

## 25. OCEAN OUTFALL PIPE ROUTE: INFORMATION UPDATE

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The purpose of this report is to seek approval to finalise the pipe route for the Ocean Outfall discharge from the Christchurch Wastewater Treatment Plant.

*(Definitions: The following term is used throughout this report and is defined as follows:*

*Pipe stringing: Is the prefabrication of a long length of pipe by joining them together prior to towing this length to a final location. For example stringing on dry land in preparation for towing onto the ocean bed.)*

### OVERVIEW

The process of arriving at a position of recommending a definitive pipeline route has been long and complicated. It has included economic, environmental, social and cultural considerations and much input from the community and professional experts. To obtain a comprehensive grasp of all of the details will require the reader to study all of the attachments. It is expected, however, for most readers this will be rather too time consuming. For this reason this is a summary report which provides condensed information to give sufficient grasp of the significant issues to be able to confidently support the recommendations.

### BACKGROUND

The following lists the base reports, information and chronology of events that have lead to this report. (It does not include URS report No 1 on pipe routes, as this has been widely circulated previously)

1. 8 April 2003 Report to Sustainable Transport and Utilities Committee to reduce the number of pipe routes under investigation. The Council resolved to consult on Jellicoe Street only, refer Attachment 1 (separately circulated).
2. 8 July 2003 Report to Sustainable Transport and Utilities Committee progress on pipe route consultation relating to Jellicoe Street, refer Attachment 2 (separately circulated).
3. 21 July 2003 Meeting of Sustainable Transport and Utilities Committee to hear submissions regarding Jellicoe Street as the ocean outfall pipe route, and consideration of all submissions at that time circulated to all Councillors. Included background information and parks report. Refer Attachment 3 (separately circulated).
4. 24 July 2003 Report to the Council on outcomes of 21 July 2003 Sustainable Transport and Utilities Committee meeting regarding submissions on Jellicoe Street as the pipe route. Refer Attachment 4 (separately circulated). The Council resolved to carry out consultation regarding Beatty Street as a pipe route, undertake a check consultation with Jellicoe Street, and provide a report to Sustainable Transport and Utilities Committee in November 2003 comparing the consultation outcomes and providing any further technical and legal advice with the objective of finalising the pipe route.

Community consultation has been undertaken as resolved at the 8 April 2003 Sustainable Transport and Utilities Committee meeting and 24 July 2003 Council meeting and is included in the chronology of all consultation to date. Refer Attachment 5 (separately circulated).

Further information is also now available and includes:

- (a) Ocean Outfall Pipeline Legal Opinion. This was circulated to all Councillors on 10 September 2003. Refer Attachment 6 (separately circulated).
- (b) A discussion prepared by the Director of Finance on the Council's ability to provide a rates rebate to property owners as tangible acknowledgement of extreme disruption due to construction activity. Refer Attachment 7 (separately circulated).

- (c) 'Review of Outfall Construction Techniques Christchurch City Council Ocean Outfall' report prepared by OCEL Consultants NZ Ltd, (executive summary is Attachment 8 (separately circulated)).
- (d) Assessment of Jellicoe and Beatty Streets by City Streets Unit. Refer Attachment 9 (separately circulated).
- (e) A summary of all submissions received regarding the pipe route has been prepared. Refer Attachment 10 (separately circulated). Submissions prior to 21 July 2003 were circulated to all Councillors for consideration at the 21 July 2003 meeting. Submissions on pipe routes since the Sustainable Transport and Utilities Committee meeting of 21 July 2003 were circulated to all Councillors prior to the 14 October 2003 meeting of Sustainable Transport and Utilities Committee when further verbal submissions regarding the pipe route were heard. The minutes of the verbal submissions heard on 21 July and 14 October 2003 are also included in this attachment.
- (f) Updated parks values report providing new assessment of impacts in light of recommendation not to use Sports Fields in Jellicoe Street for Pipe stringing (ie prefabrication of lengths of pipe to tow to the ocean). Refer Attachment 11 (separately circulated).
- (g) Discussion of technical, environmental, and social issues as it relates to the choice of pipe route between Jellicoe Street and Beatty Street. Refer Attachment 12 (separately circulated).

A report is still pending regarding archaeological and cultural sites of significance to Maori. The report is being prepared by Dr Te Maire Tau (historian of Maori matters) and although it was commissioned several months ago, is still pending. Dr Tau advises that the report will conclude that although Maori populated the area in earlier times, and Maori have a strong association with the area, there are no sites known to be of significance. The Historic Places Trust has listed the land on the eastern edge of the estuary between the Jetty and Caspian Street as an area known to have been occupied by Maori. Therefore the Jellicoe Street route will require an application to the Historic Places Trust for an authority to pass through it. However, note that discussions with the Historic Places Trust indicates that it is extremely unlikely this would be a construction impediment. The application for authority is not publicly notified but may be appealed within 15 days of the decision by any affected party or the applicant.

Items 1-4 above provide the main background information which has resulted in the Council identifying Jellicoe Street in April 2003 as the preferred route for the Ocean Outfall pipeline, and in July 2003 resolving to undertake consultation regarding Beatty Street as a pipe route.

It is not proposed to summarise that information in the report as it is included as attachments and is not new information. Where new information has been received which is significant and changes technical, social or environmental aspects of the choice of route, that will be discussed in more detail.

Items (a) to (g) above represent new information that has been received since the earlier decision was made to identify Jellicoe Street as the preferred route. The relevance of each item is summarised in brief below.

(a) **LEGAL OPINION - ATTACHMENT 6**

**General**

The significant issues the legal opinion has highlighted regarding the pipe route are noted below. (It should also be noted that this legal opinion also discusses other issues as well.)

1. The pipeline can be placed underground across reserves, between the oxidation ponds and the sea, subject to consent from the Department of Conservation under Section 48 of the Reserves Act. Public notification will probably not be required. The need for notification will be determined through the consent application process. Notification is not considered likely to be necessary.
2. The pipeline can be placed underground in roads.
3. The pipeline can be strung on roads subject to vehicular access being preserved, but see later, this is not practical as our technical advice is it would require street evacuation.

4. A reserve can be used for pipe stringing and construction yard activities provided the Council obtains a consent from the Department of Conservation under Section 48 as above. Public notification of that application will be required but, see later, pipe stringing is not practical as our technical advice is that it would require street evacuation.
5. The Council should clarify its 24 April 2003 resolution providing indemnity to property owners. (See later section headed 'Indemnity to Property Owners').
6. The Council can give assurance of a generalised nature such as reinstating a street to a 'Living Street' standard. (See later section headed 'Tangible Acknowledgment to Residents').

### **Construction Method in Street**

The legal opinion stated in 1 above indicates it is a relatively straight forward process to obtain a resource consent to install a pipeline through the reserve. The issue becomes more difficult if the reserve is to be used for construction site activities or pipe stringing. These activities would require public notification. Consultation with the community thus far indicates there would be strong resistance to a proposal such as this. The review of construction techniques, (Attachment 8), has also identified the reserves areas as being insufficient in size to carry out a prefabrication operation effectively.

### **Tangible Acknowledgement to Residents**

Disruption caused by construction of the pipeline by conventional dig and lay techniques within the reserve and street will be similar to any other major construction project being undertaken at various times throughout the City. It is therefore considered appropriate to give tangible acknowledgement for this disruption by reinstatement of the street as a living street and the undergrounding of overhead services.

### **Indemnity for Property Owners**

In April 2003 the Council resolved *"that the Council provide a clear indemnity to the property owners on the street chosen, against damage resulting from the pipeline construction process"*. The legal opinion has advised that the Council should clarify what is meant by that resolution. To provide that clarification it is proposed that the Council's statement for the damage resulting from the construction of the pipeline be as follows.

*"The Council will pay for or restore any damage to private property which it is liable for in accordance with usual and existing legal obligations as a result of construction work on the project and will contract with its contractors to provide the usual contractor's cover for any damage they may cause as a result of their activities."*

(Note: By way of example that this damage might include at one end of the spectrum, subsidence of a house as a result of contractors dewatering activities, but would be unlikely to include at the other end, nuisance from dust.)

(b) **DIRECTOR OF FINANCE MEMO: RATE REMISSION OPTIONS FOR PROPERTIES AFFECTED BY SEWER OUTFALL PROJECT - ATTACHMENT 7**

This memo outlines the options available for providing tangible acknowledgement for disruption caused by major works beyond what would normally be expected during major utility and road construction projects. The document concludes there are significant cost risks in creating a precedence, however, if the Council decided a scheme was needed to make such payments, this is best carried out as a grant under a possible policy suggested within Attachment 7 which clearly allows the payments to the public (residents in this case) relating to major schemes in line with suggested rules outlined within the memo.

As noted under section (c) below, pipe stringing is now not considered a practical option. Thus the construction activity within the road will be no more than what will normally be experienced during a major utility construction project. It is therefore no longer appropriate to consider tangible acknowledgement for those within the street chosen for the pipe route beyond reconstruction of the street as a 'Living Street' including undergrounding of overhead services.

(c) **REVIEW OF OUTFALL CONSTRUCTION TECHNIQUES - ATTACHMENT 8**

The following are significant points of note derived from this report:

**Construction Issues in Street**

- The report discusses issues of pipe stringing in the reserve at the end of Jellicoe Street. This is no longer relevant as pipe stringing is not now considered an option in any reserve due to consenting difficulties and community opposition.
- Heavy equipment would need to operate along the full length of the street 24 hours per day while the pipe string is prepared for launching to the ocean.
- The scale and duration of this activity would mean that those who live in the street would need to be relocated to alternative accommodation for that time. This is not considered viable and for this reason **pipe stringing is no longer considered to be a practical option.**
- The alternative construction method is a conventional dig and lay within the street in conjunction with installation of the ocean portion of the pipe within the ocean.

**Construction Issues in Ocean**

Now that pipe stringing is not recommended, the remaining construction methods available for the portion of the pipeline within the ocean are suitable for any of the pipe routes. Two methods have proven records for ocean construction, one is the dig and lay method off a (walking) ocean platform, the other a float and sink operation where the pipe is prefabricated in a remote location and floated on site, pulled over a barge where weight bracelets are attached and the pipe lowered to the sea bed.

**Pipe Jacking Construction**

It is possible that pipe jacking technology could be used within the street or ocean bed. However, for this project, the large pipe lengths and diameters involved are likely to be at the extreme limits of the technology. This (somewhat remote) option does not affect the pipe route decision and may be offered by contractors through the pipeline construction tendering process later in the project.

(d) **CITY STREETS UNIT SUMMARY OF JELlicoe STREET AND BEATTY STREET - ATTACHMENT 9**

This summary noted minor differences in the age of assets within Jellicoe Street and Beatty Street resulting in a \$9,000 greater depreciated value of assets (kerb and channels, paths, berms, carriageway etc) in Jellicoe Street than Beatty Street. Note here that this is not a significant sum in the scale of the project. The summary also identified traffic issues on the wider community being significantly greater for Beatty Street than Jellicoe Street. The greatest impact with respect to streets issues is the inconvenience to traffic accessing the west end of Beatty Street where the community hall, South New Brighton School, play centre, bowling club, and jetty are located.

The City Streets Unit summary did not note the relatively recent redevelopment of the car park area in Beatty Street as this is a Parks Unit asset, however, note was made that the area was used by buses servicing the school, and that reconstruction using the 'living street' process would benefit either street.

(e) **SUMMARY OF ALL SUBMISSIONS RECEIVED REGARDING PIPE ROUTE - ATTACHMENT 10**

The report prepared by Gay Pavelka summarises the submissions received regarding the pipe route. Also included in this attachment are the minutes of the verbal submissions to the Sustainable Transport and Utilities Committee of 21 July 2003 and 14 October 2003. Relevant issues related to the communities concerns regarding the pipe route are discussed in Attachment 12, 'Technical, Environmental and Social Issues Related to Choice of Pipe Route'. **Arising out of the large number of opinions expressed was an overriding and very clear issue of concern, namely that of the safety of children and people using Beatty Street for access to Beatty Street activities.**

(f) **UPDATED PARKS VALUES REPORT PROVIDING NEW ASSESSMENT OF IMPACTS IN LIGHT OF RECOMMENDATION NOT TO USE SPORTS FIELDS IN JELlicOE STREET FOR PIPE STRINGING - ATTACHMENT 11**

As it is not recommended pipe stringing be undertaken within the sports fields at Jellicoe Street, or on the beach, or within any residential street, the effects on parks values has now changed. This is because the sports fields will remain available during the period of construction and the construction method will now have a similar effect on dunes whichever route is used. The original report is included within Attachment 3 (meeting of Sustainable Transport and Utilities Committee 21 July 2003). The update addresses only those issues affected by the recommendation to not undertake pipe stringing, being effects on dunes, and recreation in the reserve. The update now concludes that with respect to recreation values, the Jellicoe Street route will have the least impact. Construction would have the least impact on Dunes at Bridge Street due to their existing modified state, and that the effects on dunes at Jellicoe Street and Beatty Street would be similar.

(g) **DISCUSSION OF TECHNICAL, ENVIRONMENTAL AND SOCIAL ISSUES RELATED TO CHOICE OF PIPE ROUTES BETWEEN JELlicOE STREET AND BEATTY STREET - ATTACHMENT 11**

Part of the Summary and conclusion from this document is shown below:

**The analysis and consultation identified the main difference between the two routes as follows:**

	<b>Disadvantages of using Beatty Street</b>	<b>Disadvantages of using Jellicoe Street</b>
Capital Cost		\$0.6M more than Beatty Street
Archaeological Sites		Marginal greater chance of discovery or damage to any site
Estuary Edge Ecology	Ecology of greater significance at Beatty Street	
Damage to Private Property	More and higher retaining structures in Beatty Street	
Disruption to Community	Significantly more groups using Beatty Street on regular basis including school, play centre, community centre, and bowling club	
Removal of Trees	Strong views expressed for Beatty Street	Strong views expressed for Jellicoe Street
Safety of Children	Many more children are active at the west end of Beatty Street on a daily basis, representing a significant risk in proximity to a construction site	
Dunes		Marginally wider in Jellicoe Street
Business	There is a greater risk to business in Beatty Street due to the School, and Play Centre being considered in this category.	

**SUMMARY AND CONCLUSION**

This report together with its attachments can be broadly summarised as follows:

- (a) Pipe stringing is not viable due to issues with use of the reserve and the need to evacuate the street. Dig and lay is the most probable construction method on land.
- (b) In the ocean, dig and lay or float and sink are viable, and the tendering process will determine which prevails.

- (c) The issue of indemnity to property owners is clarified as follows:

*"The Council will pay for or restore any damage to private property for which it is liable in accordance with usual and existing legal obligations as a result of construction work on the project and will contract with its contractors to provide the usual contractor's cover for any damage they may cause as a result of their activities."*

- (d) The tangible benefit offered to residents in the pipe route street should be reconstruction of the street as a 'Living Street' and include the undergrounding of overhead services
- (e) Out of six streets offering viable pipe routes, Bridge, Beatty and Jellicoe Streets are least cost by a margin of \$4m to \$6m over the other three streets to the south.
- (f) Bridge Street is not a viable option compared with Beatty and Jellicoe Streets due to significantly more houses, significant business premises, social amenities (kindergarten, elderly persons housing, church), it is a main traffic corridor, surf club issues (note pipe stringing is no longer a practical option so Bridge Street therefore loses the main reason for it being considered in the first place as a pipe route ).
- (g) Beatty Street and Jellicoe Street are both technically viable options.
- (h) Beatty Street has very significant social disadvantages (due to the school and playcentre etc), over Jellicoe Street.
- (i) Beatty Street has a more sensitive estuary edge ecology than Jellicoe Street.
- (j) Jellicoe Street is approximately \$0.6m more costly than Beatty Street. Although a significant amount, it is small in terms of a \$45m pipeline project, and is considered a worthwhile cost to significantly reduce the risk of injury to children and diminish the adverse effects of construction in the proximity to the school, community centre, and play centre, and a more sensitive estuary ecology.
- (k) Taking all of the cost, environmental, social and consultation information into account (and particularly construction safety and risk to children) Jellicoe Street is considered the best pipe route.

#### THE WAY FORWARD

Items	Timeframe
• The Council resolves on Jellicoe Street as pipeline route.	11 December 2003
• Communicate the decision to the residents and key stake holders in Jellicoe Street	12 December 2003
• Communicate the decision to the remaining South New Brighton community	13 December 2003
• Continue consultation regarding water quality and beach standards	March 2004
• Complete CWTP pond upgrade and confirm water quality outcomes resulting from upgrade	August 2004
• Council makes decision on water quality and beach standards including methods for achieving these standards (such as pipeline length within ocean and disinfection)	August 2004
• Council decides pipeline contracting options (ie form of tender such as design then tender, design and build, partnering, and alliance)	August 2004
• Resource consent application for ocean outfall lodged with Environment Canterbury	December 2004
• Resource consent processed, public notification and submissions, hearings, consent decision, possible appeals etc	2005 to mid 2007
• Pipeline contract documentation prepared, tenders called, tenders evaluated, and awarded	mid 2007 to early 2008
• Pipeline construction	Early 2008 to late 2009
• Jellicoe Street enhancements	2009

**Staff****Recommendation:**

1. The Council not pursue the option of pipe stringing (prefabrication) of the pipeline within the reserve at the end of Jellicoe Street, on the beach, or undertake pipe stringing within any residential street.
2. A rates rebate not be provided to the owners of properties in the street selected for the pipe route as pipe stringing is no longer proposed along with the extreme street disruption this would cause.
3. That where the street selected for the pipe line requires reconstruction, the construction be carried out in accordance with the 'Living Street' process and include undergrounding of overhead services. The process of completing redevelopment work to be undertaken in the shortest practicable time frame.
4. The resolution of 24 April 2003 relating to an indemnity to property owners should be clarified as follows:

*"The Council will pay for or restore any damage to private property for which it is liable in accordance with usual and existing legal obligations as a result of construction work on the project; and will contract with its contractors to provide the usual contractor's cover for any damage they may cause as a result of their activities."*
5. That Jellicoe Street be selected as the pipe route for the ocean outfall pipeline in consideration of the additional social and environmental disadvantages of using Beatty Street as the pipe route.
6. The pipe alignment through the domain to Jellicoe Street from the treatment plant be the northern route identified through the picnic area, to minimise the number of trees that require removal.
7. A plan to develop the domain in the vicinity of the pipe route alignment be undertaken by the Parks and Waterways Unit in conjunction with community consultation, and that any associated improvements be undertaken at the completion of the construction of the pipeline.
8. That the choice of street be communicated, firstly to the residents in that street, followed by the wider community, and that community liaison is established to allow the exchange of information between the street residents and the Council so that concerns can be addressed and resolved in a timely manner as the project progresses.
9. That the City Water and Waste Unit continues to report milestone events to the Council as the project proceeds. Note the next milestone report is expected to concern water quality and beach standard issues. Further reports will be provided on suitable contracting methods for the pipe line, and final construction method will be reported as part of acceptance of tenders.

**Chairman's****Recommendation:**

That the above recommendation be adopted.