

COMPREHENSIVE DISCHARGE REGISTER

CWR NO.14

TITLE: Papakura Stream.

WATER RIGHT/RESOURCE CONSENT No. N/A

COMPREHENSIVE DISCHARGE CONSENT No. N/A

EXPIRY DATE: -

CATCHMENT SIZE: 5600 ha.

POINT OF DISCHARGE: Pahurehure Inlet, NZMS 260 R11 794601

PEAK DISCHARGE: 140 m³/s

PRIMARY DESIGN STANDARD: Anticipate 20% AEP, but nothing stated in the study.

SECONDARY DESIGN STANDARD: 1% AEP.

FLOOR LEVEL RESTRICTION:

<i>Reach of Papakura Stream</i>	<i>Habitable, Commercial, Industrial Floors (mm) above 1% AEP flood level</i>	<i>All Other Floors (mm) above 10% AEP flood level</i>
Quarry to Porchester Road	500	500
Porchester Road to Great South Road	1000	500
Great South Road to Outlet	500	500

or refer to the Proposed District Plan (Section 9.9.1.2 (c)), **whichever is the more rigorous.**

OTHER CONDITIONS:

COMPREHENSIVE DISCHARGE CONSENT LEVY: N/A*

*Refer to Financial Contributions Register for updated figures.

S.W. QUALITY LEVY: N/A***PROPOSED WORK:**

<i>Works</i>	<i>Priority</i>	<i>Cost (\$) as at June 1993 excluding GST</i>
Provide additional pipe capacity from the Nield Road catchment area to the Papakura Stream	1	225,000
Stopbank flooded industrial floors in Holmes Road and the Dairy Factory	2	380,000
Remove old Railway Bridge abutments and improve channel approaches	3	50,000
Stopbank (low height, <1m) flooded habitable floors between Porchester and Mill Roads	4	240,000
Stopbank (low height, <1m) flooded habitable floors between Phillip and Hamlins Roads	5	100,000

Note: These works are required to deal with the current level of development. Changes to land use would require additional works which should be funded by developers.

TOTAL COST:* \$995,000 (approx.)(excluding GST) as at June 1993.

It was noted that prior to the implementation of flood protection works there needs to be a review to determine whether the existing level of flooding is tolerable.

COMMENTS:

The following is a summary of the recommendations on policy to be adopted for the Papakura Stream Catchment made in Section 5.0 of the Management Plan. Refer to this for full details of these recommendations.

- Management Plan based on District Plan development scenario of **5.2% impervious area**. At present there is approximately 3% impervious area. 5.2% impervious area is considered the limit of development as approved by the Auckland Regional Planning Scheme.
- The design flows are based on the current district plans. It is recommended that this be the level of development adopted for all planning and engineering decisions.
- It was noted that where there was a perception (as the result of flood protection works) that an area was "protected" from flooding more intense development may be stimulated. However, this would increase the damage resulting from an extreme flood or in the event of failure of the protection works. Therefore it is recommended that development in these areas be restricted to such activities as recreation, sports fields, or to retain high building floor level restrictions.
- It was recommended that Albert Park rainfall statistics be used for the design of all drainage works for all local developments in the Papakura Stream catchment.
- All principal roads in the Papakura Stream catchment be sited above the 1% AEP flood level without increasing the level of flooding downstream.
- Stormwater quality is an important issue and all treatment devices should be designed in accordance with ARC policies.

*Refer to Financial Contributions Register for updated figures.

- A programme of monitoring and maintaining the stream to limit and control the effects of erosion and siltation.
- A programme should be developed to limit and control the plant growth in all reaches of the stream in accordance with aesthetic and environmental (e.g. diversity of species) concerns.
- The public be made aware of flood sensitive areas.
- With respect to stream and floodplain infilling the Management Plan recommends:

(i) That all natural flooding upstream of Porchester Rd. be accepted as an appropriate means of limiting potential flooding of reaches downstream of Porchester Rd.

(ii) That infilling of the predicted floodplain upstream of Porchester Rd. be monitored to ensure that no more than 5% of the available storage **volume** per lot is filled by the earthworks.

(iii) That infilling of the predicted floodplain downstream of Porchester Rd. be permitted only if it is demonstrated that the stream conveyance is not reduced.

(iv) That no stream infilling be permitted.

Cost Sharing:

Part of the catchment lies within Papakura District Council. It is recommended that cost sharing of any works be carried out as follows:

- For stream bed and banks maintenance:

Each Territorial Local Authority be responsible in the areas of their respective control.

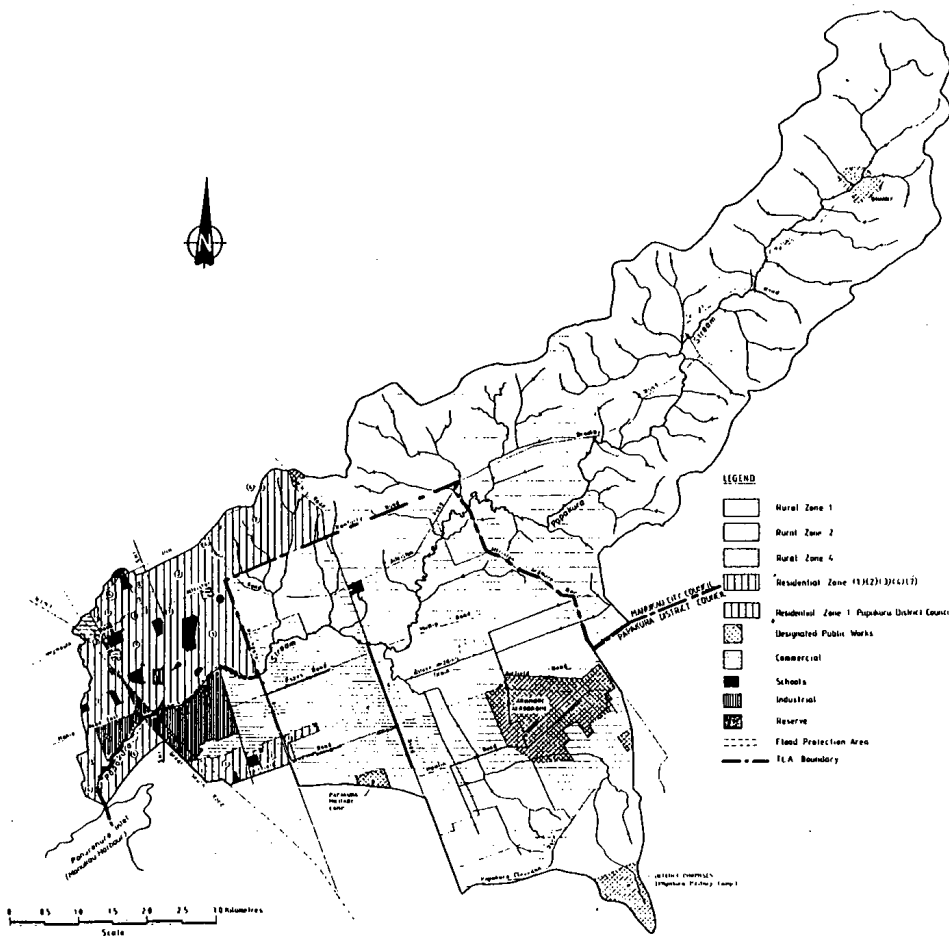
- For stream improvement and upgrading works:

Where the location of interest lies entirely within a single Local Authority then that authority is responsible for meeting all costs.

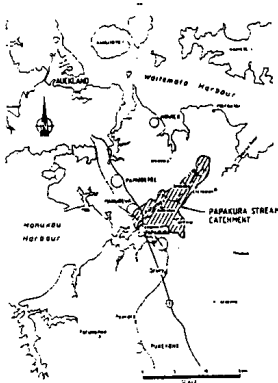
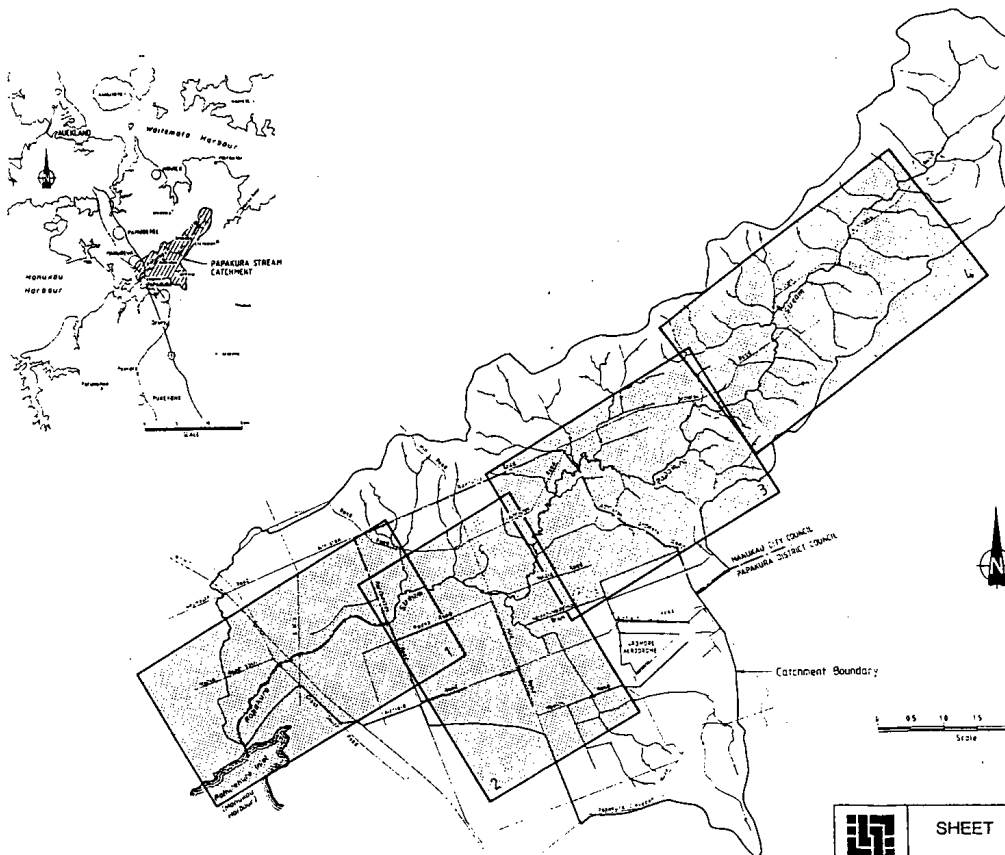
Where the location of interest straddles both local authorities, the contributing proportions shall be based on the contributing catchment area.

Where the location of interest is within the main stream between the outlet and the Porchester Rd. bridge (inclusive) the contributing proportions shall be fixed along this length and based on the respective contributing catchment area to the Porchester Rd. bridge. That is, 60% MCC, 40% Papakura District Council.

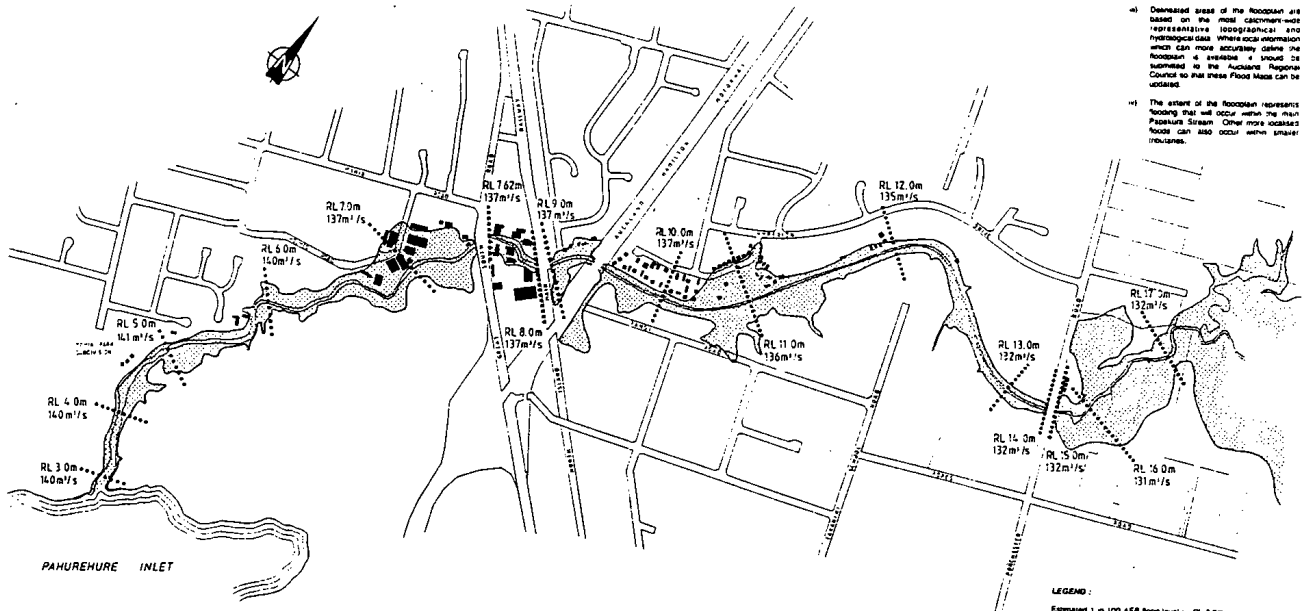
Diagrams Included: Local Authority Boundaries
 1% AEP Flood Hazard Maps



OPERATIVE DISTRICT
SCHEME ZONINGS
FIGURE 4.1



	SHEET LAYOUT PLAN
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NOTES:

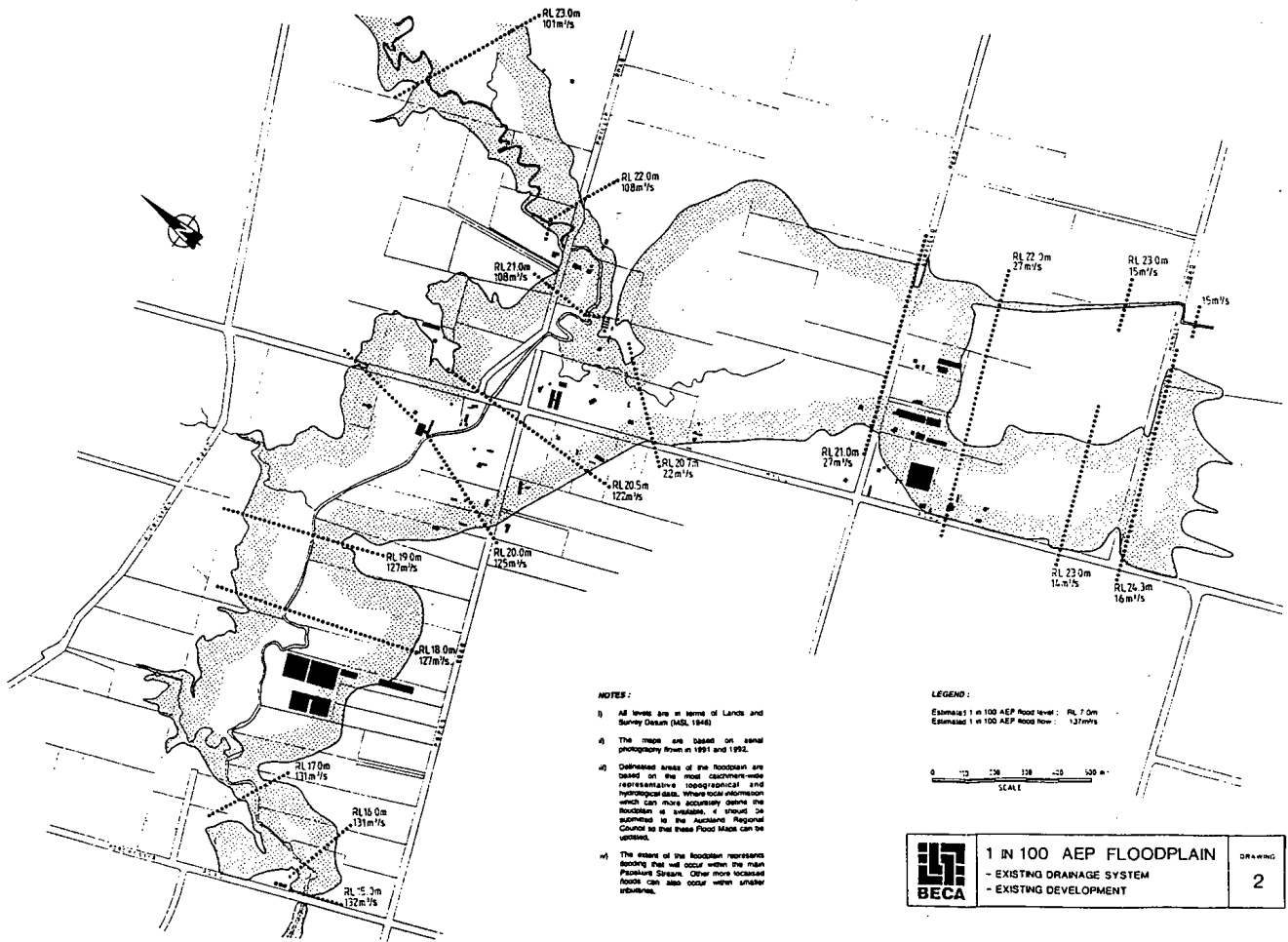
- All levels are in terms of Lands and Survey Datum (MSL 1946)
- The mass size based on sewer cross-sections shown in 1991 and 1992
- Discharge areas of the floodplain are based on the most conservative representation topographical and hydrological data. Where local experience which can more accurately define the floodplain is available it should be submitted to the Auckland Regional Council so that these Flood Mass can be updated.
- The extent of the floodplain represents flooding that will occur within the main Puketapu Stream. Other more isolated floods can also occur within smaller tributaries.

LEGEND:

Estimated 1 in 100 AEP Flood level: RL 7.0m
 Estimated 1 in 100 AEP Flood flow: 137m³/s

0 100 200 300 400 500 m
 SCALE

	1 IN 100 AEP FLOODPLAIN	DRAWING 1
	- EXISTING DRAINAGE SYSTEM	
	- EXISTING DEVELOPMENT	



NOTES:

1) All levels are in terms of Lands and Survey Datum (MSL 1984)

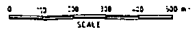
2) The maps are based on aerial photography from 1991 and 1992.

3) Depressed areas of the floodplain are based on the most county-wide representative topographical and hydrological data. Where local information which can more accurately define the floodplain is available, it should be submitted to the Auckland Regional Council so that these Flood Maps can be updated.

4) The extent of the floodplain represents flooding that will occur within the main Padders Stream. Other more localized floods can also occur in smaller tributaries.

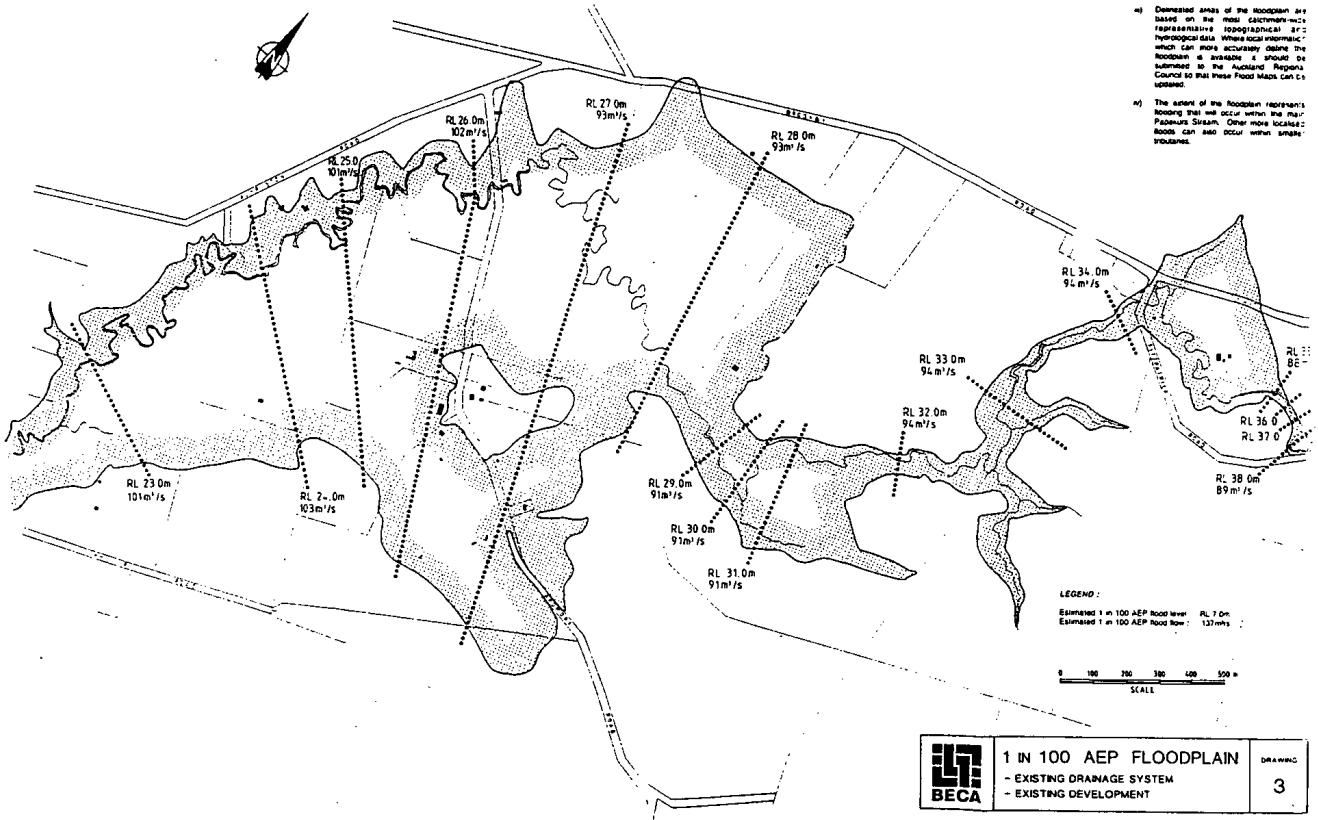
LEGEND:


Estimated 1 in 100 AEP flood level: RL 7.0m
 Estimated 1 in 100 AEP flood flow: 137m³/s

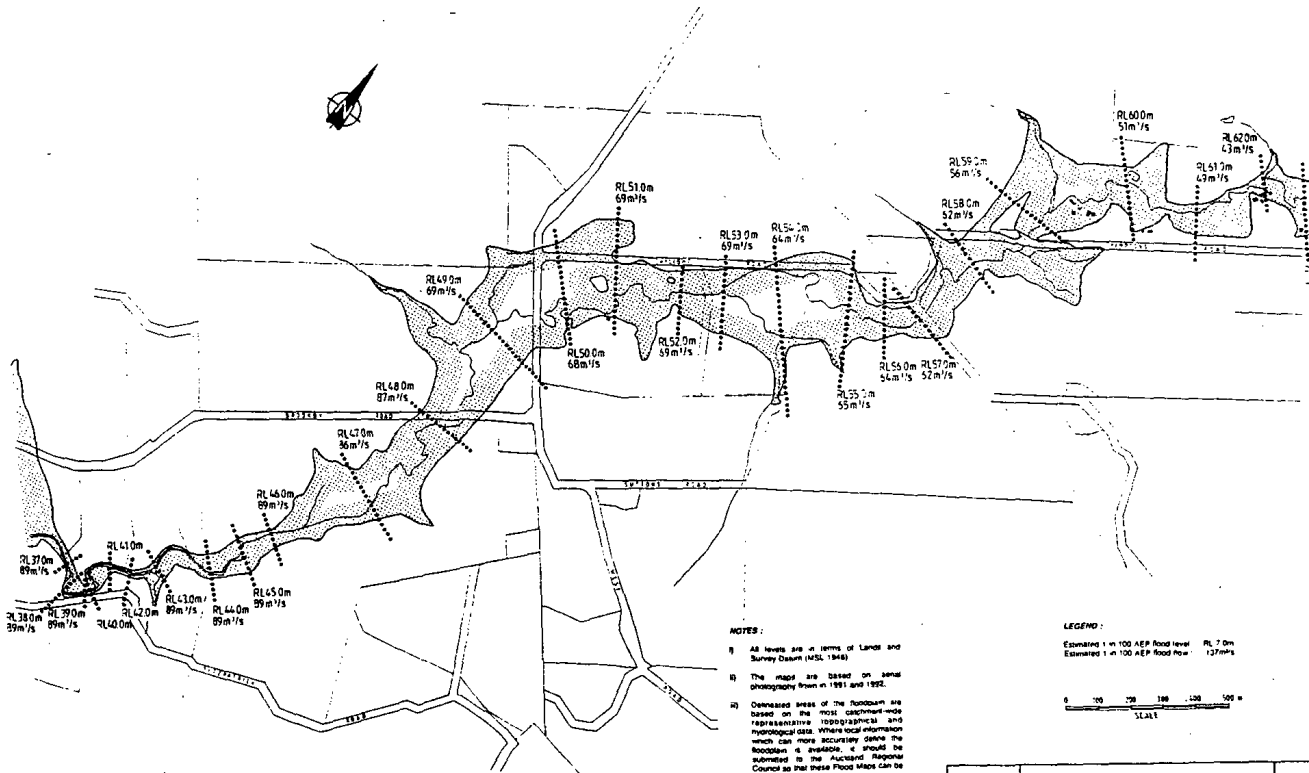


	1 IN 100 AEP FLOODPLAIN	DRAWING 2
	- EXISTING DRAINAGE SYSTEM	
	- EXISTING DEVELOPMENT	

- NOTES:**
- i) All levels are in terms of Land of Survey Datum (MSL 1946)
 - ii) The maps are based on aerial photography taken in 1981 and 1982
 - iii) Depressed areas of the floodplain are based on the most comprehensive representative topographical and hydrological data. Where local information which can more accurately define the floodplain is available it should be submitted to the Auckland Regional Council so that these Flood Maps can be updated.
 - iv) The extent of the floodplain represents flooding that will occur within the major Fallowers Stream. Other more localised floods can also occur where suitable.



	1 IN 100 AEP FLOODPLAIN	DRAWING 3
	- EXISTING DRAINAGE SYSTEM - EXISTING DEVELOPMENT	

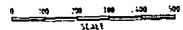


NOTES:

- 1) All levels are in terms of Lands and Survey Datum (MSL 1948)
- 2) The maps are based on aerial photography from 1981 and 1982.
- 3) Depressed areas of the floodplain are based on the most up-to-date representative topographical and hydrological data. Where local information which can more accurately define the floodplain is available, it should be submitted to the Auckland Regional Council so that these Flood Maps can be updated.
- 4) The extent of the floodplain represents flooding that will occur within the main Floodplain System. Other more isolated floods can also occur within smaller tributaries.

LEGEND:

Estimated 1 in 100 AEP Flood level - RL 7.0m
 Estimated 1 in 100 AEP Flood flow - 127m³/s



	1 IN 100 AEP FLOODPLAIN	DRAWING
	- EXISTING DRAINAGE SYSTEM	4
	- EXISTING DEVELOPMENT	