

ANGUS COUNCIL

INFRASTRUCTURE SERVICES – 13 OCTOBER 2009

TENDER FOR THE PROPOSED EXTENSION OF ROCK ARMOUR AT DOWRIE WORKS AND TO PREVENT THE EROSION OF CONTAMINATING MATERIALS

REPORT BY DIRECTOR OF INFRASTRUCTURE SERVICES

ABSTRACT: Report on the Proposed Extension to Rock Armour Coastal Protection at the council owned site at Dowrie Bitumen Works, Elliot, Arbroath.

1 RECOMMENDATION(S)

1.1 It is recommended that the Committee agree:-

- (I) To note this report and tenders received for the proposed works;
- (II) To approve the scheme as described in this report to improve the amenity of the council owned site at Dowrie Works, Arbroath;
- (III) To instruct the Head of Roads to accept the lowest tender received that of Dundee Plant Limited. Subject to access over the level crossing being available; and
- (IV) To authorise the Head of Roads in conjunction with the Head of Law & Administration to negotiate with Network Rail access over the level crossing.

2 BACKGROUND

- 2.1 This report describes proposals for extending coastal protection works at land known as Dowrie Works, located on the coast about a mile south of Elliot adjacent to the Arbroath Golf Club as detailed in the attached plan in [Appendix 1](#). The site occupies an area of grassy sand dunes sandwiched between the main north-south railway line and the beach, and covers an area of about 3.2 ha. The factory that previously occupied the site appears to have been serviced partly by a rail siding and partly by a single track road which crosses the railway beside the golf course green keepers huts.
- 2.2 A fresh water culvert runs across the golf course and through the site exiting at a large concrete sea outfall. The existing rock armour has been placed for a 100m stretch north of the concrete outfall. A further 100m length of unprotected coastline to the north continues to be eroded, exposing the previously deposited waste materials. A selection of comparative photos showing this area can be seen as attached in [Appendix 2](#). No significant protection exists to the south of the outfall but this does not appear to present a problem.
- 2.3 The factory itself was established in 1890 and has produced bitumen products that would most likely have been derived from coal tar, a by product from gasworks. Over the years of operation the bitumen factory was expanded several times and historic maps show the expansion of the site over the beach as a refuse tip.
- 2.4 The ownership of the site was conveyed to Angus District Council in 1977 and at this point funding was obtained through the Scottish Development Agency to improve the site. However, this initial work did not include for the rock armour protection of the shoreline, and the 100m stretch that is now in place is believed to have been installed later partly due to complaints about bitumen materials being eroded onto the beach. Anecdotal evidence from Angus Council officers indicates that the erosion of lumps of bitumen has been an ongoing problem over the years, and that complaints have been received about damage to shoes and property on beaches far removed from Dowrie.

3 CURRENT POSITION

- 3.1 Following a complaint from a member of the public in the summer of 2005 regarding pools of bitumen on the beach, officers from the Environmental Health Department visited the site to assess the problem. It was initially decided that the issue might best be dealt with under the contaminated land regime.
- 3.2 The Contaminated Land regime is a statutory function with Statutory Guidance that Angus Council has a duty to follow. Further detailed guidance on this and the definition of contaminated land can be found in the Angus Council Contaminated Land Strategy document which can be found on the Angus Council website.
- 3.3 In following the statutory guidance Angus Council is required to identify the receptors potentially affected, the pathway by which they can be affected and carry out a risk assessment of the significance of the exposure.
- 3.4 In this case the relevant receptors have been identified as being human beings, ecological systems and the water environment. The pathway for exposure occurring is in each case through direct contact with the wastes. There is no evidence to date however to suggest that there is a risk of 'significant harm' as defined by the statutory guidance to any of the receptors. In conclusion therefore the site would not be classed as 'Contaminated Land' in the strict terms of the relevant legislation.
- 3.5 Separate from the contaminated land regime Angus Council also needs to consider other factors when deciding whether or not to carry out remediation works. Tourism is extremely valuable to the local economy and the beach area is an important attraction in this regard. In this case there is no doubt that visually and aesthetically the beach is degraded by the erosion and exposure of waste materials from the site. The state of the ground could also affect the use of the land, notwithstanding the conclusion above there is potential for minor injury or damage and accordingly it is likely that there is a public perception and concern that the site is 'contaminated'. Angus Council as the land owner should lead by example and this project will show that the Council is working to improve the local environment for the benefit of the community. These reasons have been sufficient justification for other similar sites in Angus to have been improved successfully in the recent past by the same technique.

4 PROPOSALS

- 4.1 In assessing the preferred remedial solution, it was necessary to know more about the extent of the waste and to inform on the relative volume of deposited material. It was necessary to assess whether the waste merited protection from further erosion, compared to the cost of simply removing it for off site disposal. In order to do this an intrusive site investigation was conducted in 2006, and this demonstrated that the waste extended back significantly away from the beach. Accordingly it was decided that the removal of the waste would be cost prohibitive, as well as being operationally difficult and not essential.
- 4.2 The alternative solution was to provide an erosion protection that would render the material immobile in the environment. Angus Council Roads division has conducted a feasibility study and design for the proposed rock armour protection. Initially cost estimates from contractors were very high and funds were not available, however a more recent tendering exercise has provided a more realistic cost and the funds for this level of spend have been earmarked.
- 4.3 The proposed works will include for the extension of the existing rock armour for approximately a further 100m to the north-east. Placement of the rock will be facilitated by reprofiling the boundary between the top of the beach and the site, and the placement of fabric membrane under the rock armour to prevent erosion of the residual waste materials. Rock armour material will be imported by road and access will be obtained across the railway at Arbroath Golf Club. Network Rail are required to facilitate the safe crossing of the main north-south railway line. There are no other access issues because Angus Council owns the factory site and land down to the sea and has access rights from the site to the A92 at Elliot.

- 4.4 The proposed scheme also includes for the repair of the existing rock armour revetment which has been in situ for approximately 30 years without requiring any major maintainance. It is expected that the proposed extension of rock armour will similarly require very little on going maintainance due in part to the shallow slope proposed and the high specification of the ground works.

5 FINANCIAL IMPLICATIONS

- 5.1 Tender documents were issued by the Head of Roads on 9th July 2009, to six contractors from the Standing List of Contractors. The tenders were returned by 12 noon on Thursday 13th August 2009 to the Head of Law & Administration. Tenders were opened by the Head of Roads on 13th August 2009 under delegated authority and in accordance with Financial Regulations.
- 5.2 Details of the respective tenders are as follows:

Tenderer	Submitted Tender Sum	Arithmetically Checked/Corrected Sum
D J Laing Contractors	£285,671.33	£285,671.33
Delson Contracts	£169,481.60	£169,491.60
Dundee Plant Company Ltd	£149,455.29	£149,455.29
Ennstone Thistle	£170,991.00	£170,991.00
T & N Gilmartin	£163,878.38	£163,878.38
Tayside Contracts	£195,894.78	£195,894.78

- 5.3 The tenders were checked by the Head of Roads and the general level of pricing contained within the lowest tender is considered to be competitive having regard to the nature of work involved. The total estimated cost for the Coast Protection works at Dowrie Works, Elliot, Arbroath based on the tender submitted by Dundee Plant Company Ltd is:

Works including preliminaries	£149,455.29
Engineering Administration (to completion)	15,944.71
Network Rail (estimated costs)	£12,000
Marine Construction Works Licence	£1,100.00
Contingencies	£21,500
Total Cost	£200,000

- 5.4 Previous costings to carry out the improvement works have proved prohibitive however these costs have now reduced significantly. £170,000 has been allowed for within the Remediation of Contaminated Land capital grant and the balance of £30,000 can be met from other contaminated land projects if necessary.

6 HUMAN RIGHTS IMPLICATIONS

- 6.1 There are no human rights implications arising as a result of this report.

7 EQUALITIES IMPLICATIONS

- 7.1 The issues dealt with in this report have been the subject of consideration from an equalities perspective (as required by legislation). An [equalities impact assessment](#) is not required.

8 SINGLE OUTCOME AGREEMENT

- 8.1 This report contributes to the following local outcome(s) contained within the Single Outcome Agreement for Angus.
- We value and enjoy our built and natural environment and protect it and enhance it for future generations.
 - Angus built and natural environment is valued and enjoyed.

9 CONSULTATION

- 9.1 The Chief Executive, Director of Corporate Services, Head of Finance, Head of Law and Administration, Head of Roads and Head of Economic Development and Environmental & Consumer Protection have been consulted in the preparation of this report.

10 CONCLUSION

- 10.1 This site is owned by Angus Council and while it would not fall to be designated as Contaminated Land taking into account the current level of information and following the statutory guidance, it is desirable to see a solution to the unsightly and persistent problem of the erosion of waste materials onto the foreshore from the Dowrie Works at Arbroath. The proposed scheme should achieve this and be a relatively long term maintenance free solution.

Eric S Lowson
DIRECTOR OF INFRASTRUCTURE SERVICES

NOTE: No background papers, as defined by Section 50D of the Local Government (Scotland) Act 1973 (other than any containing confidential or exempt information) were relied on to a material extent in preparing the above report.

ED&E&CP/DV/SD
16/09/2009