

COMPREHENSIVE DISCHARGE REGISTER

CWR NO.2

TITLE: Flat Bush.

WATER RIGHT/RESOURCE CONSENT No.781773

COMPREHENSIVE DISCHARGE CONSENT No.14/10/Br/1773

EXPIRY DATE: 22 Nov. 2013

CATCHMENT SIZE: 295 ha.

POINT OF DISCHARGE: Otara Stream, N42 398470

PEAK DISCHARGE: 7.3 m³/s (2% AEP).

PRIMARY DESIGN STANDARD: 20% AEP.

SECONDARY DESIGN STANDARD: 5% AEP.

FLOOR LEVEL RESTRICTION:

1m above 2% AEP, (0.3m with ARC approval), or refer to the Proposed District Plan (Section 9.9.1.2 (c)), **whichever is the more rigorous.**

OTHER CONDITIONS: -

COMPREHENSIVE DISCHARGE CONSENT LEVY: \$394 per ha.*

S.W. QUALITY AND CONSTRUCTION LEVY: \$7,100 per ha (approx.).*

*Refer to Financial Contributions Register for updated figures.

PROPOSED WORK:

Construction of two earthdams (for flood detention). Refer to Otara Stream Flat Bush Branch No.2 plan 6 attached.

COST:* \$1,560,000 (excluding GST), as at 1992.

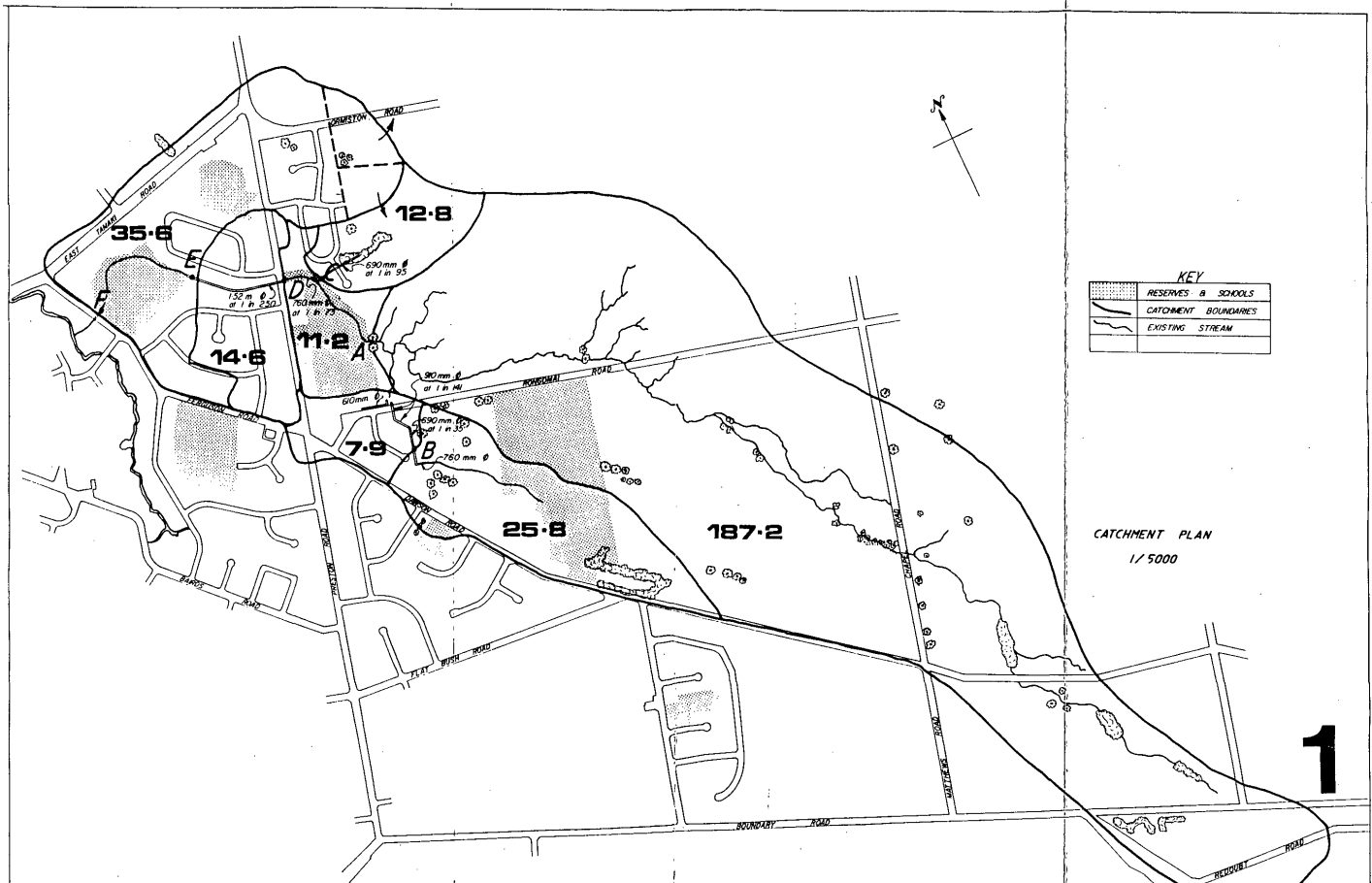
COMMENTS:

Stage 1 and 2 have been built. Details are as follows:

	Top of Dam RL	Spillway RL
Stage 1	17.30m	16.88m
Stage 2	13.16m	12.73m

Diagrams Included: Catchment Plan
Typical Cross-Sections and Plan of Works

*Refer to Financial Contributions Register for updated figures.



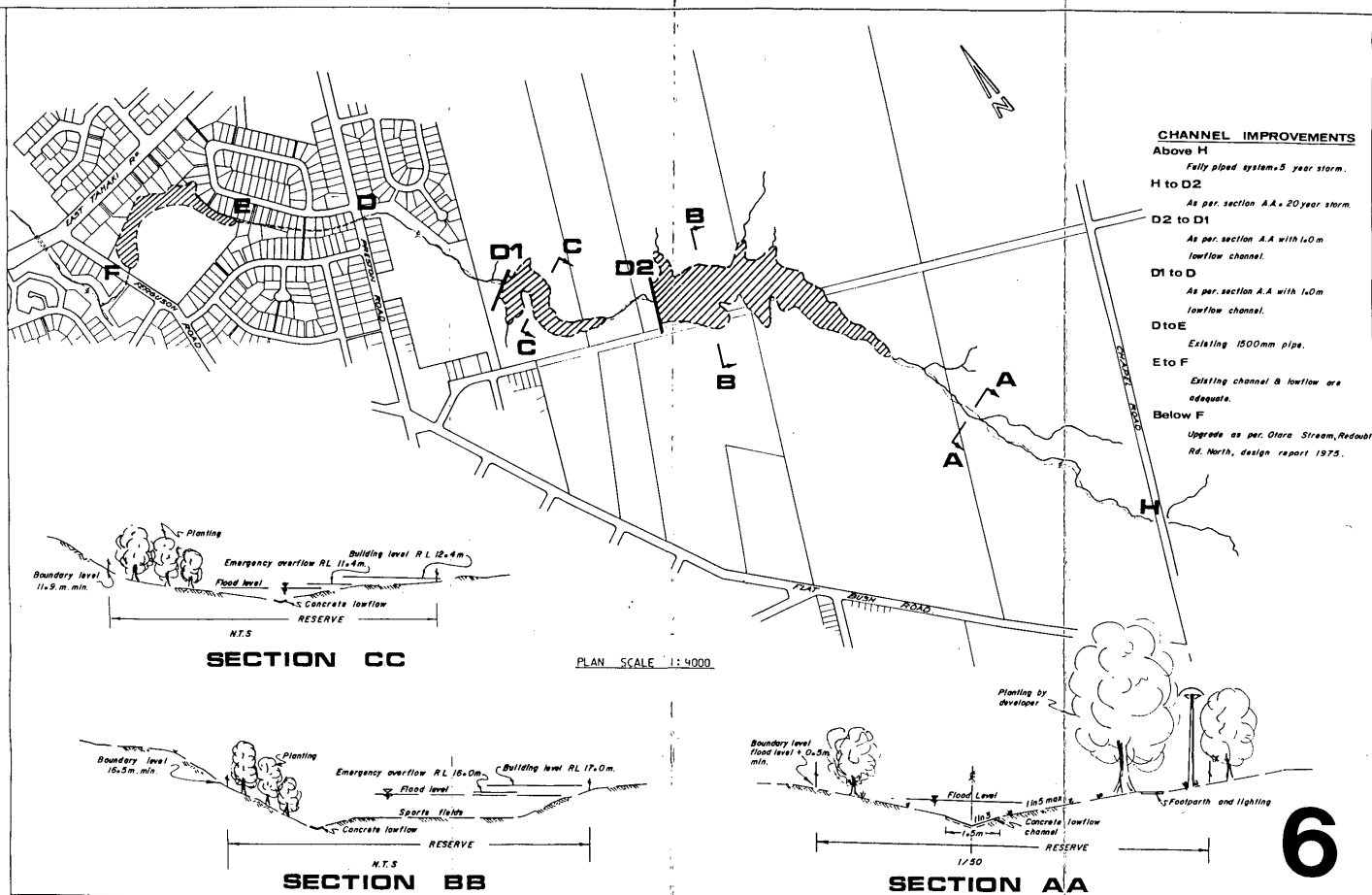
KEY

	RESERVES & SCHOOLS
	CATCHMENT BOUNDARIES
	EXISTING STREAM

CATCHMENT PLAN
1/5000

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Field Book	Surveyed <i>J White</i>	Date <i>12/77</i>	Supervisor <i>R.B. Clark</i>	Amplification	Date	CITY OF MANUKAU			Block <i>B</i>	Sheet	
Level Book	Designed <i>J White</i>	Date <i>12/77</i>	Approved <i>[Signature]</i>	<i>OTARA STREAM FLAT BUSH</i>		OTARA			J. M. T. WEIR	Plan No. <i>DB/87</i>	Sheet No. <i>1</i> of <i>6</i>
Project No.	Drawn <i>T. Mokoia</i>	Date <i>12/77</i>	Date <i>March '78</i>	<i>BRANCH NO 2</i>		BRANCH NO 2			City	Scale <i>1:5000</i>	Sheet
Job No.	Checked <i>J White</i>	Date <i>2/78</i>			Engineer



CHANNEL IMPROVEMENTS
Above H
 Fully piped system 5 year storm.
H to D2
 As per section A.A. 20 year storm.
D2 to D1
 As per section A.A. with 1.0m lowflow channel.
D1 to D
 As per section A.A. with 1.0m lowflow channel.
D1 to E
 Existing 1500mm pipe.
E to F
 Existing channel & lowflow are adequate.
Below F
 Upgrade as per Otara Stream, Redoubt Rd. North, design report 1975.

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Field Book	Surveyed	Date	Supervisor	Amendments	Date	CITY OF MANUKAU			Block	Sheet
Level Book	Designed	2/78	R. B. C. M.			OTARA STREAM FLAT BUSH			Plan No.	D. B. / 87
Project No.	Drawn	J. White	2/78	Approved		BRANCH NO 2			Sheet	E. of D. Sheets
Job No.	Checked	T. N.	2/78	Date	March '78			City Engineer	Scales	1:4000