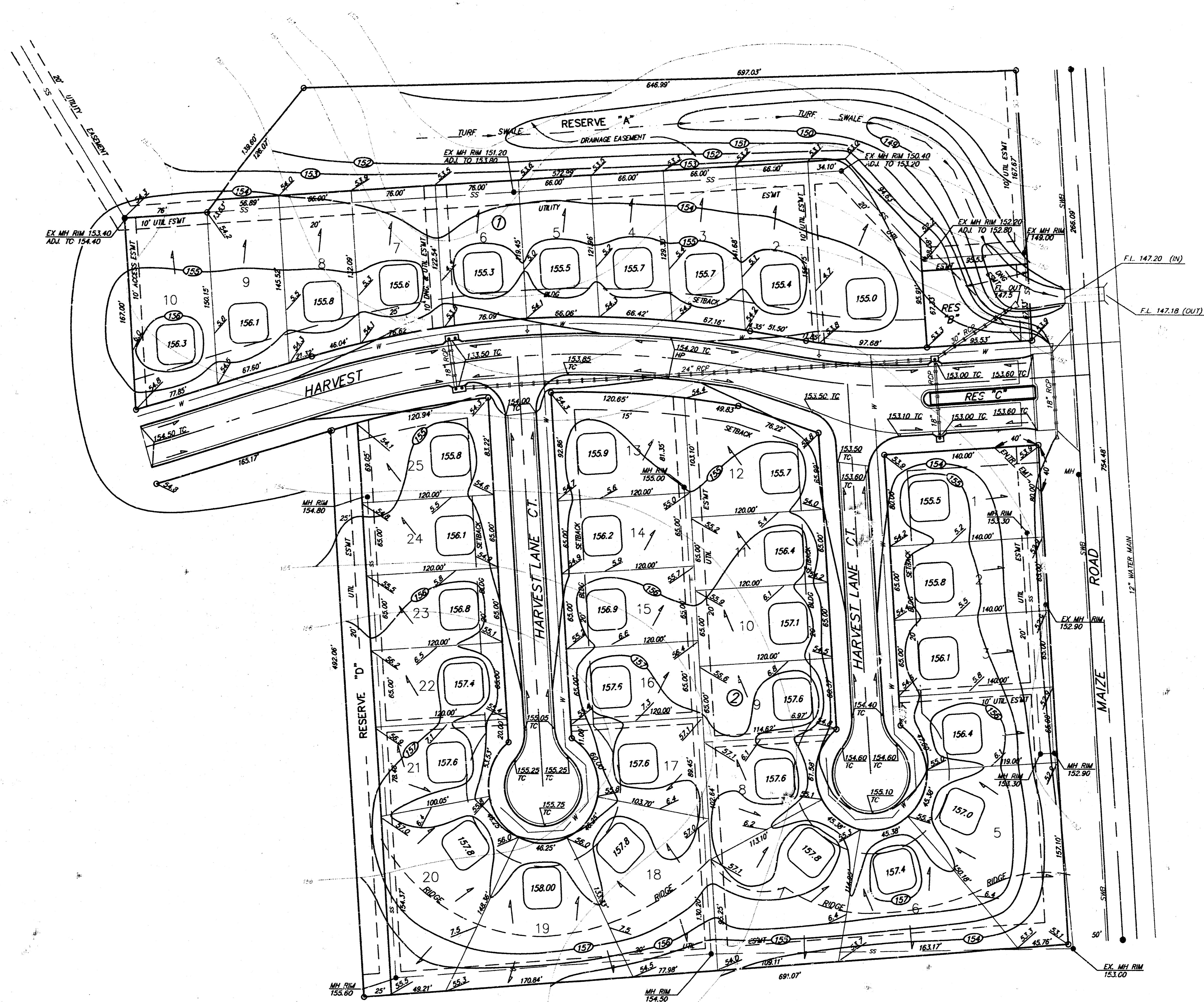
WICHITA BOARD OF PARK COMMISSIONERS
ZONED R-1
SWANSON PARK

BILL G. YUNG DESIGN
WICHITA, KS 67208
912 E. 8TH STREET NORTH
316-683-5557

DATE: 5/18/11
REV: MAY 18, 2011

SHEET TITLE: PRELIMINARY PLAT
PROJECT: ARLINGTON LAKES
SHEET: 1 OF 1

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BENCH MARK:
 City Standard Disc, 32" N. and 38" E.
 of S.E. Corner NW 1/4 Sec. 18, T25, 1W
 Elevation = 152.28 City Datum
 Elevation = 1339.68 MSL

MINIMUM BUILDING PAD ELEVATION:
 Lowest Opening Elevation to Structure
 154.00 City Datum
 Lots 1, 2, 3, 4, 5, 6, 7, 8, 9 & 10: Blk 1

NOTE:
 Minimum Garage Floor Elevation
 are Shown on the Plan.
 Contractor to set Finish Floor Elevations.
 Contour Elevations Shown are for Graphic
 Representation of Drainage Concept.
 Spot Elevations Shall take Precedence
 over Contour Lines.

**APPROVED
 DRAINAGE PLAN**

ARLINGTON PLACE ADDITION LOT GRADING PLAN			
BAUGHMAN COMPANY P. A. ENGINEERING & SURVEYING 316/282-7271 • 315 ELLIS • WICHITA, KANSAS 67211			
PROJECT NUMBER			SHEET
			1
DESIGN	DRAWN	UTIL. CHECK'D	DATE
P.J.M.	J.J.M.		JULY 91
SCALE			OF
1"=50'-0"			1

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