

CONCEPT 1-25-84
 Final Drainage Plan

BAUGHMAN COMPANY, P.A.
 SURVEYING & ENGINEERING
 316/262-7271 • 330 LAURA • WICHITA, KANSAS 67211

CONFIRMATION MEMO
 PROJECT: Timber Grove Lakes Addition DATE: February 21, 1984
 TO: Chris Breitenstein
 FROM: N. Brent Wooten
 REFERENCE: Final Drainage Plan

Final Plat is scheduled for Subdivision for March 1, 1984.

Lots will drain according to Exhibit I of the drainage plan. Refer to the drainage concept for areas and flow amount. Proposed private internal storm sewers and discharge points will be addressed in the development design stage. Approximate storm sewer locations are indicated on Exhibit II.

An enclosed water surface profile (Exhibit III) is enclosed. The profile addresses the series of ponds and step down elevations necessary for the area to work adequately. The access crossing provides for a box crossing of which the size shall be a double 6' x 6' RCBC. Proposed permanent ponding design water surface at the box will be 1 foot above the bottom of the RCBC. This remaining 6' x 5' RCBC opening will be available capacity capable of passing the major discharge flow from the Maize Road RCBC crossings. See details for the box enclosed on a separate sheet.

The series of the three pond levels will be maintained by separate ground water pumps if necessary. Available discharge capacity above the water surface is designed to accommodate the major storm flow from the Maize Road crossing. Typical ditch section are indicated on the profile sheet.

The RCBC shall be located so it will be to the east of the existing sanitary sewer crossing and not encroach or cover the sewer. The pond bottom shall also be excavated far enough to the west so as not to encroach near the sewer.

Adequate weir and rock step down structures will be constructed at three locations indicated. A major weir and spillway structure will be constructed at the outfall of the lake floodway into the Cowskin Creek.

Note - The drainage plan considers the triple 5' x 3' RCBC at Maize Road will be a permanent structure.

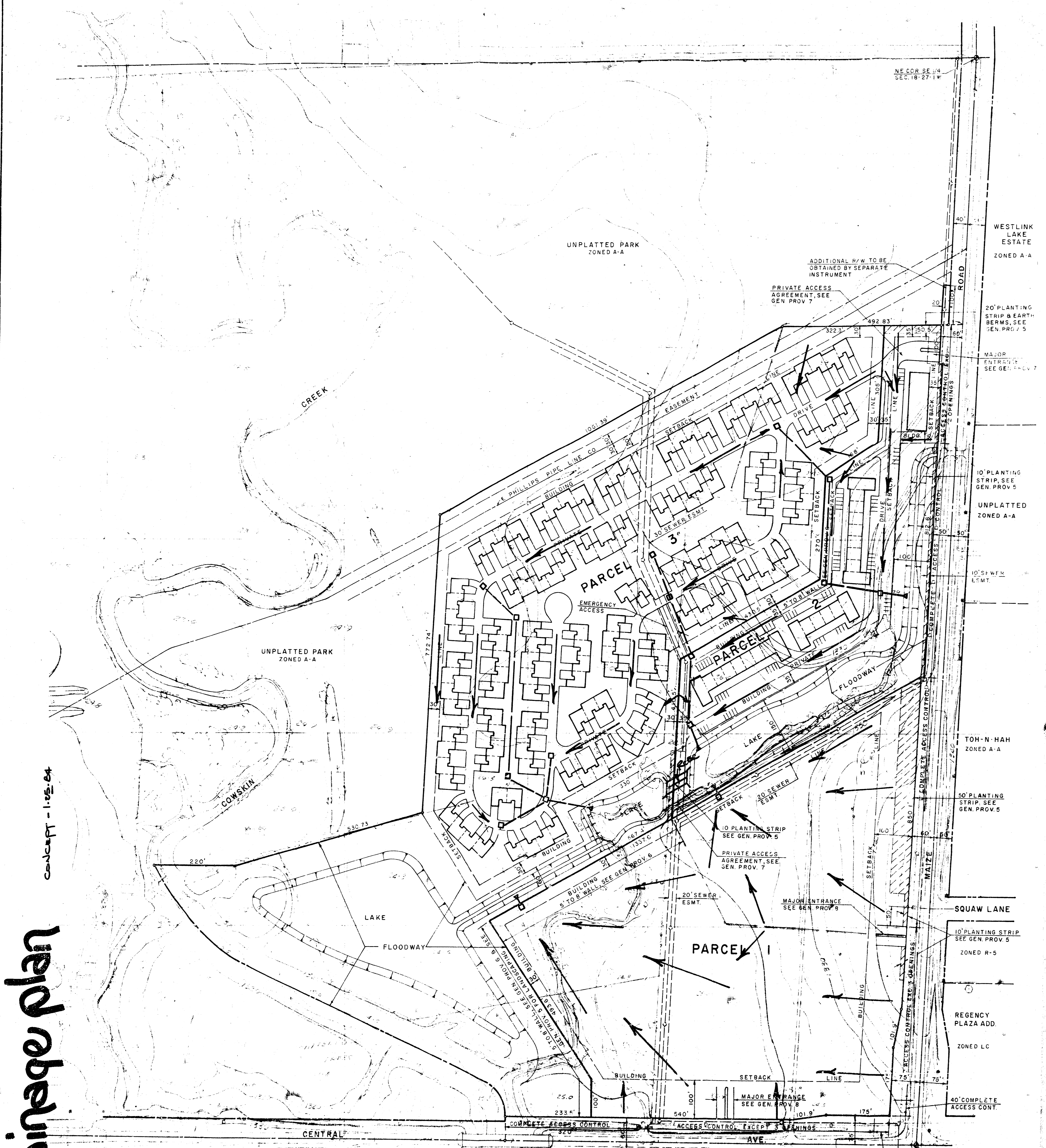
The pond bottoms will be excavated at least to the depth indicated and possibly lower in order to provide better water quality in the ponds. The ponds will have adequate maintenance access ways along the sides.

Timber Grove Lakes - Size 2-21-84
 $Q = 450 \text{ cfs}$ (MAX DISCHARGE FROM TRIPLE 5' x 3' RCBC @ MAIZE ROAD)
 TRY A 6' x 6' BOX FOR DISCHARGE CAPACITY. WILL USE A DOUBLE 6' x 6' RCBC.
 ALLOW 2 FEET FOR PONDING AND PULL.
 HEAD = 6 HW/D = 6/6 = 1.0
 ASSUME 30" WINGS & 4' HEIGHT
 DISCHARGE PER BARREL = 300 cfs
 TOTAL CAPACITY FOR DOUBLE 6' x 6' RCBC IN BOX = 700 cfs.
 THIS DESIGN BOX WILL PROVIDE ADEQUATE DISCHARGE CAPACITY FOR THE STORM FLO.
 AT THIS POINT WE WANT TO MAINTAIN SOME WET POND SURFACE WITHIN THE BOX. WE WILL START WITH A 15' FOOT DEPTH OF STANDING WATER IN THE BOX OR THE DESIGN WATER SURFACE AT 132.5.
 SO WE WILL TRY A 6' x 4' OPENING.

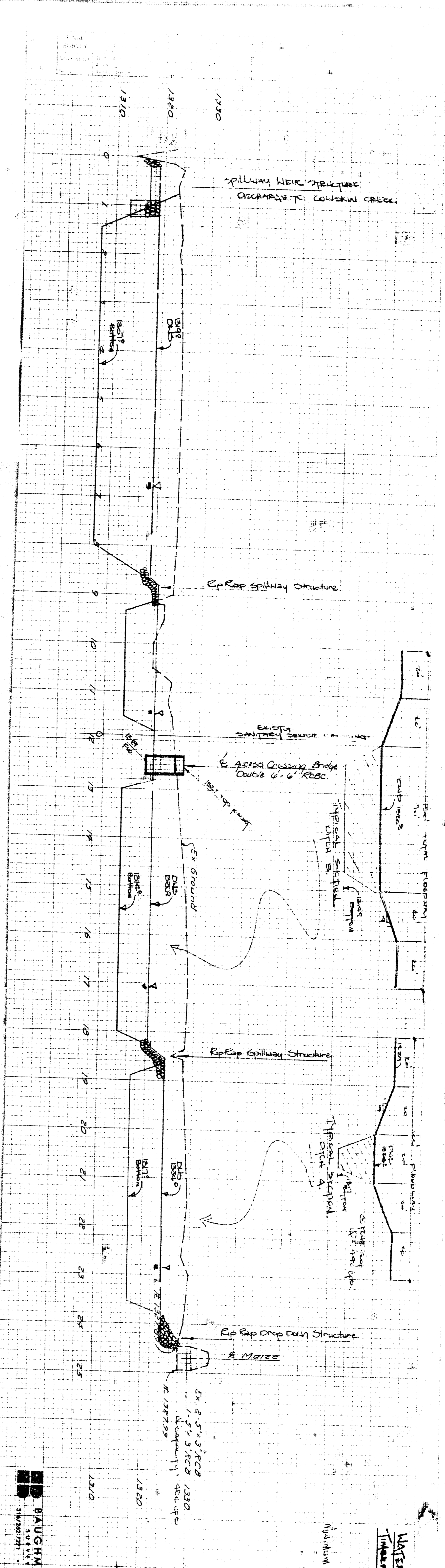
STILL THINKING A 6' x 6' RCBC LESS 15' DEPTH.
 HW = 6.5 HW/D = 6.5/4.5 = 1.44
 TRYING A 30" OR 75" WINGED BOX (EVALU) AND 4' HEIGHT
 CAPACITY / BARREL = 255 cfs
 TOTAL CAPACITY = 510 cfs.
 SO THIS SHOULD PROVIDE ADEQUATE CAPACITY TO PASS THE MAJOR STORM FLO GENERATED FROM AREAS ABOVE THE BOX WITH A 15' POND DEPTH IN THE BOX.

PRELIMINARY PLAT
TIMBER GROVE LAKES
 PART OF SE 1/4 SEC. 18-27-1W

COMMUNITY UNIT PLAN FOR
TIMBER GROVE LAKES



TIMBER GROVE LAKES
(DRAINAGE)



CONCEPT - 1.05.84

Drainage Plan

BAUSMAN

DATE