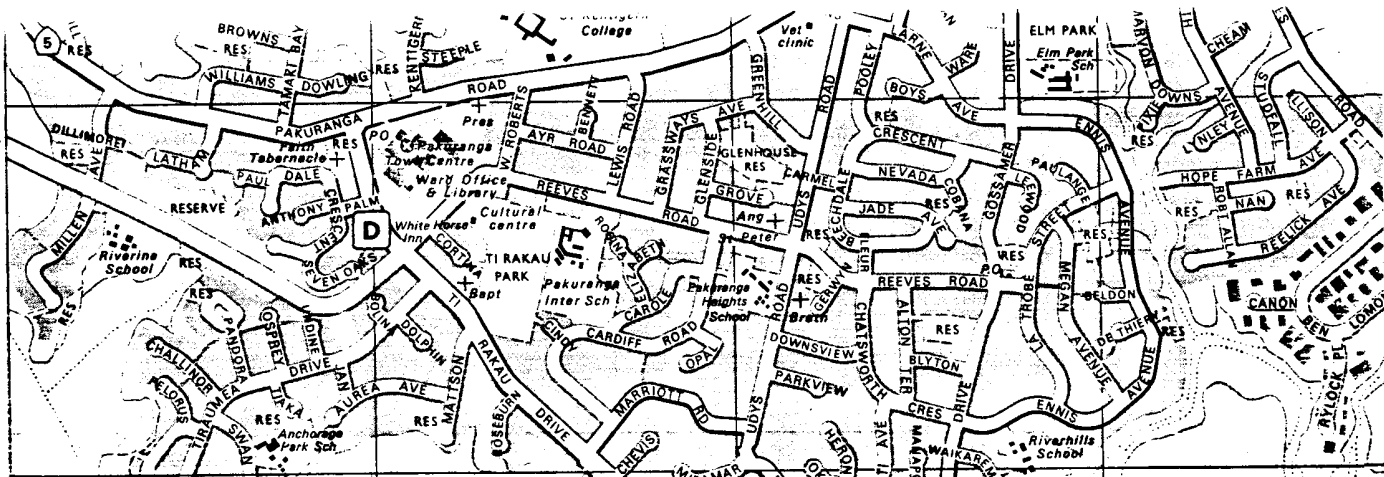
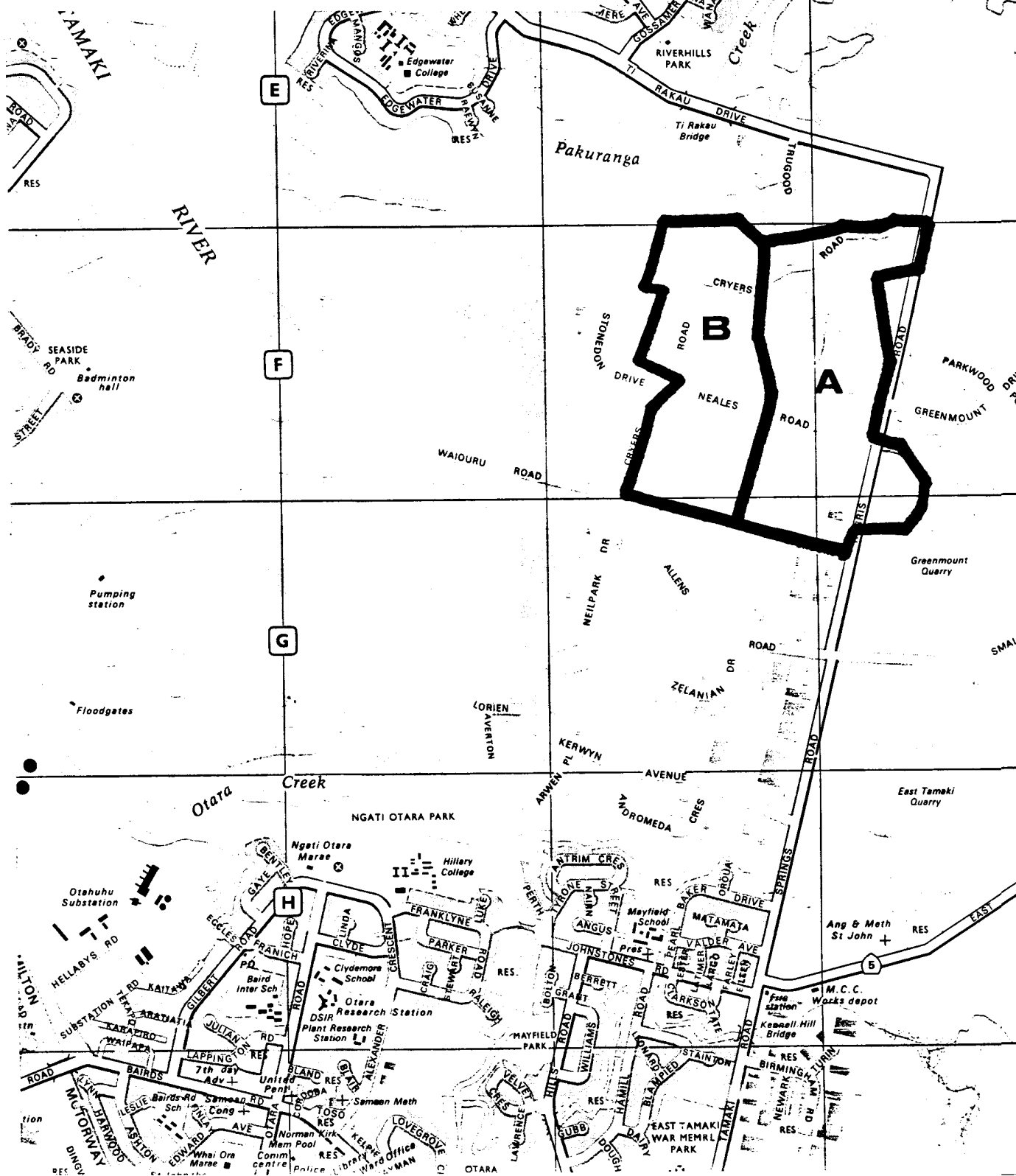


EAST TAMAKI

CWR N°3



LOCALITY PLAN



COMPREHENSIVE WATER RIGHT NO. 3

1.0 Introduction

The two catchments for which a comprehensive water right is sought form the north western segment of the East Tamaki industrial area. The area is generally bounded by Harris Road to the east, Crooks Road to the south (unformed) Cryers Road to the west and the Pakuranga Creek to the north. At present the strip of land adjoining Harris Road is developed with the balance being quarried or farmed.

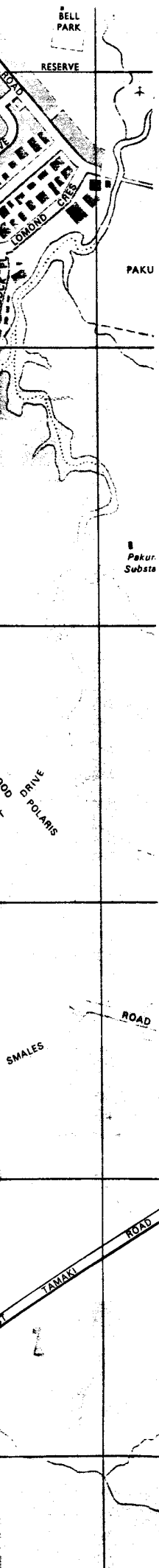
2.0 Catchment

The catchment boundaries as shown on plan D7/111 sheet 1 have been determined from field inspection and contour plans of the area. While the ground contour generally grades in the direction of the two outlets, portions of the area are very undulating with many isolated depressions and mounds. This irregular topography is typical of the basalt flow which overlies much of the East Tamaki area.

The geotechnical report prepared by Babbage Partners for the proposed subdivision of the western section of the area identifies a lava flow over much of the area originating from the Greenmount cone. Underlying this flow are alluvial clay and silt deposits with some peat. In this western segment of the catchment it is proposed to quarry much of the rock prior to the subdivisional development leaving only a thin raft of basalt on which to establish building foundations.

3.0 Zoning

The whole of the catchments other than the small portion east of Harris Road is zoned as industrial 4 which allows for heavy indust-



rial development. The existing industrial development adjoining Harris Road is indicative of the type of use that can be considered to occur over the balance of the area. Here, nearly 100% ground cover has occurred with carparks, paved storage yards and buildings. The anticipated run off from the two catchments, when fully developed, has been assessed on this type of land use.

4.0 Proposed Design Standards

In line with the City's engineering standards for subdivisions a piped stormwater connection to each new lot will be required at the time of development. The primary piped system being designed on a five year return period storm. The resulting design flows for this primary piped system at the outlet points are shown in Figure A together with a copy of the City's intensity duration curves on which they have been based.

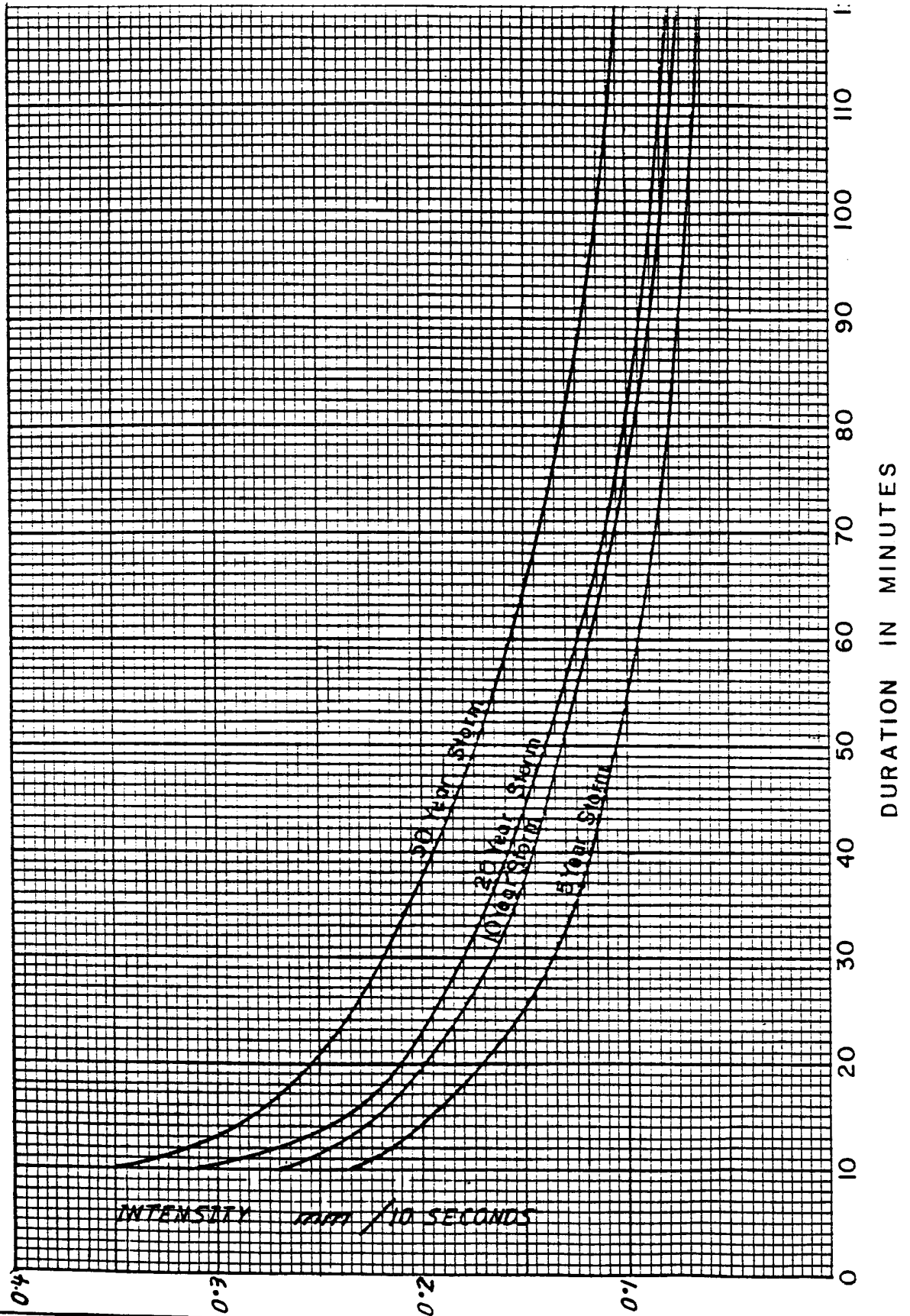
Although a number of the existing industrial units adjoining Harris Road presently operate on a soakage system it is considered necessary to provide for the ultimate piping of all stormwater. At present any soakage is entering the relatively thin basalt layer and shortfalls in the systems go relatively unnoticed in the adjoining undeveloped land. As with many of Council's soak holes along Harris Road it is considered the present soakage systems will eventually silt up and in conjunction with the quarrying away of the adjoining rock a fully piped stormwater system should be provided.

5.0 Conclusions

Based on the catchments and flows defined in this document it is intended that at the time of development each property be provided with a piped stormwater connection to cater for the five year storm.

In the area already developed adjoining Harris Road, there may be some shortfalls in being able to fully implement this, however, any downstream system is to be designed to allow for an eventual connection to each lot.

— INTENSITY CURVES —



INTENSITY CURVES

City
Engineers
Dept.

MANUKAU CITY COUNCIL

Standard Drwg.

N^o 65

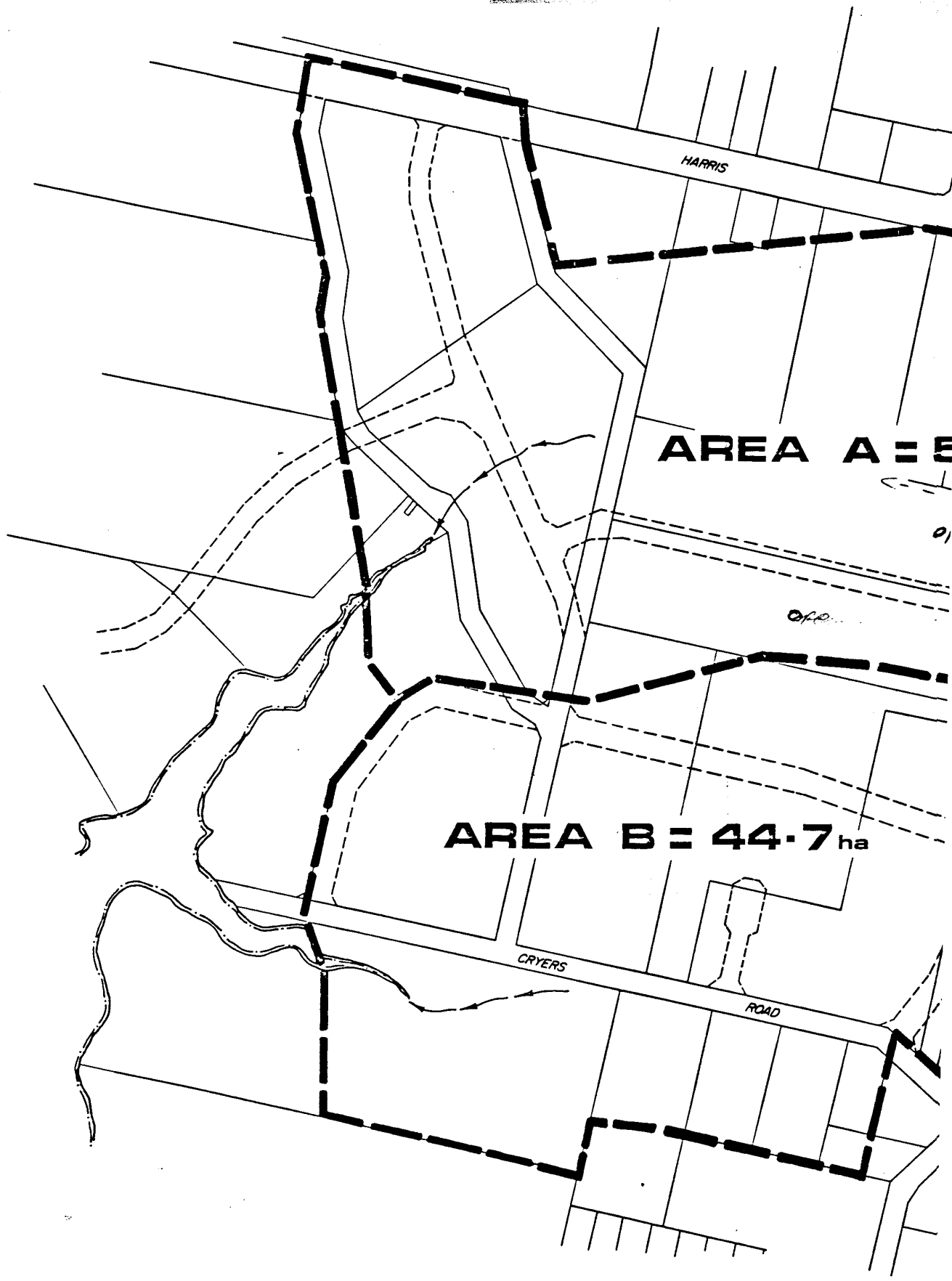
DURATION IN MINUTES

CATCHMENT	AREA ha	<i>t_c</i> min	<i>C</i>	<i>i</i>₅ mm/10s	<i>Q</i>₅ m³/s
A	56.8	16.3	0.8	0.190	8.63
B	44.7	15.7	0.8	0.193	6.90

CS

ng.

FIG. A



AREA A = 5

AREA B = 44.7 ha

HARRIS

CRYERS

ROAD

off...

= 56.8 ha



CITY OF
MANUKAU



CITY ENGINEERS DEPARTMENT

COMPREHENSIVE
WATER RIGHT

N° 3

Contract N° :

Approved: J.M.T. WEIR
Date : CEng. F.I.C.E.
CITY ENGINEER

Surveyed : date

Designed : J. WHITE

Drawn : S.F. MCKENZIE JALY '86

Checked : W.B. WILKIE "

Supervised : *[Signature]*

Amendments :

Field Book: E — Level Book: E —

Project N°: Job N° :

Scales 1 : 2500

Block: 7 Sheet: —

Drawing Sht / of /

PLAN N° 07/111