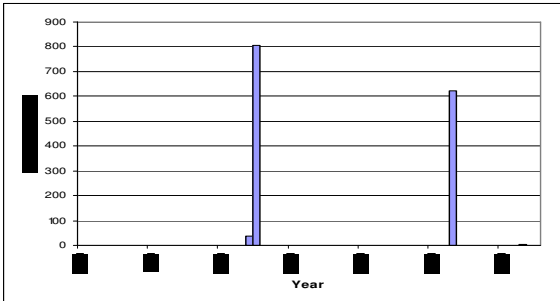
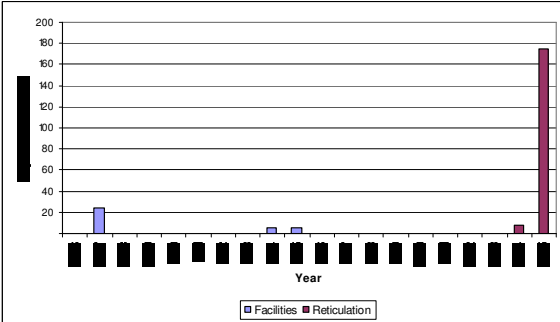


1.0 Selwyn Huts Sewage Scheme

1.1 Executive Summary

<p>Description</p> <p>Population Served</p> <p>Deprivation Index</p> <p>Physical Statistics</p> <p>Value (\$)</p> <p>Flows</p> <p>Treatment</p> <p>Disposal</p> <p>Infiltration</p> <p>Properties</p>	<p>Quantity</p> <p>Up to 300 (estimate)</p> <p>Unknown</p> <p>Reticulation Length (km) 4.58</p> <p>Manholes Not available</p> <p>Pump Stations 1</p> <p>Replacement Not available</p> <p>Depreciated Replacement Not available</p> <p>Annual average over last 5 years 4,606 m³/day – based on potable usage</p> <p>Average daily 14.8 m³/day</p> <p>Peak daily 34.5 m³/day</p> <p>Minimum daily - m³/day</p> <p>Septic tank followed by oxidation pond</p> <p>Border dyke irrigation</p> <p>High</p> <p>Unknown</p> <p>Unknown</p>
<p>Pipework Replacement Dates</p> 	<p>Operating and Maintenance Financial Requirements</p> <p>Not available</p>
<p>Renewals Financial Requirements</p> 	<p>New Capital Financial Requirements</p> <p>There are no capital requirements</p>
<p>The key issues for the Selwyn Huts wastewater services are:</p> <ul style="list-style-type: none"> • High levels of infiltration • Age and condition of the reticulation is uncertain 	

1.2 Introduction

1.2.1 Overview and History

Selwyn Huts is a settlement of 99 dwellings of which up to 12 can be permanently occupied. The settlement is located on Council reserve land and the day to day operation of the settlement is managed by the Selwyn Huts Management Committee. The dwellings are not rated for sewage by Council but charged via a levy set by the Management Committee. Operation and maintenance of the sewerage scheme is managed by the Management Committee but there is an overview by the Council.

The Selwyn Huts reticulated sewerage scheme was installed in the 1920s.

A new sewage treatment and land disposal scheme was designed by Royds Consulting Ltd (now MWH) and constructed in 1988. Prior to this treatment upgrade, the overflow from the septic tank was discharged into the Selwyn River.

Wastewater Map

To be provided in 2006

1.2.2 Knowledge of Assets

The following table details the confidence in information for facilities and reticulation.

Table 1-1: Data Confidence

	Reticulation				Pump Station				Treatment				Disposal			
	Age	Condition	Performance	Location	Age	Condition	Performance	Location	Age	Condition	Performance	Location	Age	Condition	Performance	Location
Highly Reliable																
Reliable																
Uncertain																
Very Uncertain																

1.2.3 Criticality

A preliminary assessment indicates that there are no critical assets within the scheme.

1.3 Treatment and Disposal

1.3.1 Overview

Wastewater discharges from the reticulation into a septic tank. The wastewater from the septic tank then discharges to a pumping chamber adjacent to the septic tank and is pumped through a 65mm diameter main to an oxidation pond located east of the township.

Treated wastewater is discharged into a pipeline linked to six irrigation control boxes which is then released onto 0.88 hectares of border dyked irrigation area.

In emergency situations or when the ground is too wet for border dyke irrigation, the treated wastewater is discharged into the Selwyn River.

1.3.2 Treatment and Disposal

The following table is an overview of the treatment and disposal components.

Component	Description	Year installed	Condition	Performance	Criticality
Septic Tank	Unknown	1925	4	4	Low
Oxidation pond	Two celled pond	1988	1	1	Medium
Border dyke irrigation	0.88 hectares irrigation area 6 border dykes	1988	1	1	Medium
Emergency discharge pipe	1 - 100m diameter main	1988	1	1	Medium

1 = Very Good (Industry Standard) 2 = Good 3 = Moderate 4 = Poor 5 = Very Poor

1.3.3 Issues

There are no issues for the treatment and disposal at the Selwyn Huts.

1.4 Pump Station

1.4.1 Overview

The wastewater from the septic tank is discharged to a pumping chamber adjacent to the septic tank and pumped through a 65mm diameter main to the oxidation pond.

1.4.2 Pump Station Details

The following table is an overview of the pump station.

Table 1-2: Schedule of Pump Stations

Pump Station	Description	Year installed	Capacity (m ³ /day)	Condition	Performance	Criticality
Selwyn Huts	Two submersible pumps (duty/standby)	1988	-	4	4	Medium
1 = Very Good (Industry Standard) 2 = Good 3 =Moderate 4 =Poor 5 =Very Poor						

1.4.3 Pump Station Issues

There are no issues for the pump station at the Selwyn Huts.

1.5 Supply Reticulation

1.5.1 Overview

A schedule of the pipe asset statistics is shown in Table 1-3 below.

Table 1-3: Schedule of Pipework Length (m)

Diameter mm	Earthenware	Unknown	Total
65	0	622	622
150	844	0	844
Total	844	622	1,466

1.5.2 Condition

The condition of the mains for the Selwyn Huts system is unknown but considered to be in poor condition. An assessment of the reticulation is required using CCTV.

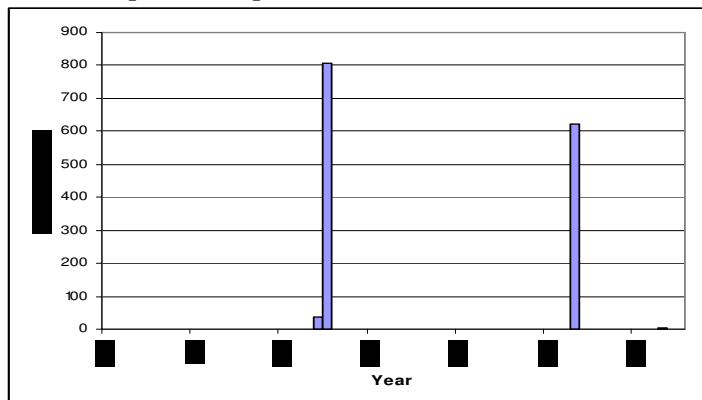
1.5.3 Performance

The performance of the reticulation is considered by Council engineers to be poor.

1.5.4 Pipe Network Replacement Date

Table 1-4 details the expected year of mains replacement.

Table 1-4 Pipework Replacement Dates



- Mains data has a low level of accuracy and replacement may be required prior to dates indicated

1.5.5 Infiltration

Infiltration is known to occur especially during high groundwater periods. The extent is unknown but considered to originate from faulty manholes and old pipes.

1.5.6 Property Inspections

A property inspection was carried out in early 2000 by a maintenance operator employed by the Management Committee. The results of this survey are unknown.

1.5.7 CCTV

Limited CCTV was carried out in 2003 but scoring (for condition) was not carried out.

1.6 Environmental Management

1.6.1 Rights to Take and Discharge Permits

Table 1-5: Schedule of Resource Consents

Consent Number	Description	Date Issued	Expiry Date	Quantities		Compliance (last 12 months)	Comments
				Instantaneous (Lts/sec)	Daily (m ³ /day)		
CRC991634	To discharge oxidation pond effluent onto land	22-Jun-00	20-Jun-20		650		
CRC991635	To discharge oxidation pond effluent into water at Days Road, Selwyn Huts	20-Jun-02	20-Jun-10		84		

1.6.2 Consenting Issues

Comments from Environment Canterbury

The following are comments from Environment Canterbury regarding compliance of effluent disposal resource consents.

“SDC generally has an acceptable level of compliance with the consents it holds to operate its community wastewater treatment plants. The Council usually provides monitoring information within the required timeframes and SDC staff are responsive to requests for further information or clarification. Information provided is in a useful and clear format.

1.7 Maintenance and Operating

1.7.1 Maintenance Contract

Maintenance of the treatment plant and reticulation is carried out by a maintenance operator employed by the Management Committee. SICON LTD under agreement with the Selwyn Huts Management Committee reviews the operation of the Treatment and Disposal on a monthly basis.

1.7.2 Maintenance Issues

There is no information transfer from the Management Committee to Asset Management regarding facilities and reticulation renewals or work history. The effect of minimal transfer of knowledge (from Management Committee contractor to Council) may significantly hinder the future operation and maintenance of the scheme when existing key personnel retire, leave or the maintenance contractor is replaced.

1.7.3 Operations and Maintenance manual

The Selwyn Huts sewerage system (including the treatment plant) Operation Manual has been assessed as moderate. Enhancement of the existing manual is required.

1.7.4 Future Maintenance Financial Programme

No maintenance financial programme is available.

1.8 Renewals Capital Expenditure

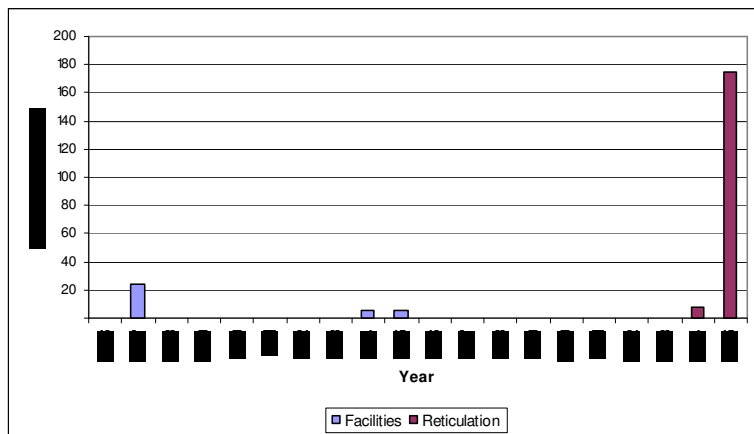
1.8.1 Overview

Table 1-6 details the renewals programme for the period 2006/07 to 2026/27.

Table 1-6: Future Renewals 2006/07 to 2026/27 (\$000,)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SEWERMAINS																			5	105
MANHOLES																			3	64
SEWER VALVES																				
SERVICE LINES																				6
ELECTRICAL SWITCHBOARD		18																		
PUMP UNIT 1									6											
PUMP UNIT 2										6										
BORDER DYKES		6																		
IRRIGATOR HEADS																				
TOTAL		24							6	6									8	174

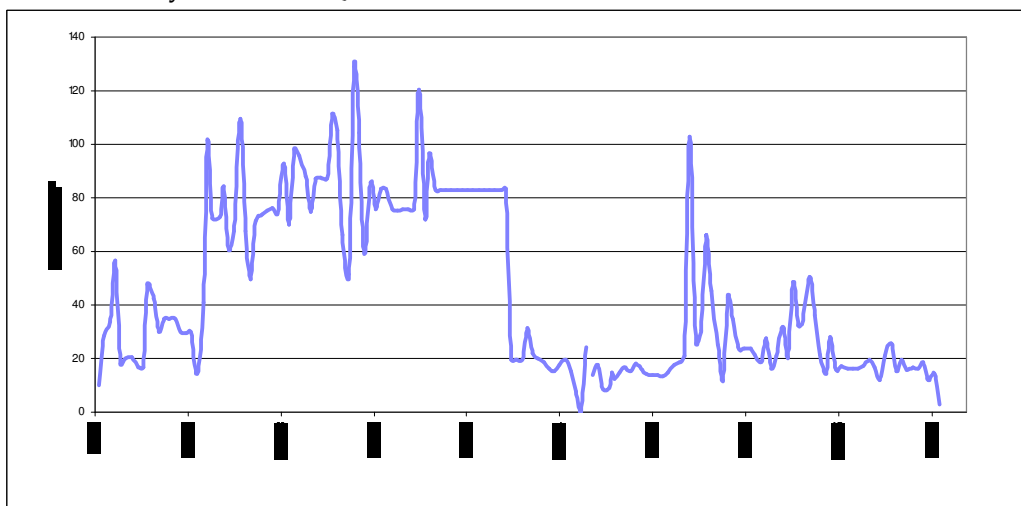
Table 1-7: Projected Renewals Expenditure



1.9 Daily Wastewater Quantities

The following table details the annual wastewater quantities for the Selwyn Huts sewerage scheme for the period July 2002 to July 2005. The reason for increased flows in 2002/03 is that it would appear that the integer portion of the reading has been omitted when reading the staff gauge.

Table 1-8: Daily Wastewater Quantities



1.10 Future Demand

1.10.1 Future Demand

No additional connections are available.

1.11 Disposal Programme

No disposal of assets is considered necessary over the next 10 years.