

## 15. TENDER FOR PUMP STATION 11 TIE-IN WORKS

|                                     |                                  |
|-------------------------------------|----------------------------------|
| <b>General Manager responsible:</b> | General Manager City Environment |
| <b>Officer responsible:</b>         | City Water & Waste Manager       |
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### PURPOSE OF REPORT

1. The purpose of this report is to seek additional funding for the Pump Station 11 Tie-in project, and obtain approval to let the Pump Station 11 Tie-in construction contract to Delta Utility Services Ltd.

### EXECUTIVE SUMMARY

2. The Pump Station 11 Tie-in project involves the construction of significant and complex pipe-work in Bass and Randolph Streets, to connect the new Pump Station 11 (currently under construction at the corner of Bass and Randolph Streets, Linwood) to the new Pressure Main 11 as well as the existing sewer reticulation in the area. The work will also include construction of the first section of the Western Interceptor pipeline. Construction of the Pump Station 11 Tie-in works is planned to commence in January 2006, and be completed in late 2006.
3. The Pump Station 11 Tie-in project is a critical part of the Major Sewer Upgrade programme, as it will allow Pump Station 11 to be commissioned and will link Pump Station 11 and all the upstream upgrades to the Christchurch Wastewater Treatment Plant (via Pressure Main 11). Without the Pump Station 11 Tie-in, the new Pump Station 11, Pressure Main 11 and upstream upgrades (total value \$17.6 million) would not be able to be utilised.
4. The current total budget for this project is \$700,000. Since the budget estimate was carried out detailed design has been carried out, resulting in the need to increase the scope of the project, and the construction work has been tendered. Two tenders have been received, with tender prices of \$2.12 million and \$2.55 million. The lower tender from Delta Utility Services Ltd is recommended, giving a total project estimate of \$2.54 million. The initial estimate underestimated the complexity of the tie-in works (multiple lines being connected and disconnected including live sewers), the depth of the excavations, and the associated high ground water and poor ground conditions. These factors (especially risk and ground conditions) have significantly increased the contract sum.
5. There is a \$1.84 million budget shortfall for this project. It is proposed that \$150,000 of this will be made up by transferring funds from another Major Sewer Upgrade project, Fisher Avenue and Tennyson Street Overflow Diversions, which has been underspent. The remaining \$1.69 million of additional capital required is requested over the 2005/06 and 2006/07 financial years to allow the project to proceed.

### FINANCIAL AND LEGAL CONSIDERATIONS

6. Tenders for this project were publicly advertised and an open tender process was conducted. Despite a number of contractors being encouraged to tender only two tenders were received. The two tender prices, both including a \$60,000 construction contingency, are shown below:

| <b>Contractor</b>          | <b>Tender Price</b> |
|----------------------------|---------------------|
| Delta Utility Services Ltd | \$2,119,133.64      |
| March Construction Ltd     | \$2,551,342.00      |

7. The tenders were evaluated by a team of City Solutions and City Water and Waste staff, using a combination of price and non-price attributes. Delta Utility Services Ltd (Delta) was the higher scoring tenderer. Delta has successfully completed a number of projects for the Council and is currently working on construction of the Belfast Pressure Main and the Pump Station 21 Upgrade.

8. The revised total cost estimate for the Pump Station 11 Tie-in project, based on Delta's tender, is shown below. It is noted that Delta's tender price has been adjusted in the table below, due to the Council's request for an alternative supplier of pre-cast concrete manholes.

| Description                              | 04/05           | 05/06              | 06/07              | Total              |
|--|-----------------|--------------------|--------------------|--------------------|
| Construction (incl \$60,000 contingency) | \$0             | \$1,114,005        | \$1,014,700        | \$2,128,705*       |
| City Solutions fees estimate             | \$17,730        | \$73,270           | \$9,000            | \$100,000          |
| Supervision fees estimate                | \$0             | \$50,000           | \$30,000           | \$80,000           |
| City Water & Waste staff time estimate   | \$450           | \$7,165            | \$4,000            | \$11,615           |
| Miscellaneous costs estimate             | \$180           | \$7,200            | \$7,300            | \$14,680           |
| Project contingency                      | \$0             | \$120,000          | \$80,000           | \$200,000          |
| <b>Total Project Cost Estimate</b>       | <b>\$18,360</b> | <b>\$1,371,640</b> | <b>\$1,145,000</b> | <b>\$2,535,000</b> |

\* Adjusted tender price for alternative supplier of pre-cast concrete manholes.

9. The current total budget for this project is \$700,000, of which \$18,360 was spent last financial year (2004/05) and \$681,640 is allocated to this financial year (2005/06). Additional budget is sought to make up the total project budget, as shown below:

| Description  | 04/05           | 05/06              | 06/07              | Total              |
|--|-----------------|--------------------|--------------------|--------------------|
| Existing Pump Station 11 Tie-in budget   | \$18,360        | \$681,640          | \$0                | \$700,000          |
| Transfer of surplus budget from Fisher Ave and Tennyson St Overflow Diversions project | \$0             | \$150,000          | \$0                | \$150,000          |
| Additional budget sought   | \$0             | \$540,000          | \$1,145,000        | \$1,685,000        |
| <b>Total Project Budget</b>  | <b>\$18,360</b> | <b>\$1,371,640</b> | <b>\$1,145,000</b> | <b>\$2,535,000</b> |

10. As shown above, provided the Council is agreeable to transfer \$150,000 from the Fisher Ave and Tennyson St Overflows Diversion project, \$540,000 additional budget is sought in this financial year (2005/06) and \$1,145,000 in next financial year (2006/07) to allow the Pump Station 11 Tie-in project to proceed. The \$1,145,000 for 2006/07 would need to be included in the 2006/16 LTCCP.

#### STAFF RECOMMENDATIONS

It is recommended that the Council:

- (a) Approve the transfer of \$150,000 surplus budget from the Fisher Ave and Tennyson St Overflow Diversions project to the Pump Station 11 Tie-in project.
- (b) Approve the increase in capital funding for the project of \$1,685,000 (that is \$540,000 in the 2005/06 financial year, and \$1,145,000 in the 06/07 financial year).
- (c) Award the construction contract for the Pump Station 11 Tie-in project to Delta Utility Services Ltd for a sum of \$2,128,705 + GST.

## BACKGROUND ON THE PUMP STATION 11 TIE-IN PROJECT DESIGN AND TENDERING

11. The Major Sewer Upgrade programme is a 10 year wastewater upgrade programme, currently estimated at approximately \$85 million, to reduce wet weather wastewater overflows into the city's rivers and allow for growth. One of the key drivers of the Major Sewer Upgrade is the Council's sewer overflow consent from Environment Canterbury (ECan). The Council's sewer overflow consent requires that a number of works are carried out in order to reduce the likelihood of sewer overflows into the Heathcote and Avon Rivers to a 2 year average recurrence interval. The Pump Station 11 Tie-in is a critical part of the Major Sewer Upgrade programme, as it allows Pump Station 11 and the other upstream upgrade projects required by the Council's overflow consent from ECan to be commissioned.
12. This project will connect the new Pump Station 11 (currently under construction on the corner of Bass and Randolph Streets) to Pressure Main 11 (from Pump Station 11 to the Christchurch Wastewater Treatment Plant) and other local reticulation, allowing Pump Station 11 to be commissioned. Commissioning Pump Station 11 will allow the upstream Major Sewer Upgrade projects already completed and currently under construction to be fully commissioned, reducing wet weather overflows into the Heathcote River and fulfilling the conditions of Council's overflow consent from ECan. These upstream upgrades include the Pump Stations 20 and 21 Upgrades, the new Pressure Mains 20 and 22, and the Fisher Avenue and Tennyson Street Overflow Diversions.
13. It will also involve the construction of the first section of the Western Interceptor pipeline, along Bass Street from Pump Station 11 to the intersection with Aldwins Road. The Western Interceptor pipeline will eventually be extended across the city to Riccarton, to allow for growth and reduce wet weather overflows into the Avon River. Constructing this section of the Western Interceptor as part of the Pump Station 11 Tie-in works (rather than constructing it as a separate project) will minimise disruption to residents in the Bass Street area and make savings on contractor's establishment costs. The objective to reduce disruption to the community in the Bass Street area is considered particularly important in light of the prolonged disruption the local community has been exposed to as part of the Pressure Main 11, Pump Station 11 and Pump Station 11 Tie-in projects.
14. The Pump Station 11 Tie-in project is a complex project. It involves the construction of large pipe-work requiring deep excavation and dewatering in difficult ground conditions in residential streets, as well as diversion of existing reticulation from the existing Pump Station 11 to the new Pump Station 11. While these works are being constructed the existing Pump Station 11 needs to be kept operating until the new Pump Station 11 is commissioned. This means that the sequencing of the Pump Station 11 Tie-in works is complicated and critical.
15. City Solutions and City Water and Waste staff have been working on the detailed design and sequencing of these works for the last nine months. This detailed design has included a number of changes to the scope of the project, the materials and the specifications to ensure that the required asset life of the new infrastructure is achieved in the most cost effective way. The design process has also included the development of a complex seven phase programme detailing the sequencing required for constructing the works. It is due to this level of detail in the design process that the contingency amount in the construction contract is contained to a relatively low \$60,000. The sequencing programme was included in the construction contract documents, and has been used by the recommended tenderer (Delta) to develop their proposed programme for this works.
16. Despite the Pump Station 11 Tie-in tender being publicly advertised and a number of contractors being encouraged to tender only two tenders were received. This reflects both the scale and complexity of the project, and the forward commitments of many contractors due to the current buoyant state of the construction sector.
17. The two tenders received, from March Construction Ltd and Delta Utility Services Ltd (Delta), were evaluated using a combination of price and non-price attributes by a team of City Solutions and City Water and Waste staff. Price attributes contributed 70% of the total score and non-price attributes 30%. The non-price attributes included relevant experience, track record, technical skills, resources, management skills, and methodology. Delta's combined score was the significantly higher of the two.

18. Post-tender negotiations have been held and all further information required has been provided by Delta and unacceptable tags removed. Delta's tender price has been adjusted to allow for Council's request for an alternative supplier of pre-cast concrete manholes.
19. Delta has successfully completed similar projects for the Council and is currently working on the construction of the Belfast Pressure Main and the Pump Station 21 Upgrade. Delta are considered to have the necessary resources and competencies to successfully complete the Pump Station 11 Tie-in works and their programme of a January 2006 start, June 2006 Pump Station 11 commissioning, and November 2006 completion is realistic.
20. It is imperative that the Pump Station 11 Tie-in project proceeds immediately to allow commissioning of Pump Station 11 and the upstream upgrade works, to meet the Major Sewer Upgrade programme and to meet the conditions of the Council's sewer overflow consent from ECan.

#### **OPTIONS**

##### **Option 1 – Increase the capital budget and award the construction contract**

21. Increase the capital budget for this project and award the tender to Delta to allow the Pump Station 11 Tie-in construction to proceed. This would allow the new Pump Station 11, Pressure Main 11 and upstream upgrades (total value \$17.6 million) to be commissioned, reducing wet weather overflows into the Heathcote River and fulfilling the requirements of the Council's sewer overflow consent from ECan.

##### **Option 2 – Defer the project**

22. Defer the Pump Station 11 Tie-in project for a period until Council is prepared to prioritise funding for this project. This would prevent the commissioning of the new Pump Station 11, Pressure Main 11 and the upstream upgrades, until the Pump Station 11 Tie-in works are constructed. Deferring the Pump Station 11 Tie-in project would mean that the \$17.6 million invested in this new infrastructure would not be able to be utilised and would breach the conditions of Council's sewer overflow consent from ECan. It is also considered unlikely that construction costs will reduce for a project of this size and complexity.

##### **Option 3 – Increase the capital budget and award the construction contract, but remove the start of the Western Interceptor from this construction contract**

23. Remove the first section of the Western Interceptor in Bass Street from this project, and therefore transfer the requirement for approximately \$400,000 in additional funding for this project to the Western Interceptor project. This section of the Western Interceptor in Bass Street will still need to be constructed in 2006/07 whether it is included in the Pump Station 11 Tie-in project or the Western Interceptor, and additional funding will still be required for it. Removing this section of pipe-work from this contract and including it in another would not decrease its cost, may increase contractual risk, and would increase the disruption to residents in Bass Street (as they will be disturbed twice by two separate construction projects).

#### **PREFERRED OPTION**

24. The preferred option is Option 1 being to increase the capital budget as detailed in this report, and award the Pump Station 11 Tie-in construction contract to Delta Utility Services Ltd for a sum of \$2,128,705 + GST. This will allow the Pump Station 11 Tie-in works to proceed, with Pump Station 11 to be commissioned in June 2006 and overall completion of the Tie-in works in November 2006.

## ASSESSMENT OF OPTIONS

### The Preferred Option

Option 1 - Increase the capital budget and award the construction contract, as detailed in this report.

|                      | <b>Benefits (current and future)</b>  | <b>Costs (current and future)</b>                               |
|----------------------|---|---|
| <b>Social</b>        | Reduction of the likelihood of sewer overflows (by enabling commissioning of Pump Station 11 and upstream upgrades).      | Short term disruption to residents in Bass and Randolph Streets |
| <b>Cultural</b>      | Reduction of the likelihood of wastewater overflows which are culturally offensive to Maori.                              | Nil   |
| <b>Environmental</b> | Reduction of the likelihood of wastewater overflows (by enabling commissioning of Pump Station 11 and upstream upgrades). | Nil   |
| <b>Economic</b>      | Utilisation of \$17.6 million invested in Pump Station 11, Pressure Main 11 and upstream upgrades.                        | Capital cost of project.  |

**Extent to which community outcomes are achieved:**  
Primary alignment with the community outcome A Healthy City.  
Also contributes to the community outcome A City of People who Value and Protect the Natural Environment.

**Impact on Council's capacity and responsibilities:**  
The Council is responsible for the collection and treatment of wastewater.

**Effects on Maori:**  
Sewer overflows into waterways are culturally offensive to Maori. This project will reduce the likelihood of sewer overflows by enabling the new Pump Station 11 and the upstream sewer upgrades to be commissioned.

**Consistency with existing Council policies:**  
The reduction of sewage overflows is identified as a wastewater collection performance measure in the 2004/14 LTCCP. As stated above this project will reduce sewer overflows.

**Views and preferences of persons affected or likely to have an interest:**  
Public consultation on the Major Sewer Upgrade programme has been conducted through previous LTCCP and annual plan processes.  
Residents in the Bass and Randolph Street areas have been, and will continue to be, communicated with about the construction work being carried out in their community.

**Other relevant matters:**  
This is a critical project in the Major Sewer Upgrade programme.