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STORM DRAINAGE STUDY
FOR COBBLESTONE SQUARE
A COMMERCIAL DEVELOPMENT

Prepared by:
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STORM DRAINAGE STUDY
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I. GENERAL

This report presents the calculated probable storm drainage run-off from a 100 year storm.

II. LOCATION

This commercial property is located South of Menaul Blvd., N.E. East of Eubank Blvd., N.E. comprising approximately 2.7 acres.

III. EXISTING DRAINAGE

The topography of the site indicates a 2% slope from the Northeast corner to the Southwest corner.

Existing land development to the East and curb and gutter along the North will preclude off-site contributing areas.

IV. PROPOSED DRAINAGE PLAN

The proposed development of this property is not compatible with using infiltration to reduce run-off. Therefore by the combination of roof ponding and parking area ponding with controlled run-off the peak discharge will be reduced to 50% of the undeveloped site.

V. RUN OFF QUANTITIES

The grading plan was developed to divide the building and parking into two approximately equal areas. As an added safety factor the total run-off was calculated based on a 100% run-off.

A hydrograph was developed using 10 minute intervals and 100 year return period storm of 2.8 inches.

The rate of run-off from roof areas was computed for 90° "V" wiers at the downspouts with depth selected from depth-capacity curve.

The run-off from the parking areas was calculated using head loss thru restricted out-fall pipe with the head derived from

Depth-Capacity curves developed for the pond areas. The summary is present in Exhibit _____

VI. CONCLUSION

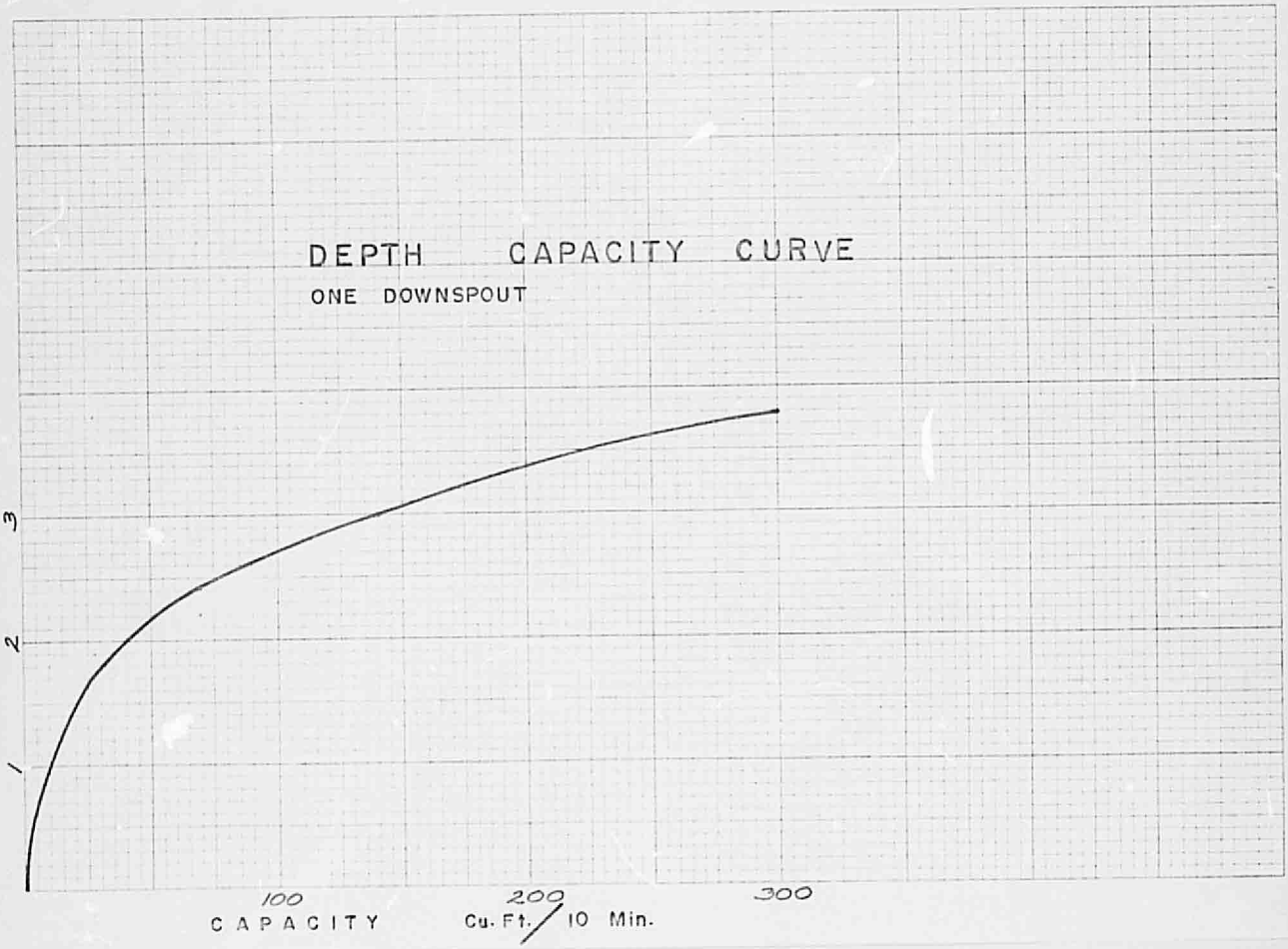
The proposed design computation indicates that at no time are the water depths both on the roof and in the parking area excessive and also that complete run-off should be in approximately 2 hours.

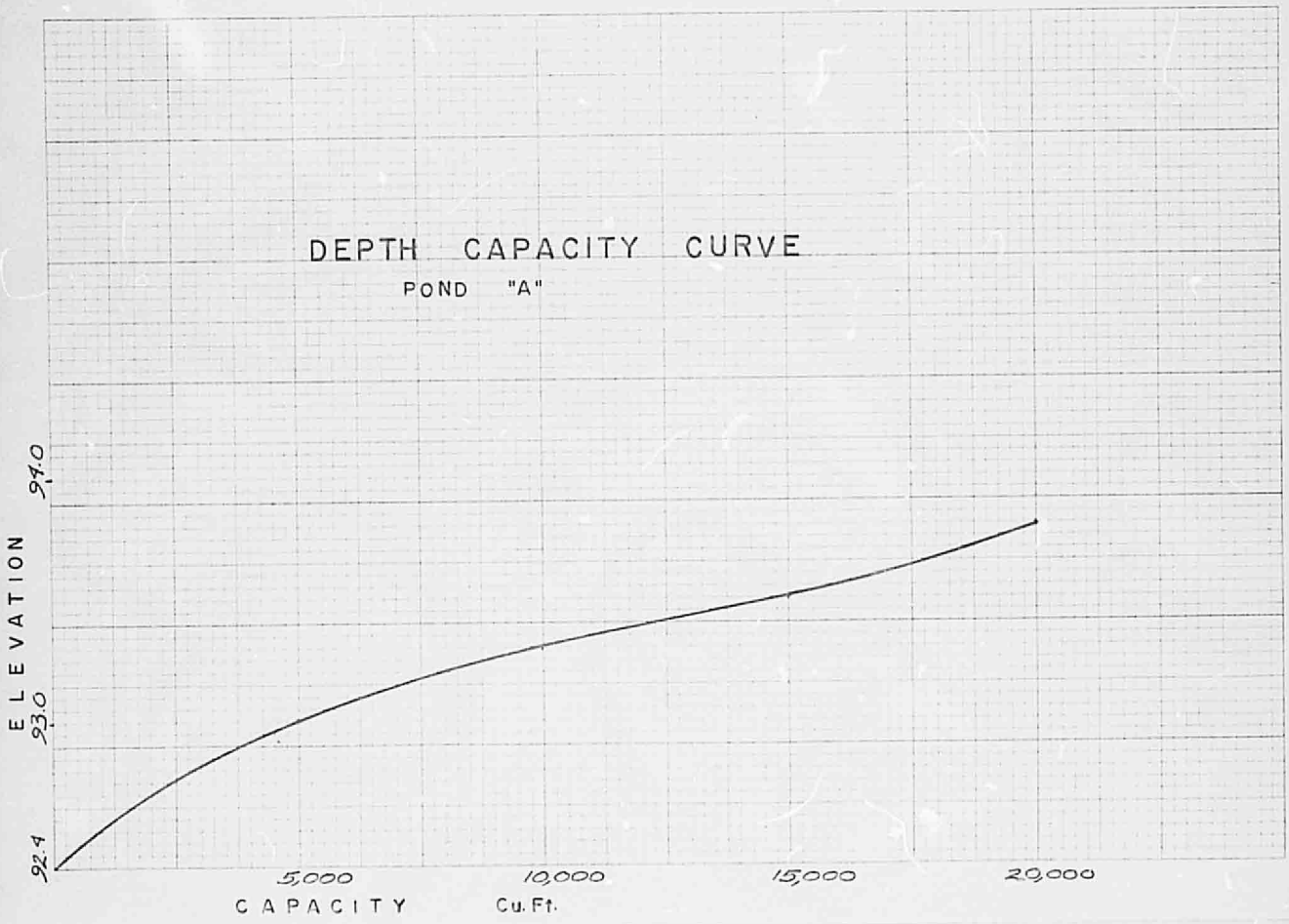
With the ponding capacities available a design storm would present no problems and most likely reduce the peak discharge that could be expected.

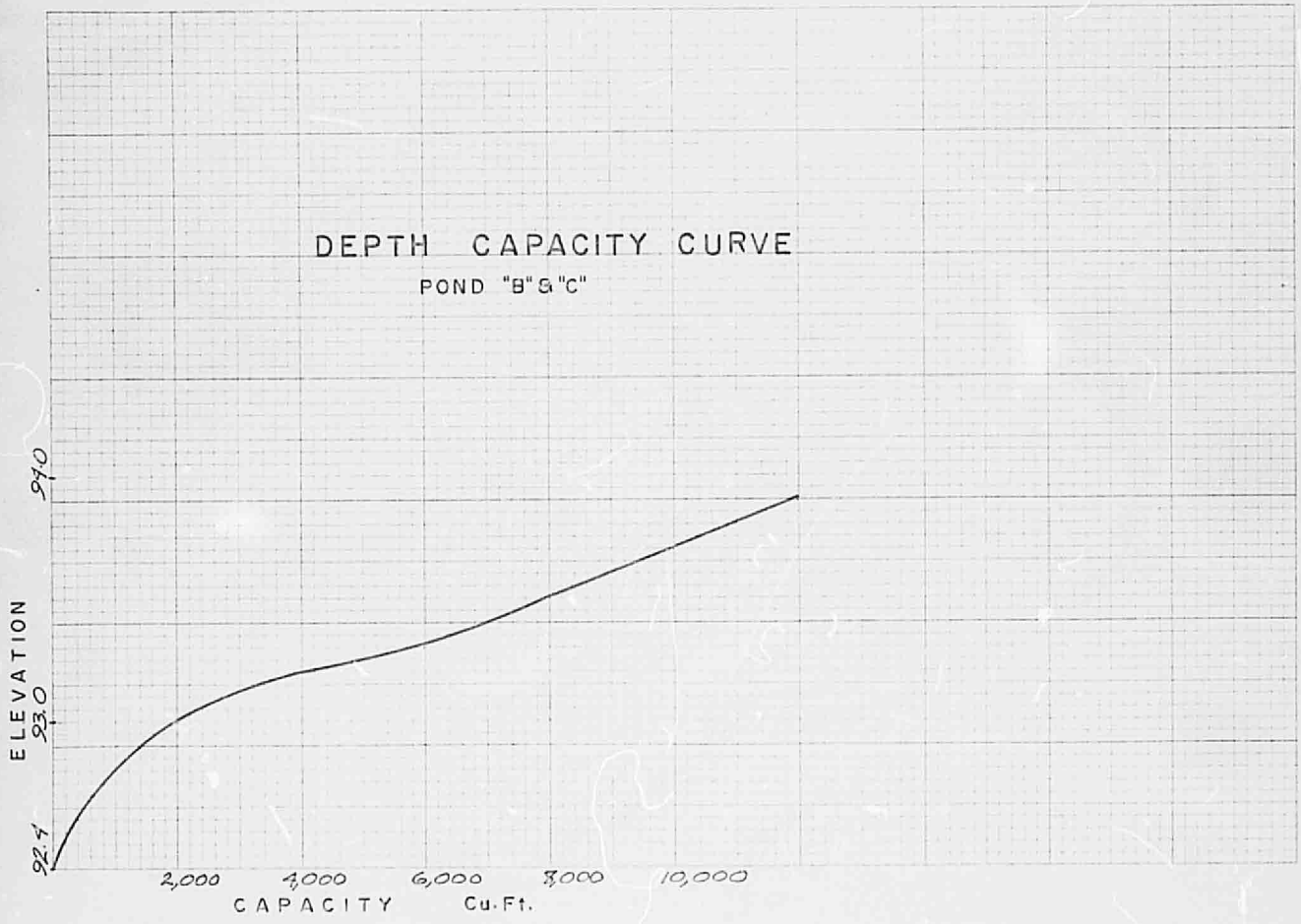
Respectfully submitted,

Wm. J. McDermott

Wm. J. McDermott
P.E. & L.S. No. 1855

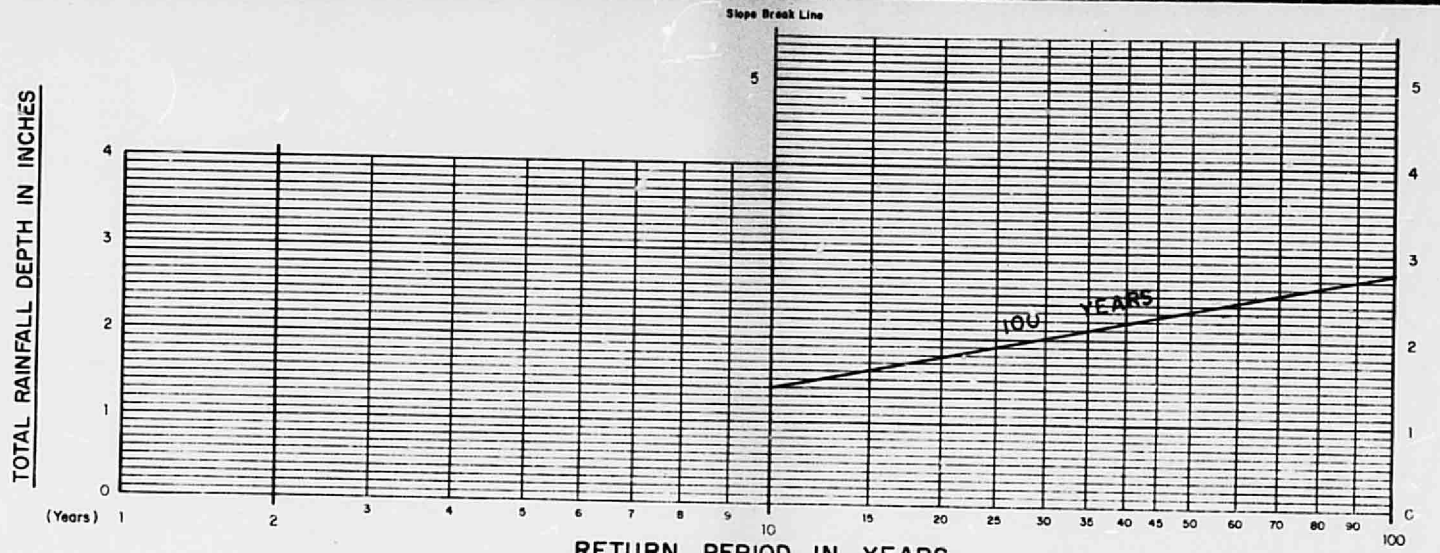


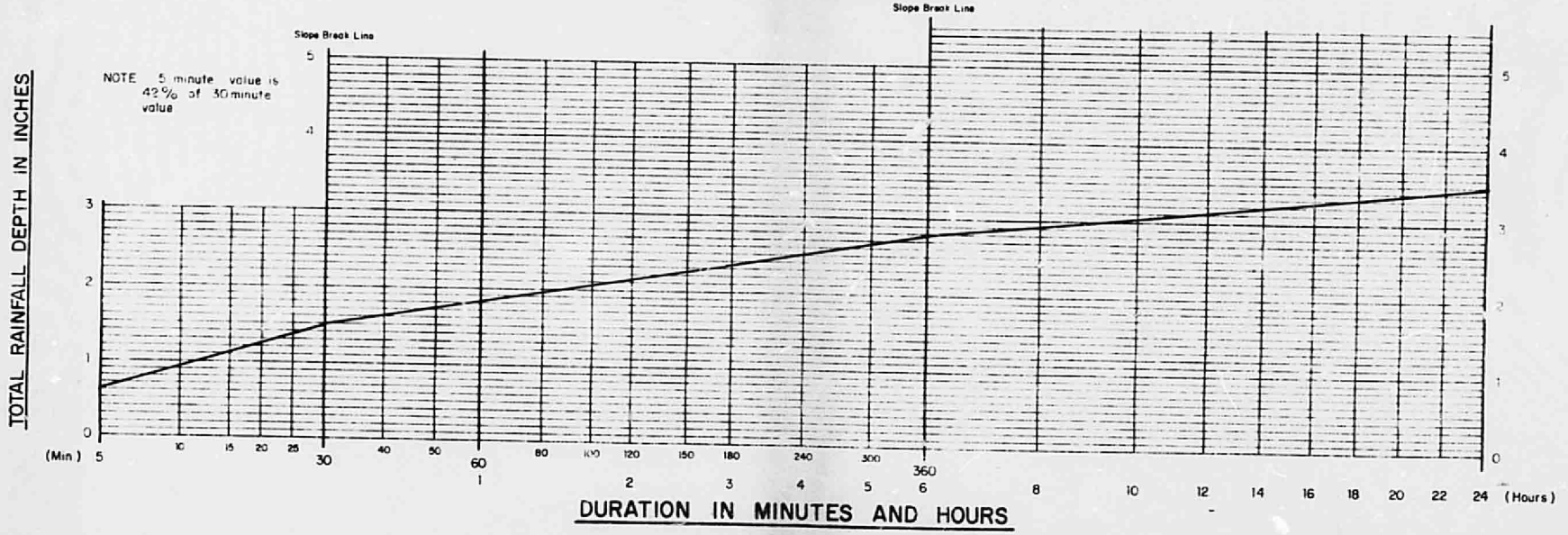




PIPE CAPACITY 6" CAST IRON N=.013

POND ELEVATION	DISCHARGE cfs	X 600 CF (10 MIN)
92.4	1.42	852
92.5	1.48	888
92.6	1.53	918
92.7	1.59	954
92.8	1.64	984
92.9	1.69	1014
93.0	1.74	1044
93.1	1.78	1068
93.2	1.83	1098





RAINFALL
DEPTH - DURATION - FREQUENCY GRAPHS

Section ___, T. ___, R. ___ W.