

**SHIRE OF ASHBURTON**

**SPECIAL MEETING OF COUNCIL**

**AGENDA & ATTACHMENTS**

**Council Chambers, Community Recreation  
Centre, Tom Price**

**5 July 2013**

**SHIRE OF ASHBURTON**  
**SPECIAL COUNCIL MEETING**

Dear Councillor

Notice is hereby given that an Special Meeting of the Council of the Shire of Ashburton will be held on 5 July 2013 at Council Chambers, Community Recreation Centre, Tom Price commencing at 8:00 am.

The business to be transacted is to discuss Legal agreements associated with the Water Main Relocation Works – Onslow Airport project.

Frank Ludovico  
**A/CHIEF EXECUTIVE OFFICER**

**DISCLAIMER**

*The recommendations contained in the Agenda are subject to confirmation by Council. The Shire of Ashburton warns that anyone who has any application lodged with Council must obtain and should only rely on written confirmation of the outcomes of the application following the Council meeting, and any conditions attaching to the decision made by the Council in respect of the application. No responsibility whatsoever is implied or accepted by the Shire of Ashburton for any act, omission or statement or intimation occurring during a Council meeting.*

Special Meeting of Council 5 July 2013

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**1. DECLARATION OF OPENING**

**2. ANNOUNCEMENT OF VISITORS**

**3. ATTENDANCE**

**3.1 PRESENT**

**Council Chambers, Recreation Centre, Central Road Tom Price**

Cr K White	Shire President, Onslow Ward
Cr L Rumble	Deputy Shire President, Paraburdoo Ward
Cr I Dias	Paraburdoo Ward
Cr L Thomas	Tableland Ward
Cr P Foster	Tom Price Ward
Cr C Fernandez	Tom Price Ward
Cr A Eyre	Ashburton Ward
Mr F Ludovico	A/Chief Executive Officer

Mr K Pearson	A/Executive Manager, Technical Services
Ms J Smith	Executive Officer CEO

**Teleconference**

Cr L Shields	Tom Price Ward
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Ms A O'Halloran	Executive Manager, Strategic & Economic Development
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**3.2 APOLOGIES**

Cr D Wright	Pannawonica Ward
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Ms D Wilkes	Executive Manager, Community Development
Mrs L Hannagan	A/Executive Manager, Corporate Services

**3.3 APPROVED LEAVE OF ABSENCE**

**4. ANNOUNCEMENTS BY THE PRESIDING PERSON WITHOUT DISCUSSION**

**5. DECLARATION BY MEMBERS**

That Councillors have given due consideration to all matters contained in the Agenda presently before the meeting.

**5.1 DECLARATION OF INTEREST**

**Councillors to Note**

A member who has a Financial Interest in any matter to be discussed at a Council or Committee Meeting, that will be attended by the member, must disclose the nature of the interest:

(a) In a written notice given to the Chief Executive Officer before the Meeting

or;

(b) At the Meeting, immediately before the matter is discussed.

## Special Meeting of Council 5 July 2013

A member, who makes a disclosure in respect to an interest, must not:

- (c) Preside at the part of the Meeting, relating to the matter or;
- (d) Participate in, or be present during any discussion or decision-making procedure relative to the matter, unless to the extent that the disclosing member is allowed to do so under Section 5.68 or Section 5.69 of the Local Government Act 1995.

### **NOTES ON FINANCIAL INTEREST (FOR YOUR GUIDANCE)**

The following notes are a basic guide for Councillors when they are considering whether they have a Financial Interest in a matter.

I intend to include these notes in each agenda for the time being so that Councillors may refresh their memory.

1. A Financial Interest requiring disclosure occurs when a Council decision might advantageously or detrimentally affect the Councillor or a person closely associated with the Councillor and is capable of being measure in money terms. There are exceptions in the Local Government Act 1995 but they should not be relied on without advice, unless the situation is very clear.
2. If a Councillor is a member of an Association (which is a Body Corporate) with not less than 10 members i.e. sporting, social, religious etc), and the Councillor is not a holder of office of profit or a guarantor, and has not leased land to or from the club, i.e., if the Councillor is an ordinary member of the Association, the Councillor has a common and not a financial interest in any matter to that Association.
3. If an interest is shared in common with a significant number of electors or ratepayers, then the obligation to disclose that interest does not arise. Each case needs to be considered.
4. If in doubt declare.
5. As stated in (b) above, if written notice disclosing the interest has not been given to the Chief Executive Officer before the meeting, then it **MUST** be given when the matter arises in the Agenda, and immediately before the matter is discussed.
6. Ordinarily the disclosing Councillor must leave the meeting room before discussion commences. The **only** exceptions are:
  - 6.1 Where the Councillor discloses the **extent** of the interest, and Council carries a motion under s.5.68(1)(b)(ii) or the Local Government Act; or
  - 6.2 Where the Minister allows the Councillor to participate under s.5.69(3) of the Local Government Act, with or without conditions.

**6. BUSINESS**

**6.1 DEED OF COVENANT AND INDEMINITY - WATER MAIN RELOCATION WORKS – ONSLOW AIRPORT PROJECT**

<b>FILE REFERENCE:</b>	AS.TE.13.12
<b>AUTHOR'S NAME AND POSITION:</b>	Amanda O'Halloran Executive Manager, Strategic and Economic Development
<b>NAME OF APPLICANT/RESPONDENT:</b>	Not Applicable
<b>DATE REPORT WRITTEN:</b>	4 July 2013
<b>DISCLOSURE OF FINANCIAL INTEREST:</b>	The author has no financial interest in the proposal.
<b>PREVIOUS MEETING REFERENCE:</b>	Agenda Item 12.1 (Minute 11392) - Ordinary Meeting of Council 12 December 2012 Agenda Item 6.2 (Minute 5) - Special Meeting of Council 7 February 2013

**Summary**

The Shire is currently undertaking the Onslow Aerodrome Redevelopment including the construction of a new 1900m airstrip to CASA Code 3C requirements.

The water main that services the Onslow town is located under the existing airstrip and also under the southern end of the new airstrip. Water Corporation has advised that the main will need to be realigned due to the impact of the heavier jet aircraft and increased traffic expected on the new airstrip.

An agreement has been formed between Water Corporation and Shire of Ashburton for the water main relocation.

Further negotiation has been ongoing with Onslow Salt Pty Ltd (OSPL) to gain approval for the relocation works on the Shires Aerodrome land over which their General Purpose Mining Leases extend.. The Deed of Covenant and Agreement has been negotiated and it is recommended that Council authorise the Shire President and Acting Chief Executive Officer to execute this agreement through signing and affixing the Common Seal.

**Background**

The Onslow Aerodrome Redevelopment includes, but is not limited to, the construction of a new runway, taxiway and apron. Chevron has agreed to contribute \$30 million to the redevelopment which is to be delivered over a twelve month period.

## Special Meeting of Council 5 July 2013

The sole water main which supplies the Onslow town site is located under the existing airstrip and the alignment of the new airstrip.

After numerous discussions, the Water Corporation advised in a letter dated 10 April 2012 that it would be the Shire's responsibility to arrange for the pipe to be diverted and for temporary protection if works were to be undertaken in the vicinity of the existing main.

Tenders were called for the diversion of the water main at the Onslow Airport in accordance with Water Corporation requirements. The tender closed at 3pm on Wednesday 16 January 2013 and was awarded to Redline WA Pty Ltd at the 7 February 2013 Special Meeting of Council.

The diversion of the water main is crucial to the delivery of the Aerodrome Runway as commissioning cannot occur without the completion of the new main. The timing for the temporary protection work is also critical as it impacts the ability of the Shire to complete construction works in the area where the main is currently located.

OSPL has 9 general purpose leases that impact Lot 16 Onslow Road - 08/38;08/39;08/40;08/41;08/42;08/43;08/44;08/45 and 08/46. These general purpose leases provide OSPL with tenure to carry out associated mining activities, and require the Shire to ensure that no activity we carry out on our land impacts or prohibits OSPL from these activities. We have been working with OSPL since October 2012 to reach agreement.

### **Comment**

Due to the short timeframe of the Airport Expansion Project, the Shire of Ashburton requested OSPL's agreement to allow the commencement of construction to complete the water main relocation works. OSPL has agreed to give its consent for the Shire to carry out the works, as per the terms outlined in the Deed.

### **ATTACHMENT 6.1**

The Deed asks the Shire to agree to the following:

- (a) Indemnify OSPL and its associates against any liability for damage or loss caused by the works;
- (b) Ensure that the construction works do not jeopardise the General Purpose Leases or interfere with the operations or infrastructure of OSPL on the leases;
- (c) Comply with its construction management plan in respect of the works;
- (d) Pay OSPL's reasonable legal costs in respect of the deed.

This Deed is critical in allowing the Shire to meet project deadlines. Therefore, it is recommended that Council authorise the Shire President and Acting Chief Executive Officer to execute the Deed.

### **Consultation**

A/Chief Executive Officer  
Executive Manager – Operations  
Peter Kyle - Legal Counsel, Kyle & Co  
Shane Priddle - Project Engineer, Water Corporation

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Norm Cull - Senior Asset Delivery Representative, Water Corporation  
David Goaley – Civil Engineer, David Wills and Associates

### **Statutory Environment**

Local Government Act 1995 – S. 9.49A; Onslow Solar Salt Agreement Act 1992;  
Mining Act 1978 s.117

### **Financial Implications**

#### **Section 8 Ancillary Costs**

Section 8.3 The Shire must reimburse OSPL for all reasonable legal costs incurred by OSPL in negotiating, preparing and executing this deed. Further negotiation is required to reach a final figure. Provision has been made for legal costs in the Onslow Aerodrome Upgrade Construction Budget.

#### **Standby Rates**

Contractors (Redline) are on site and have carried out all work possible to date. Any delay in this negotiation process will impact on continuation of the works – every day the project is delayed the contractors are entitled to a daily standby rate of \$12,500.00 under the contract, these costs will be incurred by the project and are unbudgeted, and may be a cost to Council.

#### **Strategic Implications**

Shire of Ashburton 10 Year Community Strategic Plan 2012-2022

Goal 02 - *“Enduring Partnerships”*

Objective 01 – Strong Local Economies

Objective 02 – Enduring Partnerships with Industry and Government

Goal 04 - *“Distinctive and Well Serviced Places”*

Objective 01 – Quality Public Infrastructure

Objective 03 – Well Planned Towns.

#### **Policy Implications**

There are no policy implications.

#### **Voting Requirement**

Absolute Majority Required.

#### **Recommendation**

That Council authorise the Shire President and A/Chief Executive Officer to execute under the Common Seal a Deed of Covenant and Indemnity between Onslow Salt Pty Ltd and the Shire relating to the re-alignment of the water main round the Onslow Airport.

<b>Author: Amanda O'Halloran</b>	<b>Signature:</b>
<b>Manager: Frank Ludovico</b>	<b>Signature:</b>



**7. NEXT MEETING**

The next Ordinary Meeting of Council will be held on 17 July 2013, at the Civic Centre, Tamarind Street, Tom Price, commencing at 1.00 pm.

**8. CLOSURE OF MEETING**



LAWYERS

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# Deed of covenant and indemnity Water Main Relocation Works

Onslow Salt Pty Ltd  
Shire of Ashburton

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Date:

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## Parties

- 1 **Onslow Salt Pty Ltd** (ACN 050 159 558) of Level 16, Exchange Plaza, 2 The Esplanade, Perth, Western Australia (**Onslow**)
  - 2 **Shire of Ashburton** of Lot 246 Poinciana Street, Tom Price, Western Australia (the **Shire**)
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## Background

- A Onslow is the sole registered holder of the Tenements which were granted pursuant to the State Agreement.
- B The Shire is the sole registered proprietor of the Shire Tenure.
- C The Tenements and the Shire Tenure overlap to the extent depicted in the plan attached at Attachment A.
- D The Shire is proposing to carry out the Works, which Works will encroach upon the Tenements.
- E In consideration for Onslow consenting to the Works being carried out on the land the subject of the Tenements, the Shire agrees to enter into this deed and be bound by its terms and conditions.

The parties agree

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## 1 Defined terms and interpretation

- 1.1 A term or expression starting with a capital letter which is defined in the Dictionary in Schedule 1 (**Dictionary**) has the meaning given to it in the Dictionary.
  - 1.2 The interpretation clause in Schedule 1 sets out rules of interpretation for this deed.
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## 2 Consent to the Works

- (a) In consideration of the covenants from the Shire contained in this deed, Onslow, as an occupier of the Underlying Land, consents to the Shire entering onto the Underlying Land for the purposes of carrying out the Works on the Underlying Land on the terms and conditions set out in this deed.
- (b) The consent given in clause 2(a) is consent for the entry onto the Underlying Land for the purposes of carrying out of the Works only and:
  - (i) does not include consent to the grant of an easement or any interest in land to the Water Corporation in relation to the Underlying Land in respect to the Works, whether such grant is made under Part VII of the Water Act, Part 8 or Part 9 of the *Land Administration Act 1997* (WA) or otherwise;
  - (ii) does not operate as a waiver of rights or agreement not to object or otherwise derogate from Onslow's rights under Part VIII of the Water Act;

- (iii) does not operate as a waiver of rights or agreement not to object or otherwise derogate from Onslow's rights under section 117 of the *Mining Act 1978 (WA)* in respect of the grant of an easement or other tenure to the Water Corporation in relation to the Underlying Land in respect to the Works;
- (iv) is not consent for the purposes of clause 26 of the State Agreement; and
- (v) is not consent for the carrying out of any activities other than the Works.

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### 3 The Shire's covenants

The Shire undertakes and covenants in favour of Onslow for itself and the Shire's Authorised Users, when the Shire (or the Shire's Authorised Users) accesses, or undertakes any activities in connection with Works it will at all times:

- (a) not do or omit to do anything which may place the Tenements in jeopardy or render any of them liable to refusal, cancellation or forfeiture;
- (b) comply with the Construction Management Plan;
- (c) construct, operate and maintain the Works in accordance with, and otherwise comply with:
  - (i) the Construction Conditions;
  - (ii) Good Engineering and Operating Practices; and
  - (iii) all applicable Laws and Environmental Conditions.
- (d) allow Onslow and its employees, agents, contractors and invitees to enter and pass through or over the Tenements together with any vehicles, machinery or equipment for the conduct of such activities as are legally permissible under the Tenements;
- (e) without limiting any other provision in this deed, minimise interference with activities conducted, or proposed to be conducted, by Onslow, its employees, agents, contractors and invitees on the Tenements;
- (f) as and when reasonably requested by Onslow, consult with Onslow in good faith regarding the co-ordination of activities to be carried out by the Shire on the Underlying Land with Onslow's operations on the Tenements; and
- (g) effect and maintain during the term of this deed the insurances described in Schedule 2, ensure that all of the terms and conditions of such insurances are complied with, pay all premiums, calls and deductibles when due, and produce to Onslow certificates of currency of such insurances prior to commencing any activities on the Underlying Land and at such subsequent times as and when reasonably requested by Onslow.

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### 4 Construction Management Plan

- 4.1 The Shire and Onslow have agreed to the terms of a Construction Management Plan for the Works to be undertaken by the Shire.

- 4.2 The Shire must implement and maintain the Construction Management Plan for the term of this deed.

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## 5 Indemnity and Make Good

- 5.1 The Shire must indemnify Onslow, Onslow's parent company Shark Bay Salt Pty Ltd, Onslow's directors, employees and contractors (**Indemnified Persons**) from and against all claims, damage, loss, expenses or liabilities of any nature suffered or incurred by the Indemnified Persons (including any claims made by Third Parties) arising out of or related to or connected with the construction of the Works or other activities of the Shire on the Underlying Land including in respect of any:

- (a) physical loss of or damage to property of the Indemnified Persons or any Third Party;
- (b) damage, loss, expense or liability in respect of personal injury, disease, illness or death; or
- (c) any omission or breach of the Shire of its obligations under this deed.

except to the extent that such loss or claim is solely and directly caused by any Indemnified Person (other than the Shire).

- 5.2 The indemnity in this clause shall survive expiry or other termination of this deed.
- 5.3 If any physical loss or damage to the property of the Indemnified Persons or any Third Party arises out of or is related to or is connected with the construction of the Works or other activities of the Shire on the Underlying Land, then the Shire must at its own cost and expense and with all reasonable expedition make good, replace and repair such property.
- 5.4 If the Shire fails to make good, replace or repair property under clause 5.3 within a reasonable time, or if in order to ensure continuity or early resumption of operations Onslow so decides, Onslow may, without prejudice to any other rights which it might have, do all such acts and things as may be necessary to make good, repair or replace such property.
- 5.5 Within 30 Business Days of the presentation of an invoice for Onslow's costs and expenses incurred in respect of making good, repairing or replacing property under clause 5.4, the Shire must reimburse Onslow for such costs and expenses.

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## 6 Assignment and grant of easements

- 6.1 No party may assign, transfer or otherwise dispose of all or any part of its rights or obligations under this deed without the consent of the other party (which consent must not be unreasonably withheld or delayed).
- 6.2 Subject to clause 6.1, no party (**Assigning Party**) may assign, transfer or otherwise dispose of or create any interest in the Tenements or the Shire Tenure (as the case may be) (each an **Assignment**) to or in favour of a Third Party (**Assignee**) unless the Assignee executes and delivers to the other party (**Continuing Party**) a form of assumption deed approved by the Continuing Party (which approval must not be unreasonably withheld or delayed) under which the Assignee agrees to assume the obligations of the Assignor under, and be bound by the terms and conditions of, this deed to the extent of the interest and rights the subject of the Assignment.

- 6.3 The Shire must not grant, consent to the grant of or otherwise facilitate the grant of an easement or other tenure to the Water Corporation in relation to the Underlying Land in respect to the Works without Onslow's prior written consent (which approval must not be unreasonably withheld or delayed).

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## 7 Notices

- 7.1 Unless expressly stated otherwise in this deed, a notice, consent or other communication given under this deed to or by a party to this deed (**Notice**):
- (a) must be in legible writing and in English;
  - (b) must be addressed to the party to whom it is to be given at the address, facsimile number or email address set out below or to any other address, facsimile number or email address a party notifies to the other for the purposes of this clause:
    - (i) Onslow
      - Attention: Hiro Matsuyama, Chief Executive Officer
      - Address: Level 16, Exchange Plaza, 2 The Esplanade, Perth WA 6000
      - Facsimile: (08) 9265 8080
      - Email: ***hiro.matsuyama@salt.com.au***
    - (ii) The Shire
      - Attention: Chief Executive Officer
      - Address: PO Box 567, Tom Price WA 6751
      - Facsimile: (08) 9189 2252
      - Email: ***soa@ashburton.wa.gov.au***
  - (c) must be signed by or on behalf of the sender;
  - (d) must be either:
    - (i) delivered by hand or sent by pre-paid mail (by airmail if sent to or from a place outside Australia) to that party's address;
    - (ii) sent by facsimile, to that party's facsimile number; or
    - (iii) sent by email, to that party's email address; and
  - (e) is deemed to be received by the addressee in accordance with clause 7.2.
- 7.2 Without limiting any other means by which a party may be able to prove that a Notice has been received by another party, a Notice is deemed to be received:
- (a) if delivered by hand, when delivered to the addressee;
  - (b) if sent by post, on the 3<sup>rd</sup> Business Day after the date of posting, or if to or from a place outside Australia, on the 7<sup>th</sup> Business Day after the date of posting;

- (c) if sent by facsimile transmission, on receipt by the sender of an acknowledgment or transmission report generated by the machine from which the facsimile was sent; or
- (d) if sent by email, on the earlier of:
  - (i) the time shown in the delivery confirmation report generated by the sender's email system which indicates that the email was sent to the email address of the recipient; and
  - (ii) four hours after the time sent (as recorded by the device from which the sender sent the email) unless the sender receives an automated message that the email has not been delivered,

but if the delivery or receipt is on a day which is not a Business Day or is after 5.00 pm on a Business Day (addressee's time) it is deemed to be received at 9.00 am on the following Business Day.

- 7.3 A facsimile transmission is deemed to be legible unless the addressee telephones the sender within 2 hours after the transmission is received or regarded as received under clause 7.2 and informs the sender that it is not legible.

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## 8 Ancillary provisions

- 8.1 This deed may be executed in any number of counterparts, each of which, when executed, is an original. Those counterparts together make one instrument. If the counterparts are executed on different dates, the date of the deed is deemed to be the date that the last counterpart is executed.
- 8.2 Subject to clause 8.3, except as expressly provided in this deed, the Shire must pay all duty (including interest, fines and penalties) payable on this deed, the performance of this deed (including the transfer of any property) and any transaction contemplated by it.
- 8.3 The Shire must reimburse Onslow for all reasonable legal costs incurred by Onslow in negotiating, preparing and executing this deed upon the provision by Onslow of a valid tax invoice.
- 8.4 This deed is the entire agreement between the parties about its subject matter and replaces all previous agreements, understandings, representations and warranties about that subject matter.
- 8.5 Each party represents and warrants that it has not relied on any representations or warranties about the subject matter of this deed except as expressly provided in this deed.
- 8.6 Except as expressly provided in this deed, each party must, at its own expense, do all things reasonably necessary to give full effect to this deed and the matters contemplated by it.
- 8.7 This deed is governed by the laws of Western Australia and each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts of Western Australia.
- 8.8 Any term of this deed which is wholly or partially void or unenforceable is severed to the extent that it is void or unenforceable. The validity or enforceability of the remainder of this deed is not affected.



- 8.9 No variation of this deed is effective unless made in writing and signed by each party.
- 8.10 No waiver of a right or remedy under this deed is effective unless it is in writing and signed by the party granting it. It is only effective in the specific instance and for the specific purpose for which it is granted. A single or partial exercise of a right or remedy under this deed does not prevent a further exercise of that or of any other right or remedy. Failure to exercise or delay in exercising a right or remedy under this deed does not operate as a waiver or prevent further exercise of that or of any other right or remedy.

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## 9 GST

- 9.1 Capitalised words and expressions used in this clause 9 have the same meaning as in *A New Tax System (Goods and Services) Tax Act 1999* (Cth).
- 9.2 Unless otherwise expressly stated, all amounts payable under this deed are expressed to be exclusive of GST. If GST is payable on a Taxable Supply made under or in connection with this deed, the Recipient of the supply must pay the supplier an additional amount equal to the GST payable on that supply provided that the supplier first issues a Tax Invoice for that supply.
- 9.3 Without limiting clause 9.2, if an amount payable under this deed is calculated by reference to a liability incurred by a party whether by way of cost, expense, outlay, disbursement or otherwise, then the amount of the liability must be reduced by the amount of any Input Tax Credit to which that party (or its Representative Member) is entitled in respect of the Acquisition of the Supply to which that liability relates. A party (or its Representative Member) will be assumed to be entitled to a full Input Tax Credit unless it demonstrates that its entitlement is otherwise prior to the date on which payment must be made.

### 1 Dictionary

In this deed these meanings apply unless the contrary intention appears (including the Background):

**Access Road** means the road labelled as “Onslow Salt Access Road” on the plan in Attachment A.

**Assignee** has the meaning given in clause 6.2.

**Assigning Party** has the meaning given in clause 6.2.

**Assignment** has the meaning given in clause 6.2.

**Authority** is any government department, local government, government or statutory authority or any other party under a Law which has a right to impose a requirement or whose consent is required with respect to the activities conducted or proposed to be conducted by the Shire in relation to the Works.

**Business Day** means a day on which trading banks are open for business in Perth, Western Australia.

**Construction Conditions** means the conditions set out in Schedule 3.

**Construction Management Plan** means the construction management plan set out in Attachment C.

**Continuing Party** has the meaning given in clause 6.2.

**Corporations Act** means the *Corporations Act 2001* (Cth).

**Environmental Conditions** means any condition, obligation or requirement imposed on the Shire by or under any Law in connection with the Works from time to time relating to the prevention, control or abatement of environmental pollution and/or the conservation, preservation, protection, enhancement or management of the environment and matters incidental to those purposes.

**Good Engineering and Operating Practices** means those practices, methods and acts, as varied from time to time, that are commonly used in the independent construction industry in the exercise of reasonable judgment to construct water pipeline works and undertakings lawfully and with safety, reliability, efficiency and economy. With respect to the Works, Good Engineering and Operating Practices includes, but are not limited to, taking reasonable steps to ensure that:

- (a) adequate materials, resources and supplies, are available to meet the needs of the Works under normal conditions and reasonably anticipated abnormal conditions;
- (b) sufficient operating personnel are available and are adequately experienced and trained to construct the Works properly, efficiently and within manufacturers' guidelines and specifications and are capable of responding to reasonably anticipated abnormal conditions;

- (c) appropriate monitoring and testing is done to ensure equipment used in the Works is functioning as designed and to provide assurance that equipment will function properly under both normal and reasonably anticipated abnormal conditions; and
- (d) the Works are undertaken, and equipment used in the Works is operated, in a manner safe to workers, the general public and the environment.

**Indemnified Persons** has the meaning given in clause 5.1

**Law** is Commonwealth and State legislation including regulations, by-laws, and other subordinate legislation, the requirements and guidelines of any Authority, with which a party is legally required to comply, and common law and equity.

**Shire Tenure** means Lot 16 on Deposited Plan 161140, being the whole of the land comprised in Certificate of Title Volume 2192 Folio 847.

**Shire's Authorised Users** means the Shire's agents, employees, contractors and any person who uses or visits the Tenement Area with the actual or implied authority of the Shire.

**Specifications** means the specifications listed in Attachment B.

**State Agreement** means the agreement between the Onslow and the State of Western Australia dated 2 November 1992 contained in the schedule to the *Onslow Solar Salt Agreement Act 1992 (WA)*.

**Tenements** means:

- (a) general purpose lease 08/38;
- (b) general purpose lease 08/39;
- (c) general purpose lease 08/40;
- (d) general purpose lease 08/41;
- (e) general purpose lease 08/42;
- (f) general purpose lease 08/43;
- (g) general purpose lease 08/44;
- (h) general purpose lease 08/45;
- (i) general purpose lease 08/46; and
- (j) any extension or variation of those general purposes leases and any mining tenements granted or applied for in conversion or substitution for the whole or any part of the general purpose leases referred to in paragraphs (a) to (i).

**Third Party** means a person other than Onslow and the Shire.

**Underlying Land** means the land the subject of the Tenements from time to time.

**Water Act** means the *Water Agencies (Powers) Act 1984 (WA)*.

**Works** means the works necessary to construct a water main pipeline and any related infrastructure on the area labelled as “proposed water main route” on the plan in Attachment A, in accordance with the Specifications.

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## 2 Interpretation

In this deed the following rules of interpretation apply unless the contrary intention appears:

- (a) headings are for convenience only and do not affect the interpretation of this deed;
- (b) the singular includes the plural and vice versa;
- (c) words that are gender neutral or gender specific include each gender;
- (d) where a word or phrase is given a particular meaning, other parts of speech and grammatical forms of that word or phrase have corresponding meanings;
- (e) the words 'such as', 'including', 'particularly' and similar expressions are not used as, nor are intended to be, interpreted as words of limitation;
- (f) a reference to:
  - (i) a person includes a natural person, partnership, joint venture, government agency, association, corporation or other body corporate;
  - (ii) a thing (including, but not limited to, a chose in action or other right) includes a part of that thing;
  - (iii) a party includes its successors and permitted assigns;
  - (iv) a document includes all amendments or supplements to that document;
  - (v) a clause, term, party, schedule or attachment is a reference to a clause or term of, or party, schedule or attachment to this deed;
  - (vi) this deed includes all schedules and attachments to it;
  - (vii) a law includes a constitutional provision, treaty, decree, convention, statute, regulation, ordinance, by-law, judgment, rule of common law or equity and is a reference to that law as amended, consolidated or replaced;
  - (viii) an agreement other than this deed includes an undertaking, or legally enforceable arrangement or understanding, whether or not in writing; and
  - (ix) a monetary amount is in Australian dollars;
- (g) an agreement on the part of two or more persons binds them jointly and severally;
- (h) when the day on which something must be done is not a Business Day, that thing must be done on the following Business Day;

- (i) in determining the time of day, where relevant to this deed, the relevant time of day is:
  - (i) for the purposes of giving or receiving notices, the time of day where a party receiving a notice is located; or
  - (ii) for any other purpose under this deed, the time of day in the place where the party required to perform an obligation is located; and
- (j) no rule of construction applies to the disadvantage of a party because that party was responsible for the preparation of this deed or any part of it.

---

## Schedule 2 — Insurances

- (a) Public liability insurance with an overall limit of at least \$20 million for any one occurrence and unlimited in the aggregate during the period of insurance.
- (b) Workers' compensation and occupational disease insurance in respect of liabilities arising from statute and the common law.
- (c) Motor vehicle insurance with a limit of liability for third party personal injury and property damage of not less than \$30 million in respect of any one accident or a series of accidents arising from one event.
- (d) Professional indemnity insurance for any breach of professional duty by any negligent act, error or omission. That amount of cover shall not be less than \$10 million.
- (e) Any other insurance which is required by Law.

---

## Schedule 3 — Construction Conditions

The conditions of this Schedule 3 are the **Construction Conditions** for the purposes of this deed.

- (a) The Shire must not excavate, drill, install, erect, deposit or permit to be excavated, drilled, installed, erected or deposited within 6 metres of either side of the Access Road without the prior written consent of Onslow.
- (b) The Shire must ensure there is no long term interference with the drainage pattern without the prior approval of Onslow.
- (c) During the course of construction, the Works must be barricaded by way of cones and safety flagging.
- (d) The Shire must immediately notify Onslow of any and every accident, lost time injury or near miss occurring on the Underlying Land.
- (e) The Shire must not do or permit, allow or suffer to be done anything which shall or may be a nuisance or unreasonable annoyance, including (without limitation) sound pressure, radiation, vibration and lighting, to Onslow or its employees, agents, contractors and invitees other than as reasonably contemplated as a result of activities undertaken in accordance with this deed.
- (f) The Shire must dispose of all rubbish and waste products that arise in on the Underlying Land as a result of the activities on the Shire or the Shire's Authorised Users in connection with the Works in accordance with all applicable Laws.

---

## Execution page

**Executed as a deed.**

---

Signed and delivered by Onslow Salt Pty Ltd  
in accordance with section 127 of the  
*Corporations Act 2001* (Cth) and by:

---

Signature of director

---

Signature of director/secretary

---

Name of director (print)

---

Name of director/secretary (print)

---

The common seal of **Shire of Ashburton** was  
hereunto affixed on the  
2013:

---

Signature of Chief Executive Officer

---

Signature of Mayor or President

---

Name of Chief Executive Officer (print)

---

Name of Mayor or President (print)

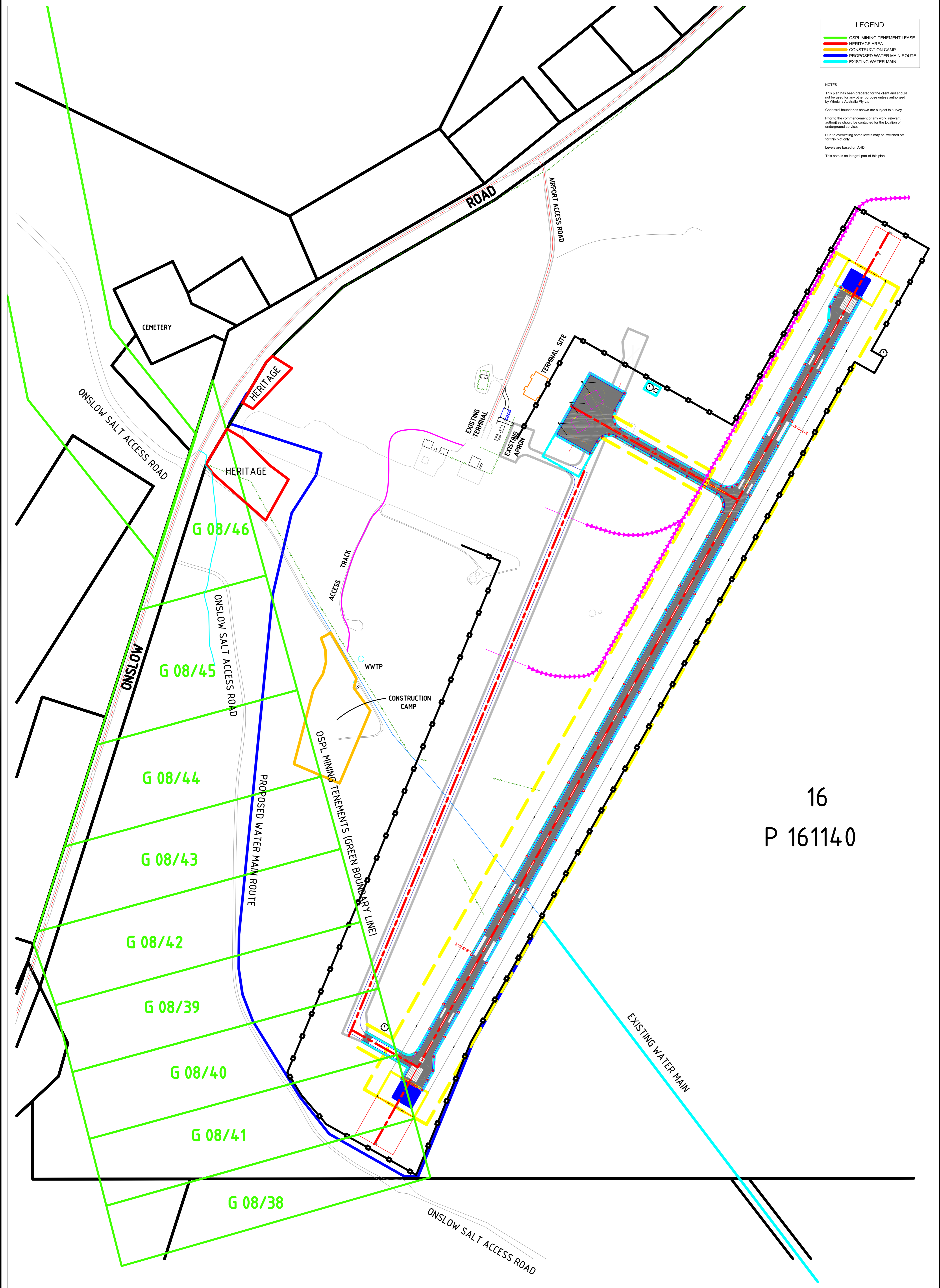


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**Attachment A** —  
**Plan**

LEGEND	
	OSPL MINING TENEMENT LEASE
	HERITAGE AREA
	CONSTRUCTION CAMP
	PROPOSED WATER MAIN ROUTE
	EXISTING WATER MAIN

NOTES  
 This plan has been prepared for the client and should not be used for any other purpose unless authorised by Whelans Australia Pty Ltd.  
 Cadastral boundaries shown are subject to survey.  
 Prior to the commencement of any work, relevant authorities should be contacted for the location of underground services.  
 Due to overwriting some levels may be switched off for this plot only.  
 Levels are based on AHD.  
 This note is an integral part of this plan.



16  
 P 161140

SCALE: 1:3500 (A1)	DATE DRAWN: 18/06/2013
V.DATUM: AHD	DRAWN BY: MLT/SJ
H.DATUM: BIO 94	CHECKED BY: SJ
SURVEY DATE: VARIOUS	
SURVEYOR: VARIOUS	DATA FILE: 121017_Site Plan_Onslow Airport_REV1.dwg
JOB NO: 14287	CAD FILE: 130618_Site Plan_Onslow Airport_REV3.dwg
PATH: S:\Projects\1414287\survey\AIRPORT DATA SETS\121017	

**whelans**  
 Suite 4, First Floor, 40 Hasler Road, Osborne Park WA 6017  
 PO Box 99, MOUNT HAWTHORN WA 6915  
 T: 08 6241 3333 F: 08 6241 3300  
 E: whelans@whelans.com.au W: www.whelans.com.au

**PROPOSED WATER MAIN ROUTE PLAN**  
 ONSLOW AIRPORT UPGRADE  
 ONSLOW ROAD  
 ONSLOW  
 © This plan must not be reproduced without the permission of WHELANS  
 CLIENT: SHIRE OF ASHBURTON

REV 3  
 PLAN  
 14287-044  
 SHEET 1 OF 1

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**Attachment B** —  
**Specifications**

## 2.0 SPECIFICATION

### 2. General

The project involves construction of a 2,470 metre long DN 250 mPVC PN16 water main within the vicinity of the Onslow aerodrome.

The water distribution main works shall be constructed in accordance with the drawings, this specification and the Water Corporation of Western Australia's Water Supply Reticulation Manual, Water Supply Distribution Manual and Standard Drawings and will be subject to the inspection and approval of the Water Corporation of Western Australia (the "Corporation").

#### 2.1 Background Information

The works are required to divert the existing water main around the south end of the proposed new runway at Onslow Airport.

Plans of the works have been submitted and approved by the Water Corporation.

#### 2.2 Scope of Work

The scope of the works includes:

- Supply of 250 mm mPVC water main of length 2,470 metres, including all bends, valves, fittings and materials as required.
- Installation of a 250 mm mPVC water main of length 2,470 metres, on the alignment of an existing gravel road
- Testing of the completed pipeline to Water Corporation requirements
- Provision of "as-constructed" information

#### 2.3 Accreditation Requirements

The Contractor shall employ personnel who have skills, and if required by the Corporation, accreditation for the performance of the tasks in which they are involved. Accreditation requirements shall be:

- PVC pipe laying and jointing - Plastics Accreditation course.

This accreditation is additional to specified trade qualifications.

#### 2.4 Definitions

Engineer: Where the term 'Engineer' appears in this specification it shall take the meaning of Superintendent as defined in the General Conditions of Contract AS 2124

#### 2.5 Shop Inspection

The Contractor shall ensure that all pipes, fittings, copper tubing, copper fittings and sluice valves supplied have been manufactured, tested and inspected in accordance with the relevant Australian Standard and the Corporation's requirements. Certificates and test results shall be obtained from the manufacturer by the Contractor and presented to the Engineer upon request.

## 2.6 Field Inspection

The Engineer may inspect the constructed works and any faulty workmanship or materials will be rejected and the work rectified in accordance with the specification or drawings. All rejected materials shall be promptly removed from the site by the Contractor.

The Contractor shall ensure that the Corporation's representative has full access to the site at all times to inspect the work during the period of the contract.

## 2.7 Hygiene and Safety

The Contractor shall take every precaution to prevent contamination of the Water Supply works. The Contractor shall also ensure a high standard of hygiene with respect to employees and all materials, tools, etc. used in the construction of the works. In particular no materials, tools etc. previously used on live sewerage work shall be used.

The Contractor shall be responsible for ensuring that the Occupational Health, Safety and Welfare Act and its Regulations with respect to the works, are observed at all times. The Contractor shall be responsible for maintenance of the site such that the safety of the public is ensured at all times.

## 2.8 Materials

All materials shall comply with relevant Australian Standards and shall be accepted by the Corporation prior to use in the construction of reticulation works. Variations to the materials nominated on the design drawings shall require the approval of the Corporation. The Corporation may require from time to time manufacturer's certificates, test results and guarantees. Second hand pipes and fittings shall not be used. Materials shall be handled and stored to avoid damage. Damaged materials shall not be used.

All materials which will be in contact with the water supply shall comply with AS 3895 or AS 4020 and the Corporation shall be satisfied that the material is approved for use in contact with potable water.

It is the Contractors responsibility to ascertain that all materials built into the project meet the approval of the Water Corporation.

## 2.9 PVC Pipes and Fittings

Pipes shall be modified PVC in accordance with AS1477 – 2006 and shall be coloured blue to AS2700-B35. The class of pipe shall be as specified in the working drawings.

A well defined entry witness mark or marks shall be permanently marked around the full diameter of the spigot end of the pipe indicating the manufacturers recommended maximum and minimum spigot entry depth for jointing with a matching PVC pipe socket. The marks shall not be detrimental to the strength of the pipe.

The joints shall be made by rubber joint rings complying with the requirements of AS 1646. The rubber joint rings shall be designed and manufactured specifically for the joint system of the brand of pipe being used. They shall be supplied by the pipe manufacturers identifying mark. Rubber joint rings for other pipe brands and joint systems shall not be kept on the job site.

Pipes exceeding 6 months of age from the date of manufacture shall only be used for the construction of water mains with the approval of the Corporation, if they have been shielded from UV radiation during storage.

Only cast iron to AS 2544 or ductile iron to AS 2280 socket ended, rubber ring jointed fittings are permitted for use with PVC pipes.

Lining and coating to these fittings shall be:

- Internal - cement mortar lining to or thermal - bonded coating to AS 4158.1
- External - bitumen coated, or thermal - bonded coating to AS 4158.1
- Gibault joints (long body) may be used for joining cut ends or different pipe materials.

#### 2.10 Pipe Guarantee

The Contractor shall obtain a certificate from the pipe manufacturer stating that all pipes, joints and joint rings used in the works are covered by a guarantee identical to that applying to pipes, joints and joint rings supplied under contract to the Corporation at the time of manufacture. The certificate shall be passed to the Engineer on request.

No pipes, joints or joint rings shall be used in the works unless covered by the guarantee.

#### 2.11 Flanges and Gaskets

All flanges shall be drilled and faced in accordance with AS4087, Class 14 or Class 21 as required by the Drawings. Flange bolts shall be hot dip galvanised, hexagonal head, ISO coarse thread, Grade 4.6. Diameters shall be to AS4087 and lengths to suit.

Gaskets shall be 3mm thick or 6mm thick reinforced elastomeric material complying with AS 1646, with a hardness no greater than 65 IRHD. Full face gaskets shall be used for DH100 and DH150 flanges. Narrow face gaskets shall be used for DH200 and DH250 flanges.

#### 2.12 Sluice Valves

##### 2.12.1 General

The valves shall be manufactured generally in accordance with AS2638. They shall also conform in all respects with the current Corporation specification for sluice valves.

General features of the Corporation specification are:-

- Class 14 valves.
- Suitable for use in terminal, in-line and unsupported positions.
- Double flanged or double socketed.
- May be resilient seated type.
- Counter-clockwise rotation for closing.
- Removable cast iron caps.
- Maximum working pressure 140m.
- To pass the open end test and drip tight test.

### 2.12.2 Variations

The Contractor shall be required to supply to the Corporation a full description together with detailed drawings, specifications and weights of valves proposed to be used, should the proposed valves have not previously been accepted by the Corporation.

### 2.12.3 Inspection

The Engineer shall be at liberty at times to inspect the materials and the manufacture of the valves at the foundry and may reject without testing any valve which in the Engineers opinion is not in conformity with the drawings and specification.

When the valves are ready for internal lining and coating, the Contractor shall give the Engineer due notice in writing to this effect and nominate who will perform the work so that the Engineer may inspect the valves during the lining and coating process.

### 2.12.4 Lining and Coating

#### Cement Mortar Lining

Where relevant the cement mortar lining of the internal surface of valves shall be in accordance with AS2544. The lining shall be smooth and free from pinholes or surface deposits. The internal surface of the body and bonnet of the sluice valve shall be lined.

#### External Coating of Cement Mortar Lined Valves

Before assembly, the various castings shall be coated externally with "Bitumastic Super-Service" (black in colour) or similar approved protective coating. The surface shall be sufficiently hard to resist damage from handling. Any valve imperfectly coated or upon which the coating is damaged, will be rejected.

Resilient coated valves shall be thermal-bonded coated with either Rilsan nylon coating or fusion bonded epoxy in accordance with AS4158.1.

### 2.12.5 Testing

The valves shall be tested after completion of the internal lining in accordance with the requirements of the open end test and drip tight test of AS2638.

The Contractor shall supply to the Engineer upon request a certificate showing that the valves have been tested as specified. No valve will be accepted which has not passed the specified test.

### 2.12.6 Marking

The identification or marking required to be cast on the body of the valve is as follows:

- Nominal diameter of the valve in mm.
- Manufacturers name or trade make.
- Maximum working pressure, i.e. 140m.
- Standard flange table, i.e. Class 14.

### 2.13 Hydrants

Hydrants shall be 100mm nominal size cast iron of the screw down type, complete with bayonet top standard standpipe as approved by the Corporation. Where required

standard fire hydrant risers (sized to suit) shall be supplied and installed as required on the Corporation standard drawings.

All items associated with the supply and construction of hydrants and associated incidentals shall be to the Western Australian Fire Brigades Board standard requirement.

#### 2.14 Mechanical Joints

Mechanical joints used shall be of the long body "Gibault", type installed in accordance with the manufacturer's specifications.

#### 2.15 Covers and Boxes

All covers to sluice valves, bronze gates valves, hydrants and flushing points shall be manufactured to the Corporation's standard pattern and drawings.

In addition all "sluice valve covers" (except those in a roadway or pathway) shall be installed with reinforced concrete "valve surround" to the dimensions shown on the standard drawings.

All "Valve liners" shall be of 1 50mm diameter PVC pipe, and length to suit.

All "hydrant boxes" shall be reinforced concrete to the dimensions shown on the standard drawings. All "bronze gate valve boxes" shall be of timber to the dimensions shown on the standard drawings. All "flushing point boxes" shall be of timber to the dimensions shown on the standard drawings.

#### 2.16 Corrosion Protection

A petroleum paste "Denso 300", "Taki" or similar approved product shall be used to protect from corrosion all exposed nuts and bolts on all fittings, valves, hydrants, mechanical joints, ferrule straps etc.

A protective coating or system such as 'Denso 300' paste and 'Denso 600' tape or similar approved product shall be applied to all buried, uncoated ferrous materials including valves, hydrants, tees, bands, ferrule straps etc. The coating shall be applied in accordance with the manufacturers recommendations.

#### 2.17 Timber

Timber for bronze gate valve and flushing point boxes, marker posts and thrust blocks shall be plantation jarrah, (anti-termite treated) and to the dimensions shown on the standard drawings.

#### 2.18 Concrete

Concrete used for insitu work shall conform to AS3600 and be provided by a pre-mix concrete supplier conforming with AS 1379 or mixed on-site using materials as specified and plant to the approval of the Engineer.

Concrete for thrust blocks, hydrant boxes etc. shall have a minimum compressive strength of 20MPa. The slump shall not exceed 70mm or be less than 30mm.

#### 2.19 Cement

All cement used shall be Portland cement Type A in accordance with AS3972 and obtained from an approved manufacturer.



Cement shall be delivered to the site fresh and in sealed bags and there stored in a water-proof shed until such time as it is to be used. Any bag showing signs of deterioration or setting shall be rejected.

#### 2.20 Aggregate

Fine aggregate shall be well graded, clean, sharp and free from clay and organic impurities in accordance with AS1141 and AS2758.

Coarse aggregate shall be crushed granite or diorite, clean and free from all impurities and dust in accordance with AS1141 and AS2758.

The maximum particle size shall not exceed 20mm.

#### 2.21 Sand

Sand for bedding or backfilling shall be clean sand free from roots, clay or other material harmful to any pipe or filling material or coating.

#### 2.22 Cement Mortar

Cement mortar for internal lining of fittings and sluice valves shall consist of one part metal dust to one part cement.

#### 2.23 Steel Reinforcement

Steel reinforcement fabric and steel reinforcing bars for concrete shall comply with the requirements of AS1302, AS 1303 and AS 1304 and be free from loose rust or matter likely to impair the bond with concrete.

#### 2.24 Water

Water for use in concrete and mortar shall be of potable quality free from any impurities harmful to concrete, mortar or steel.

Water for filling constructed mains shall only be drawn from existing Authority mains at locations nominated by the Authority's representative.

#### 2.25 Disinfectant

The disinfectant which shall be used when filling constructed mains, shall be Calcium Hypochlorite (powder form) or Sodium Hypochlorite (liquid form). The concentration shall be 20 milligrams per litre calculated as effective chlorine.

#### 2.26 Handling of Materials

All pipes and fittings, shall be loaded and unloaded by lifting (by hand or hoist) in such a manner so as to avoid shock or damage. Webbing type slings shall be used to handle the pipe coils or bundles.

Likewise they shall be carefully lowered into the trench in such a manner as to prevent damage to the materials and the protective coatings and linings. Under no circumstances shall such materials be dropped, dumped or scraped along hard pavements which may cause scoring of the pipe or coating.

Pipe or coating showing extensive scoring of the wall shall not be used.

## 2.27 PIPE ALIGNMENT AND DEPTH

### 2.28 Alignment

Pipe laying shall not commence until the cadastral survey pegs required to ascertain the pipe alignment are in position.

### 2.29 Road Reserves

All pipes and fittings shall be laid on the alignments indicated on the drawings, measured from the centre of the pipe to the road reserve boundary.

Where common trenching is used, the trench may contain telephone, electricity, gas and water reticulation mains and services which shall be laid in accordance with the alignments and depths shown on the Corporation standard drawings BD62-1-2, BD62-1-3 and BD62-1-4.

### 2.30 Other Reserves

In the case of mains constructed in Public Access Ways, Public Open Space and other reserves, all pipes and fittings shall be laid parallel to and on an alignment of 2.1m from the side boundary. Where reserves are less than 4.2m in width the main shall be laid in the centre of the reserve. Pipes and fittings shall be laid true to line and shall not deviate by more than 100mm from their correct alignment, except where some obstacle prevents access to the alignment. The Engineer shall gain the Corporation representative's acceptance of the alternative action to be adopted. Any such variation shall be fully documented on the "As Constructed" drawings.

### 2.31 Depth (Cover)

The depth of the pipe shall be in accordance with the Corporation's standard drawings.

In the event of a conflict with the requirements of the standard drawings or the need to avoid other utility services, the Corporation's representative shall be contacted for instructions.

Generally pipes shall be as straight as possible in the vertical alignment. Where changes of grade occur the deflection shall be a smooth transition over a number of pipes so that the deflection per joint does not exceed the allowable.

Where pipes cross or adjoin existing or proposed services, the water main shall have a minimum clearance of 100mm, or as specified by the Corporation.

The depth to the top of the pipe from the final verge level, and the gutter level shall be established at intervals of 50 metres (max) and recorded on the "As Constructed" plan.

## 2.32 SURVEY AND SETTING OUT

On completion of road reserve clearing and road earthworks, when finished levels are achieved on lot boundaries, the Contractors Licensed Surveyor will provide sufficient cadastral survey pegs for the construction of the water reticulation. The Contractors Licensed Surveyor will also provide sufficient temporary pegs on curved lot boundaries to enable the proper construction of the water reticulation. All pegs shall be clearly marked with lot numbers (or other means) so as to be clearly identifiable.

The Contractor shall ensure that all cadastral survey pegs installed for the water reticulation works remain uncovered and undisturbed and are available for the final Joint Final Inspection. The re-establishment of cadastral survey pegs shall only be carried out by a Licensed Surveyor.

The works shall be set out in accordance with the accepted design drawings and locations shall be strictly adhered to unless varied in writing by the Engineer. Any variations must be accepted by the Corporation.

### 2.33 EXCAVATION AND BEDDING

#### 2.33.1 General

No excavation shall be commenced until the corresponding survey pegs are in position.

Trenches shall be opened in advance of the pipe laying sufficient only to enable the work to proceed without delay.

The Contractor shall be responsible for carefully determining the location of all mains, pipes, cables and other equipment belonging to Public Utility Authorities.

The Contractor shall arrange the provision and maintenance of all temporary works necessary to support exposed mains, pipes and cables to the satisfaction of the relevant Public Utility Authority to ensure that the operation of such services is not interrupted in any way.

The Contractor shall be responsible for the cost of any repairs to services arising out of the work.

Excavation material shall be deposited in an area causing the least interference to vehicular or pedestrian traffic and to the approval of the Engineer.

Trenches shall be kept free of groundwater until each section of main has been completed and tested. Groundwater shall not be permitted to enter pipes.

#### 2.33.2 Trench Dimensions

The trench width shall be as shown on the standard drawings. The depth shall be the minimum required to achieve the correct cover on the pipe, as defined on the standard drawings.

All trenches shall be neatly excavated to provide an even bed with a uniform grade.

Over-excavation of the bed of the trench shall be corrected with compacted bedding material, in accordance with Water Reticulation Clause "Bedding".

The trench walls in granular material or tidal flat areas shall be laid back on a stable slope to prevent collapse.

#### 2.33.3 Bedding

In situ or imported bedding material shall be clean sand, or other similar approved granular material. Bedding material shall be free from all stones retained on a 6mm sieve, roots, clay or other material harmful to any pipe or fitting material or coating.

Bedding procedure shall be in accordance with the Corporation's standard drawings.

For granular soils, the trench bed density shall be equal to or greater than a density equivalent to 5 blows per 300mm of standard Perth sand penetrometer (AS 1289 F3.3).

For non-granular soils, the trench shall be over-excavated by at least 150mm, backfilled with imported bedding material and compacted to the equivalent density requirements as above.

In all cases the trench bottom shall be hand trimmed immediately before placing the pipe to enable the pipe to be supported evenly over the whole length of the pipe barrel.

#### 2.33.4 Excavation in Rock

The different kinds of material encountered in excavation shall be classified under the headings "Other than Rock" or "Rock", and shall have the following meanings:

"Other than Rock" shall mean all kinds of materials which in the opinion of the Superintendent can be ripped by a track dozer over 100kw power and 15t mass with one tyne or broken by a track excavator over 75kw power and 15t mass with a rock bucket.

"Rock" shall mean hard material which in the opinion of the Superintendent requires ripping or breaking by a larger machine than specified above, or hydraulic rock breaker and is in fact so ripped or broken.

Where excavation in rock occurs, it shall be measured on site and paid for at the cubic metre rate submitted by the Contractor in the Schedule of Prices.

The Contractor shall be responsible for the cost of any over cut beyond that specified in the trench detail, and all necessary backfill to allow correct line and level to be maintained.

#### 2.33.5 Water in Excavations

The Contractor shall at all times maintain excavations free from water regardless of source or method of entry to the excavation. The Contractor shall allow for cut-off drains, well points, bores, drain diversions, pumps and any other means necessary to keep excavations dry and in a safe condition and shall repair or reinstate to the satisfaction of the Engineer any damage caused by failure to keep the excavation free from water.

### 2.34 ROAD CROSSINGS

#### 2.34.1 Minor Road Crossings

In sealed roads, existing bitumen surfaces shall be saw-cut in a straight line and removed to a minimum distance of 300 mm from the side of the proposed excavation.

Backfilling of trenches will be in accordance with clauses 1.86 and 1.113 of this specification.

The upper 300mm shall consist of crushed limestone, bitumen stabilised limestone, crushed rock or other road base material as required by the Local Authority. Base course will be compacted to 95% Maximum Modified Dry Density.

Road surfacing shall be installed to the requirement of the Local Authority.

Backfill materials for vehicle crossings shall be as for road crossings, with the minimum depth of limestone being 150mm or as required by the appropriate Local Authority.

#### 2.34.2 Major Road Crossings

Where indicated on the Drawings, pipelines shall be thrust bored or jacked at major road crossings, in lieu of open trenching.

Details of the method and equipment to be used, shall be submitted to the Corporation for prior approval.

The pipe material to be used shall be welded joint steel (cement mortar lined, P.E. coated) in accordance with Water Reticulation Clause "Steel Pipes and Footings".

Alternatively, MDPE in accordance with Water Reticulation Clause "Medium Density Polyethylene Pipe" may be used providing no joints occur over the length of the crossing. The road crossing pipe shall extend 1 .5m clear of the road pavement.

Installation with respect to jointing of steel pipe fittings, anchorage, testing etc shall be in accordance with the relevant specifications of this manual. Rubber ring jointed pipes shall not be used.

### 2.35 LAYING AND JOINTING PVC PIPES

#### 2.35.1 Inspection

All pipes shall be carefully examined for cracks and other defects immediately before being installed. Spigot ends shall be examined with particular care. Defective pipes shall be rejected.

#### 2.35.2 Cleaning

Care shall be taken to remove all sand and other material from the inside of the pipes before they are lowered into the trench.

The inside of the pipe spigots shall again be carefully brushed immediately prior to jointing to remove any sand that may have entered when the pipe was lowered into the trench.

Immediately before jointing the outside of the pipe spigots, the inside of the socket and the rubber joint rings shall all be carefully wiped clean to prevent scoring of the pipe surface.

For Cast Iron Pipes the inside of the socket of the laid pipe and the inside and outside of the spigot of the pipe to be laid shall be carefully brushed clean immediately prior to jointing. The rubber ring shall be carefully wiped clean to ensure that it is clean and dry before being placed on the end of the spigot.

#### 2.35.3 Jointing

##### PVC to PVC

Joints between PVC pipes shall be made with rubber rings in strict accordance with the manufacturer's specification, ensuring that:

- The spigot and especially the chamfer of the mating pipe is lubricated using the pipe manufacturers jointing lubricant only.
- The pipes are in a straight line prior to making the joint.
- During the jointing process the socket of the joint is adequately restrained to prevent backward movement.
- The spigot of the joint is pushed home manually, (machinery is not permitted) until the first witness mark (i.e. the mark closest to the spigot) is within the socket and

the second witness mark is visible. Allowance must be made for pipe expansion or contraction due to variation in pipe temperature between jointing and filling with water to ensure that only the second witness mark is visible during pressure testing.

- The pipes are not damaged during the process.

### PVC to Cast Iron or Ductile Iron Pipe and Fittings

The PVC bell should not receive any spigot other than that of a PVC pipe. Spigotted iron fittings shall only be jointed to a PVC spigot end using a long body Gibault joint.

The spigot of any cut pipe is to be chamfered to the manufacturer's recommendations and two witness marks placed in the location corresponding to the manufacturer's witness marks.

#### 2.35.4 Deflecting PVC Pipes

#### 2.35.5 Bends at a Horizontal Change of Direction

Where a bend in the Road Reserve, Public Access Way etc. requires a corresponding change in direction of the pipeline of 8° or more, a standard cast iron or ductile iron bend shall be used as specified in Water Reticulation Clause "Installed Bends and Tees".

Where the bend is less than 8°, the change in direction shall be made by deflecting the pipes equally at each of 3 joints.

The maximum allowable deflection at each joint is 3.5°, giving a lateral offset of 61mm per metre of pipe barrel.

#### 2.35.6 Deflecting Pipes in a Curve

Where a pipeline is required to follow a curve the pipe shall be deflected at each joint to a maximum of 3.5°.

#### 2.35.7 Temporary Blank Ends

The Contractor shall be responsible for ascertaining by careful excavation, the precise location of all existing Corporation mains and to lay at the correct depth and alignment to ensure a simple connection. The Contractor shall take particular care not to disturb the existing mains or thrust blocks.

The blank ends shall be within 4m of the existing main and clear of any pavement.

Mains shall be plugged with a suitable end cap or blank flange and adequately anchored to take the full test pressure.

#### 2.35.8 Thrust Blocks

Thrust Blocks shall be installed in accordance with Water Reticulation Clause "Thrust Blocks and Steel Pipe Anchorage".

#### 2.35.9 Initial Backfilling - Selected Fill

Initial backfilling shall be placed using selected fill, being defined as clean sand, or other approved granular material being free of all stones retained on a 25mm sieve, roots, clay or other material harmful to any pipe or fitting material or coating. The fill shall provide

continuous support to the pipe. Allow to import sand or granular material for initial backfilling.

Initial backfilling at the sides and for 150mm above the top of the pipe shall be hand tool trimmed and compacted ensuring that no joints or pipes are disturbed or damaged. Refer to standard drawings.

A sand backfill surround, 500mm min. thickness, shall be provided at valves, hydrants, flushing points, service connections and fullways, for the full depth of the trench.

Where common trenching is used, for 1m each side of reticulation bends, tees and reducers and for the full width of the trench, backfill shall be compacted to 7 blows per 300mm fall of a standard penetrometer in accordance with AS 1289 F.3.

Water service tapping points and riser joints shall be exposed for the official pressure test.

#### 2.35.10 Suspension of Work

At the end of the day's work or at any time when pipe laying is suspended, every open end of an uncompleted pipeline shall be plugged with a properly tapered stopper of wood or plastic or a galvanised end cap. Where this is not done, the Contractor may be required to re-lay the section of pipe involved. No tools, etc, shall be allowed to remain in the pipes overnight.

### 2.36 INSTALLATION OF VALVES, FITTINGS, HYDRANTS, FLUSHING POINTS AND SERVICE CONNECTIONS

#### 2.36.1 General

Stainless steel, copper, copper alloys or other non-ferrous metals used in components of pipelines shall be permanently electrically isolated from dissimilar metals by the use of gaskets, fibre washers and bolt sleeves.

All sluice valves, fittings and hydrants shall be carefully examined for cracks, damage or defects immediately before being installed. Defective items shall be laid aside for inspection by the Engineer, who will prescribe corrective repairs or rejection.

All fittings shall be installed according to the pipe manufacturers specifications.

Corrosion protection petrolatum paste shall be applied in accordance with Water Reticulation Clause "Corrosion Protection".

#### 2.36.2 Cleaning

Care shall be taken to brush clean the inside of all sluice valves, fittings and hydrants immediately prior to installation. The outside of the spigot ends and the inside of the collars and rubber rings shall likewise be carefully brushed clean before jointing.

#### 2.36.3 Installing Sluice Valves

#### 2.36.4 Timber Bearers

All sluice valves shall be seated on a 300mm x 230mm x 40 mm anti-termite timber bearers in accordance with the Authority standard drawings.

### 2.36.5 Branches From DN 250 or DN 200 Mains

Where there are branches from DN 250mm or DN 200 mains, the sluice valve shall be bolted directly onto the flanged branch of the Tee piece. However, if the valve will be under the bitumen paving, it shall be located opposite the truncation (see Figure 2).

### 2.36.6 Branches in Other Cases

In all other cases (for branches from mains DN 150 or smaller), the sluice valve shall be installed opposite the truncation point.

If necessary a pipe shall be neatly cut to enable the sluice valve to be installed in the correct position.

### 2.36.7 Valve Sizing

The nominal diameter of each valve shall be the same as the nominal diameter of the pipe in which the valve is being installed.

### 2.36.8 Backfilling to Valves

The excavated trench within 500mm of the installed sluice valve and fittings shall be backfilled entirely with sand in 150mm layers and firmly tamped.

### 2.37 Installed Bends and Tees

Bends shall be installed at all changes of pipe direction of more than 8°, or as shown on the drawings. Where a bend is required on a truncation at which a valve is also required, the bend shall be placed opposite the survey peg. The valve is then to be displaced from the point opposite the truncation by a maximum of one (1) metre.

The valve is to be moved in the direction least likely to result in it being under the finished pavement. If changes of direction are more than 5° different to the standard bend angles, "multiple bends" shall be used to get within 5° of the correct angle. The remaining angle difference shall be "taken up" by deflection at the joints, in accordance with the relevant Clauses for each pipe material.

Tees shall be located so that branch mains cross the road at right angles to the running mains, or as shown on the drawings. If necessary a pipe shall wherever possible be neatly cut to install the fitting in the correct position. The bends and tees shall be jointed to the main in accordance with the relevant Clauses for each pipe material.

### 2.38 Installing Hydrants

All hydrant tees shall be seated on a 300mm x 230mm x 40mm timber bearer in accordance with the standard drawings. Hydrant tees shall be installed in the main as near as possible to the centre of the lot or according to the dimensions shown on the detailed drawings. The excavated trench within 1.0m of the hydrant shall be backfilled in 150mm layers and firmly hand tamped. When the final verge level above the hydrant tee has been established, a double flanged hydrant riser of the appropriate length shall be bolted to the tee. The hydrant installation shall then be completed in accordance with the Corporation standard drawings.

### 2.39 Installing Flushing Points

Flushing points shall be installed as shown in accordance with the Corporation standard drawings on all blank ends that for the purpose of this contract are considered as permanent, or any location designated on the drawings.



## 2.40 Service Connections

The location of water service connections shall be as indicated on the Drawings. Ferrule straps and ferrule saddles shall be installed no closer than 300mm to pipe joints. Service risers shall be raised to their vertical position for the Joint Final Inspection - see Water Reticulation Clause "Service Risers".

## 2.41 THRUST BLOCKS

Except for welded steel pipes and fittings, thrust blocks shall be provided at all bends, tees, reducers and blank ends. A suitable temporary thrust block shall be provided at temporary blank ends for pressure testing. Alternatively, bolted flanged fittings may be used to rigidly connect to the nearest suitably anchored fitting. Thrust blocks may be timber or concrete and as shown on the Corporation standard drawings.

Multiple bends shall be supported with concrete thrust blocks only, and as shown on the Corporation standard drawings.

All bolts shall be protected with a corrosion protection paste prior to pouring of concrete thrust blocks. All bolts shall be installed with the head facing away from the concrete block. Bolts, nuts and flanges shall not be encased in this concrete.

Joints shall not be encased in the concrete blocks, but be protected by foam or similar blockouts or other approved means. A suitable bond breaker shall be provided between the fitting and the concrete (PVC film or similar). Thrust blocks shall not extend more than 300mm from the nominated alignments. Where a conflict exists the Corporation's representative shall be contacted for instructions.

## 2.42 Pipe Jacking

### 2.42.1 Micro-Tunnelling

a) Where shown on the drawing or directed by the Superintendent, water mains may be constructed by pipe jacking that shall be undertaken utilising micro-tunnelling techniques.

b) Micro-tunnelling shall, for the purpose of this document, be defined as a trenchless construction method for installing pipelines which incorporates the following features:

i) remote controlled – the micro-tunnelling boring machine (MTBM) shall be operated from a control panel at the surface. The system shall simultaneously install pipe as spoil as excavated and removed. Personnel entry is not required for routine operation;

ii) guided – the guidance system shall reference a laser beam projected onto a target in the MTBM, capable of installing water mains or other types of pipelines to the required tolerance for line and grade;

iii) pipe jacked – the process of constructing the pipeline shall be by consecutively pushing pipes and the MTBM through the ground using a jacking system for thrust;

iv) continuously supported – continuous pressure shall be provided to the face of the excavation to balance groundwater and earth pressures.

c) The Contractor shall employ personnel who are trained in and have substantial project experience of the type of machine to be used. Details shall be provided to the Superintendent by the Contractor to support its selection of tunnelling equipment and operatives.

d) Unless otherwise specified by the Superintendent, the Contractor shall install either DICL or SCL water main.

#### 2.42.2 Micro-Tunnelling Equipment Requirements

a) A machine that is capable of the following shall carry out excavation:

i) excavating mixed face conditions;

ii) excavating materials from marine deposits to rock beneath the water table while ensuring face stability at all times.

b) Equipment and systems shall be designed to provide the forces necessary for the installation of the full pipe string and take into account the pipe manufacture's recommendations on the applicable forces. The Contractor shall be responsible for the design and provision of the following items:

i) intermediate jacking stations;

ii) use of bentonite to reduce friction;

iii) steering system to achieve alignment both horizontally and vertically;

iv) control of surface settlement; and

v) control of ground water table.

c) All tunnelling machines shall be robust with adequate safety margins for the anticipated duty, designed and manufactured to comply with all safety standards.

d) The external diameter of the tunnelling machine shall be designed to produce minimum overbreak and the least necessary clearance for the proper construction of the Works.

e) The Contractor shall be responsible for the quality of materials used or present within the tunnelling machine and shall ensure that all materials used or present are adequate for the task they are to perform.

f) The Contractor shall maintain records on-site of the date, time jacking load, distance moved relationship between load and distance moved, line and level measurements.

#### 2.43 Grouting Around Pipelines

The Contractor shall grout the annular space between the bored hole and the pipeline with a suitable cement grout. The mix design shall be submitted for approval by the Superintendent prior to grouting.

In the case of the sleeved pipe beneath the rail lines. the Contractor shall grout the annular space between the steel sleeve and the pipeline with a suitable cement grout.

#### 2.44 Thrusts and Reception Pits

a) Thrust and reception pits and shafts shall be designed and constructed to allow the safe operation of plant, equipment and handling of materials and safely withstand all loading imposed by ground pressure, superimposed loads and the maximum anticipated thrust forces.

b) The permanent Works shall not be used to transfer jacking force reactions unless the component in question has been specifically designed to resist such forces. Any proposals in this regard shall be referred to the Superintendent for approval prior to implementation.

- c) Proposals shall include calculations and sketches illustrating the proposed arrangement.
- d) Permanent shafts or pits shall have all internal surfaces finished to the details shown in the drawings.

#### 2.45 TESTING OF MAINS

##### 2.45.1 General

All pipelines shall be subjected to an official pressure test. The Contractor shall conduct a successful preliminary pressure test prior to any official testing. Official pressure tests may be arranged by the Engineer, carried out by the Contractor and witnessed by the Corporation. (Note: Unsafe Sites - Corporation inspection staff will not enter sites which they consider are unsafe to Dept. of Occupational Health, Safety and Welfare standards).

The Corporation shall be notified at least five working days in advance of all official pressure tests. Wherever possible, prior notice of the cancellation of a test shall be given. If no notice of cancellation is given, it will be treated as a failed test.

All service tapping points and riser joints shall be inspected during the official pressure test. Any visible or detected leak shall be rectified.

The use of sealants or similar products to correct leakage as a result of material or construction faults is not permitted. The Engineer shall records the details of all official pressure tests on the Pressure Test Record Sheets. The results shall be signed by the Corporation's Representative and the Record Sheet forwarded to the Corporation by the Engineer.

##### 2.45.2 Preparation

For the section of pipeline to be tested, the difference in elevation between any two points on the main shall be less than 30 metres. The pressure test gauge shall be located as close as practicable to the lowest point of the test section. Cement mortar lined pipelines shall be filled 48 hours prior to testing to allow for take up.

Mains shall not be tested until at least 48 hours after thrust blocks have been poured.

The Contractor shall place at least 300mm of appropriate fill over the initial backfill at each pipe, prior to testing. Water service tapping points and riser joints shall be exposed for the official pressure test.

The mains shall, at a nominated location, be filled using potable water acceptable to the Authority. Filling of the main shall be completed at least 24 hours prior to the commencement of the official pressure test.

Where a valve is shut to form one end of the test section, temporary timber supports or other suitable means shall be installed to prevent the valve moving longitudinally due to unbalanced hydraulic thrust.

The Contractor shall supply and add disinfectant to the main during filling in accordance with Clause "Disinfectant". The Contractor shall ensure that the disinfectant is thoroughly mixed with the filling water, and evenly distributed. The concentration shall be 20 milligrams per litre calculated as effected chlorine.

The Contractor shall ensure that all air is expelled from the test section. If necessary temporary air vents may be provided by the use of appropriate ferrule straps. Such temporary air vents shall be removed upon completion of the test and the tapping point plugged with a suitable plug.

### 2.45.3 Disinfectant

Calcium Hypochlorite or Sodium Hypochlorite shall be used for disinfection of pipelines in accordance with the dosing rates listed in the table below.

After disinfection, the mains must be thoroughly drained of the disinfectant and flushed prior to commissioning. The chemicals shall consists of:

- Calcium hypochlorite (powder) = 65% available chlorine, supplied in either 40kg or 45kg drums.
- Sodium hypochlorite (liquid) = 12% available chlorine, supplied in 20 litre cartons.
- Chemical quantities shown below are calculated for a chlorine does rate of 20mg (L (20ppm) which is the standard does for new mains.

Nominal Diameter (mm)	Volume in Pipe	Calcium Hypochlorite	Sodium Hypochlorite
	m3 or kl of Water per 1,000m of Pipe Length	Use this no. of kg for 1000m of Pipe Length	No. of Litres for 1000m of Pipe.
50	2	0.06	0.4
100	7	0.20	1.2
150	17	0.50	2.8
200	33	1.00	5.5
250	49	1.521	8.2
300	68	2.10	11.3

Note:

- A dose rate of 1ppm requires 1.54kg of calcium hypochlorite (at 65%) for 1 000m<sup>3</sup> or 1000 kl of water.
- For a dose rate of 20mg/L (20ppm), 30.60kg is required.
- A dose rate of 1ppm requires 8.33 litres of sodium hypochlorite (at 12%) for 1000m<sup>3</sup> or 1000 KL or water.
- For a dose rate of 20mg / L (20ppm), 166.60L is required.

### 2.45.4 Test Equipment

The hydraulic pressure in the test section shall be raised and maintained for the duration of the test by means of a suitable pump.

A calibrated pressure gauge shall be connected to the pipeline (preferably at the lowest point) and shall be capable of being read to 10 kPa intervals.

### 2.45.5 Official Pressure Test Procedure

The test section shall be subjected to a hydraulic pressure test of 1600kPa (160m head), unless an alternative test pressure (nominated by the Corporation) has been designated on the drawings.

The test pressure is that pressure which would be measured at the lowest point of the test section. A full test pressure shall be maintained for the duration of the test period of at least one hour.

If a leak is detected, the test section shall be deemed to have failed the test.

If the test section fails the pressure test, the faults shall be rectified and the section retested in accordance with Water Reticulation Clause "Testing of Mains".

After satisfactory completion of the pressure test, the test section shall be left charged.

At any stage during the filling and testing of mains the Corporation may request that all mains to be tested be flushed until the water is clear from all foreign material.

After each individual pressure test, the results shall be recorded and witnessed in accordance with Water Reticulation Clause "General".

## 2.46 BACKFILLING (FINAL)

### 2.46.1 General

Initial backfilling shall be in accordance with the relevant clauses of this specification.

Final backfilling of services tappings and riser fittings shall not be carried out until the work has been deemed as satisfactory by the Corporation.

Final backfilling pipe trenches should not be carried out until the As Constructed information has been recorded.

The fact of any such work being refilled does not relieve the Contractor in any way of responsibility. The Contractor may be called upon to uncover and repair any main declared by the Engineer as unsatisfactory at any time until the end of the Defects Liability Period. Any such repair work shall be subject to retesting at the Contractor's expense.

### 2.46.2 Material

The material excavated from the trench may, subject to the approval of the Engineer, be used for final backfill, provided it is free of organic matter and rocks of 75mm diameter or larger, so as not to cause subsidence or prevent ready excavation with hand shovels. Heavy clay material will not be accepted. If necessary, the Contractor shall import suitable, approved material.

A sand backfill surround, 500mm min. thickness, shall be provided at valves, hydrants, flushing points, service connections and fullways, for the depth of the trench.

### 2.46.3 Procedures for Backfilling (Refer to Standard Drawings)

Trenches left open for official pressure testing (at service tapping points and service risers) shall be carefully refilled and hand compacted with selected fill up to the top level of the initial backfill material. Care shall be taken not to damage or disturb the joints. Reticulation works damaged during backfilling will require another official pressure test after reinstatement.

For trenches in verges, the final backfill material shall then be placed, compacted and neatly trimmed off to the final verge level.

Where common trenching is used, for 1m each side of reticulation bends, tees and reducers and for the full width of the trench, backfill shall be compacted to 7 blows per 300mm fall of a standard penetrometer, in accordance with AS1289 F3.3. Suitable fill

shall be imported if necessary. This requirement applies only where rubber ring jointed fittings and pipes are used.

Backfill under roads, crossovers and carparks shall be entirely of sand, free of clay, vegetable or foreign matter, and compacted as shown on the standard drawings or to the specification of the relevant Local Authority, should their specification be more stringent. If the Engineer deems the compaction to be insufficient, the Contractor shall re-excavate the trench for a distance and depth as determined by the Engineer. The trench shall then be refilled and compacted as specified.

#### 2.46.4 Restoration of Road Reserves and Accessways

After refilling, trenches in roadways are to be maintained in a safe condition for traffic and pedestrians. The final surface treatment shall be to the standard required by the Local Authority and a letter from the Local Authority shall be obtained indicating its approval of the final surface treatment. The Contractor shall submit a copy of this letter to the Engineer, upon request.

### 2.47 INCIDENTAL WORKS

#### 2.47.1 Covers and Box Assemblies

The Contractor shall place all sluice valve, hydrant, bronze gate valve and flushing point cover and box assemblies as shown on the drawings, flush with the final surface level.

#### 2.47.2 Marker Posts

Marker Posts shall be provided and installed to the details shown on the standard drawings. They shall be used to indicate the position of valves, hydrants, flushing points, bronze gate (fullway) valves and where otherwise directed on the detailed drawings. Metal marker posts shall be used.

Markings of "SV", "H", "FP" & "FW" shall be made using weather proof stickers with letters 150mm high on a white background. Colours of the letters shall be as indicated on the standard drawings.

The marker posts, except where varied, shall be placed adjacent to the fittings after final verge trimming.

#### 2.47.3 Marker Tape

A detectable metal Marker tape, such as "Fairwarning Tape" as supplied by TAPEX, of 20 Kingsgrove Road, Kingsgrove NSW (or similar) shall be placed above the pipeline for its full length. The tape shall be installed after the first layer of backfill has been placed above the pipe.

#### 2.47.4 Valves

All sluice valves and bronze gate section "fullway" valves shall be left fully opened and all hydrants, flushing points and tapping at temporary dead ends left shut.

Sluice valves will have extension spindles installed where required by the standard drawings.

#### 2.47.5 Service Risers

Prior to the Joint Final Inspection (J.F.I.) service risers shall be raised from the horizontal to their vertical position and backfilled with sand to the final ground level to demonstrate

that the finished height and position is in accordance with the standard drawings. After the satisfactory J.F.I., the services shall be returned to a buried position with 200mm minimum cover.

#### 2.48 CLEARING FOR EARTHWORKS

The clearing shall consist of removal for the entire width of the pipeline embankment designated in the drawings of all trees, stumps, tree roots and other vegetation, boulders and rubbish. All such material including tree roots shall be removed to a depth of 600mm from the finished surface.

Prior to commencement of clearing, the extent of clearing shall be clearly marked with coloured tape and approved by the Engineer

Any holes left shall be filled and compacted to the same density as that of the surrounding undisturbed soil.

Minor vegetation matter may be re-distributed with the topsoil with the prior approval of the Engineer.

Vegetation shall not be disturbed elsewhere in the Site unless identified on the drawing for construction of the water main, stormwater drains or other works and clearing in these cases shall be limited to the area of work.

No burning shall occur on site.

#### 2.49 'AS CONSTRUCTED' INFORMATION

The Contractor shall ensure that no part of the work is backfilled or otherwise covered up until 'as constructed' information has been obtained in accordance with the Corporation's requirements by the Contractor's Licensed Surveyor, including:

- Location and position of all reticulation mains (including valves, hydrants and fittings) specifying size and type.
- Running chainages for each continuous length of main in each street or access way relating the position of all valves, hydrants and fittings to the nearest lot boundary or road reserve.
- Depths to the top of the pipe from the gutter level and the final verge level taken at a maximum interval of 50m.

#### 2.50 PROJECT LOG BOOK

It is a requirement of the Corporation that a log book be maintained. This log book will be issued by the Engineer to the Contractor and will remain on site with the Contract Supervisor until completion of work.

The Contractor shall carry out site checks in accordance with the Log Book check plan, complete the activity check list and append the Corporation Inspector's site record notes, material supplier certificates and test certificates.

The Engineer will check that activities are completed and verify compliance.

The Corporation Inspector may conduct any checks necessary to complete an audit function.

The Contractor shall ensure that the Log Book is kept on site at all times and made available to the Engineer and Corporation's Inspector on request. The Log Book shall be returned to the Engineer at the Joint Final Inspection.

#### 2.51 PRACTICAL COMPLETION OF THE WORKS

A Certificate of Practical Completion will not be issued by the Engineer until all mains have been laid, tested and backfilled in accordance with the drawings and this Specification to the satisfaction of the Engineer and the Corporation and other requirements as detailed in Corporation's Manual have been fulfilled.



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**Attachment C — Construction Management Plan**



# **ONSLow AERODROME EXPANSION PROJECT**

## **RELOCATION OF EXISTING WATERMAIN**

### **CONSTRUCTION MANAGEMENT PLAN**

#### **PRELIMINARY**

The Shire of Ashburton (the Shire) is currently involved in the construction of a new runway as part of the Onslow Aerodrome Expansion Project. The alignment of the new runway traverses a 200mm AC water main owned and operated by Water Corporation (Water Corp). To facilitate completion of the embankment and pavement for the new runway the Shire now seeks to construct a new 250mm diameter water main in accordance with:-

1. The design prepared by David Willis and Associates (DWA),
2. The Deed of Covenant and Indemnity prepared by Gilbert Tobin Lawyers,
3. The standard construction details of Water Corp,
4. This Construction Management Plan,
5. The Traffic Management Plan, and,
6. The Communication Plan.

The scope of works is set out on Drawings 12145 C03 Revision F, C04 Revision F, C05 Revision F, and C06 Revision F.

In accordance with Clause 4.1 of the Deed, the Shire now submits the following Construction Management Plan. In the following statement all definitions and phrases will have the same meaning as the Deed.

#### **SAFETY**

The Shire shall conduct daily Toolbox Meetings at which the works for the day will be described. All staff shall attend such meetings and shall sign an attendance register. Meetings will be minuted and

distributed to the OH&S Manager and the Executive Manager Strategic and Economic Development of the Shire. All employees are invited to contribute suggestions or ask questions at Toolbox Meetings.

***The Shire will notify Onslow of any and every accident, lost time injury, or near miss occurring on the underlying land.***

## **COMMENCEMENT DATE**

Work has commenced within the Tenure at Distance 00 on Drawing C03. Similarly, work has commenced at Distance 2500 on the decommissioned East/West Runway within the Tenure and is proceeding back within the area where extraction of embankment fill has taken place under Clearing Permit CPS 4673/1. Work within the Tenements would commence immediately upon signing of the Deed. Some pipes have been stacked within the Tenements in anticipation.

## **RESTRICTED ACCESS**

***The Shire shall not excavate, drill, install, erect, deposit, or permit to be excavated, drilled, installed, erected, or deposited within 6-metres of either side of the Access Road without prior written consent of Onslow.***

***During the course of construction, the Works will be barricaded by way of cones and safety flagging.***

## **CARE OF ONSLOW EMPLOYEES, AGENTS, CONTRACTORS, AND INVITEES**

***The Shire must not do or permit, allow, or suffer to be done anything which shall or may be a nuisance or unreasonable annoyance, including (without limitation) sound pressure, radiation, vibration, and lighting, to Onslow or its employees, agents, contractors, and invitees other than as reasonably contemplated as a result of activities undertaken in accordance with The Deed of Covenant and Indemnity.***

## **COMPLETION DATE**

It is expected the construction of the water main would take 14 days from the signing of the Deed. Ongoing work may be required for testing and commissioning which may require traversing the Access Road, although no actual excavation or work within the Tenements would be expected. Subject to approval and without limiting the Deed it is expected Water Corp would take over the Works by 31<sup>st</sup> July 2013. The Shire has an obligation to maintain the Works for 2-years after take-over.

## **SETTING OUT**

The Shire has employed Whelans Surveyors for all survey work on the aerodrome project. Whelans have a full time presence on site and will be used to set out the water main alignment, and to locate and record all as-built lines and levels of the completed work. The Shire will supply electronic copies of as-built data to Onslow.

Cones will be placed at regular intervals to limit construction traffic to within 6m from the alignment.

## **DRAINAGE**

***The Shire shall ensure there is no long term interference with the drainage pattern without the prior approval of Onslow.***

## **SUPERVISION**

Parts of the Water Main Relocation Works are located within the air space of an operating aerodrome and will be subject to the Manual of Standards MOS139 of the Civil Aviation Safety Regulations, and to all rules, regulations, safety, and quality requirements of the Onslow Aerodrome Expansion Project. Direct supervision of the Works will be under control of Mr John Wilson, a certified ARO, and Mr Paul Byard, Aerodrome Works Health, and Safety Manager.

The Works are also expected to be witnessed twice weekly by Water Corporation to ensure the main will be acceptable to take-over.

Overall responsibility for the site Works has been delegated to Mr. Ean McDowell, Aerodrome Construction Manager.

## **EXCAVATION**

***All excavation for the works will be carried out by the Redline WA Pty Ltd using plant already on site and experienced, ticketed operators.***

## **MATERIALS**

All pipes and fittings will be supplied by Redline WA to Water Corp standards. Pipes will be inspected for transport damage prior to installation. Pipes will be stacked in racks at convenient locations along the alignment. Fittings will be stacked in an approved laydown area within the Shire Tenure and transported to the workface as required. Fittings will not be left by the road or within the Tenements other than periods immediately prior to installation.

Fuel will be supplied from the Shire service vehicle direct to equipment. No fuel will be stored in drums or containers on the Tenure other than low capacity "Jerry Cans" for refuelling portable equipment such as pumps, vibrators, etc. A spill kit will be required from the Shire's runway works in the event of any loss.

## **CONCRETING**

Concrete will be purchased direct from a local supplier and delivered to the workforce in agitator trucks as required. Concrete will be dispensed directly to anchor blocks in the trench or other structures as required. Waste concrete will be removed from the works area.

## **PIPE LAYING**

Pipes will be laid and jointed by Redline. A combination of excavators and specialised trenching machines will be used to excavate trenches all of which will be silenced in accordance with the Law. Hearing protection will be recommended, provided, and worn by those in close proximity and continuous exposure to the equipment. Lasers will be used for alignment and levels of the type regularly used in construction or available from commercial hire companies.

To the extent possible all excavated material will be contained within the works area. Excess spoil will be carted away without delay. No spoil will be allowed to impede traffic flow on the Onslow access road. Bedding, laying, and anchor blocks will be constructed in accordance with Water Corp standard details. The pipe will be identified with a continuous marker tape buried along the trench having a metallic thread.

## **BACK FILLING AND COMPACTION**

Backfilling will be carried out by Redline with compaction in accordance with the embankment construction specification of 92percent Characteristic Dry Density Ratio using hand held compactors.

A Nuclear Density Meter may be used to measure compaction.

## **COMPLETION**

The Shire will ensure the access road is trimmed, watered, and compacted at the completion of the Works.

***The Shire will dispose of all rubbish and waste products that arise on the Underlying Land as a result on the Shire or the Shire's Authorised Users in conjunction with the Works in accordance with all applicable Laws.***

## **INSPECTION AND RECORDS**

The Water Main Relocation works may be inspected by Water Corp at any time. The Shire will also make the Works available to Onslow at any time. A short site induction will be required for inspection personnel and minimum PPE will be a hi-vis shirt or vest and steel capped safety vests. The Shire will provide vehicles and access to the site and will accompany Water Corp inspectors.

The Shire will take a continuous photographic record of the works and will provide to Onslow a photo-descriptive report including the surveyor's as-built lines and levels of the water main construction on completion.

Ean McDowell  
Aerodrome Construction Manager  
2<sup>nd</sup> July 2013.



MINIMUM PIPE COVER = 0.8m  
MAXIMUM PIPE COVER = 1.5m

DISTANCE	EXISTING SURFACE	VERTICAL PRELINE	DEPTH TO INVERT	DATUM: -5.0
0.000	2.059	1.060	+1.00	
20.000	2.245	0.991	+1.25	
40.000	2.766	0.921	+1.84	
60.000	2.597	0.852	+1.74	
80.000	2.574	0.783	+1.79	
100.000	2.522	0.714	+1.81	
120.000	1.860	0.645	+1.22	
129.760	1.610	0.611	+1.00	SCOUR VALVE (SV)
140.000	1.982	0.649	+1.33	
160.000	3.001	0.725	+2.28	
180.000	3.753	0.800	+2.95	
200.000	3.444	0.876	+2.57	
220.000	3.452	0.951	+2.50	
240.000	3.368	1.026	+2.34	
260.000	2.308	1.102	+1.21	
280.000	2.480	1.177	+1.30	
300.000	2.144	1.253	+0.89	1125° BEND
320.000	2.096	1.328	+0.77	
340.000	2.207	1.403	+0.80	
351.780	2.344	1.448	+0.90	
360.000	2.699	1.572	+1.13	
380.000	3.274	1.820	+1.45	
400.000	3.305	2.084	+1.22	
410.217	3.409	2.222	+1.19	
420.000	3.437	2.239	+1.20	
440.000	3.447	2.279	+1.17	
460.000	3.406	2.319	+1.09	
480.000	3.511	2.359	+1.15	
500.000	3.808	2.399	+1.41	
520.000	3.783	2.439	+1.34	
525.660	3.299	2.450	+0.85	AIR VALVE (AV)
540.000	3.147	2.239	+0.91	
560.000	3.002	1.943	+1.06	
577.252	2.520	1.687	+0.83	
580.000	2.585	1.677	+0.91	
600.000	2.662	1.595	+1.07	
601.900	2.650	1.590	+1.06	
612.323	2.668	1.545	+1.12	SCOUR VALVE (SV)
620.000	2.783	1.687	+1.10	
601.900	3.610	1.890	+1.72	
640.000	3.895	2.058	+1.84	
660.000	3.931	2.429	+1.50	
662.340	3.883	2.473	+1.41	
680.000	3.804	2.464	+1.34	

SCALES: HORIZONTAL 1:1000 VERTICAL 1:100

**LEGEND**

- CADASTRAL BOUNDARY
- CLEARANCE ZONE FOR THE PROPOSED RUNWAY
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- FLUSHING POINT
- SCOUR VALVE
- AIR VALVE
- CHANGE IN PIPE SIZE/TYPE
- ISOLATION STOP VALVE

THIS PLAN IS ACCEPTED AS COMPLYING WITH OVERALL SCHEME PLANNING.

COMPLIANCE WITH RELEVANT MANUALS REMAINS THE RESPONSIBILITY OF THE CONSULTING ENGINEER.

NO WORKS ARE TO COMMENCE ON SITE UNTIL STARTUP ARRANGEMENTS HAVE BEEN MADE WITH THE RELEVANT WORKS INSPECTOR. SEE DEVELOPER'S MANUAL FOR CONTACT DETAILS FOR MANAGER LAND SERVICES.

EXISTING MAINS TO BE SURVEYED FOR LOCATION AND LEVEL BEFORE CONSTRUCTION COMMENCES.

**PROJECT:** Onslow Main Diversion At Airport

**DRAWING TITLE:** Longitudinal Section of Water Main Sheet 1 of 4

**SCALE:** ORIGINAL SIZE **A1**

**DESIGNED:** DG **DATE:** 19/10/2012

**DRAWN:** HW **DATE:** 19/10/2012

**CHECKED:** David Mills **DATE:** 20/10/2012

**APPROVED:** Artificial Graduate Referral Group

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**JOB NUMBER:** 12145 **DWG No:** C03 **REV No:** F

**NOTE:**  
FOR SET OUT CO-ORDINATES REFER TO DRAWING 12145-C02

0 20 40 60 80m  
metres

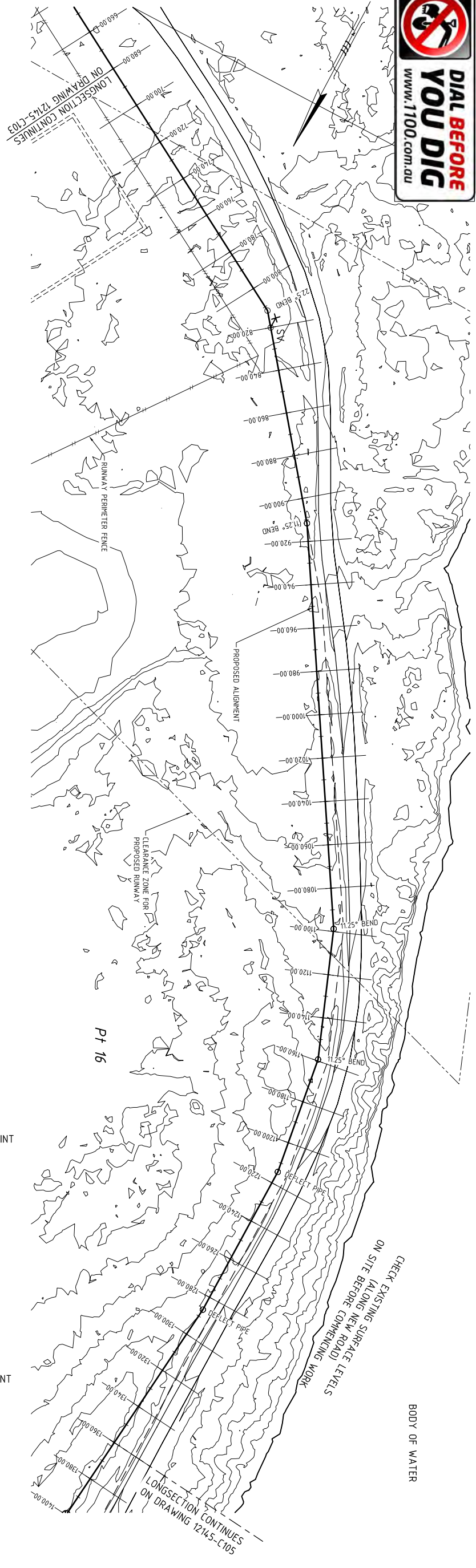
1:1,000  
scales quoted apply to original drawing scale

REV	DATE	DESCRIPTION	DRAWN	CHECKED
E	24/6/2013	ALIGNMENT REVISED & ISSUED FOR APPROVAL		
F	27/2/2013	VALVE ADDED & ISSUED FOR APPROVAL		
D	6/12/2013	ISSUED FOR APPROVAL		
C	12/2/2012	ROUTE AMENDED		
B	22/11/2012	PRELIMINARY AMENDED		
A	NOT ISSUED	ISSUED FOR APPROVAL		

**LOCAL:** AHD

**CLIENT:** Shire Of Ashburton

**CONSULTING ENGINEERS:** David Mills and Associates  
34, 3600 18th St  
Ashburton, SA 5133  
Phone: (08) 8533 3133  
Email: david@dmw.com.au



MINIMUM PIPE COVER = 0.8m  
MAXIMUM PIPE COVER = 1.5m

DISTANCE	EXISTING SURFACE	OVERLIED PIPELINE	DEPTH TO INVERT	DATE	INVERT	TO
				-5.0		
680.000	3.804	2.464	+1.34			
700.000	3.798	2.454	+1.34			
720.000	4.308	2.444	+1.86			
740.000	4.172	2.434	+1.74			
760.000	3.730	2.424	+1.31			
780.000	3.470	2.414	+1.06			
800.000	3.387	2.404	+0.98			
812.1000	3.410	2.400	+1.01			
820.000	3.376	2.394	+0.98			
820.010	3.375	2.394	+0.98			
840.000	3.660	2.434	+1.23			
860.000	3.735	2.474	+1.26			
880.000	4.062	2.514	+1.55			
900.000	4.430	2.555	+1.88			
911.600	4.220	2.580	+1.64			
920.000	4.242	2.595	+1.65			
940.000	3.715	2.635	+1.08			
960.000	3.712	2.675	+1.04			
980.000	3.844	2.715	+1.13			
1000.000	4.111	2.755	+1.36			
1020.000	4.110	2.795	+1.31			
1025.530	4.033	2.800	+1.23			
1040.000	4.155	3.011	+1.14			
1060.000	4.337	3.294	+1.04			
1080.000	4.819	3.576	+1.24			
1098.700	4.740	3.840	+0.90			
1100.000	4.804	3.859	+0.95			
1120.000	5.183	4.142	+1.04			
1140.000	5.455	4.425	+1.03			
1159.300	5.890	4.707	+0.92			
1160.000	5.903	4.703	+1.20			
1180.000	6.187	4.990	+1.20			
1188.716	6.395	5.115	+1.28			
1200.000	6.227	5.143	+1.08			
1220.000	6.285	5.196	+1.09			
1240.000	6.480	5.249	+1.23			
1260.000	6.449	5.301	+1.15			
1280.000	6.361	5.354	+1.01			
1299.180	6.275	5.405	+0.87			
1300.000	6.286	5.410	+0.88			
1320.000	6.632	5.614	+1.02			
1340.000	7.072	5.815	+1.26			
1360.000	7.409	6.017	+1.39			

SCALES: HORIZONTAL 1:1000 VERTICAL 1:100

**LEGEND**

- CADASTRAL BOUNDARY
- - - CLEARING ZONE FOR THE PROPOSED RUNWAY
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- 250p-16
- FLUSHING POINT
- SCOUR VALVE
- AIR VALVE
- CHANGE IN PIPE SIZE/TYPE
- ISOLATION STOP VALVE

**NOTE:**  
FOR SET OUT CO-ORDINATES  
REFER TO DRAWING 12145-C02

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NO WORKS ARE TO COMMENCE ON SITE UNTIL STARTUP ARRANGEMENTS HAVE BEEN MADE WITH THE RELEVANT WORKS INSPECTOR. SEE DEVELOPER'S MANUAL FOR CONTACT DETAILS.  
FOR MANAGER LAND SERVICES

DATE:	14/03/14	SCALE:	
DESIGNED:	DG	DRAWING SIZE:	A1
APPROVED:			
BRANK:	David Mills		
DATE:	19/10/2012		
REVISED:			
DATE:	26/06/2013		
BY:			
DATE:			

**PROJECT:** Onslow Main Diversion  
**LOCATION:** At Airport

**BRAINING TITLE:** Longitudinal Section of Water Main  
**SHEET:** Sheet 2 of 4

**CLIENT:** Shire Of Ashburton

**SCALE:** 1:1000

**DRAWING NUMBER:** 12145 C04 F

**DAVID MILLS AND ASSOCIATES**  
CONSULTING ENGINEERS  
Level 10, 155 Sturt Street, Adelaide, SA 5000  
Phone: (08) 8333 3133  
Email: dms@dmil.asn.au

**REVISIONS:**

REV	DATE	DESCRIPTION
A	27/11/2012	PIPELINE AMENDED
B	13/12/2012	ROUTE AMENDED
C	13/12/2012	ROUTE AMENDED
D	8/02/2013	ISSUED FOR APPROVAL
E	27/22/2013	ISSUED FOR APPROVAL
F	26/6/2013	ALIGNMENT REVISED & ISSUED FOR APPROVAL

**LOCAL AUTHORITY:** SHIRE OF ASHBURTON

**APPROVED:** [Signature]

**PROJECT:** Onslow Main Diversion  
**LOCATION:** At Airport

**BRAINING TITLE:** Longitudinal Section of Water Main  
**SHEET:** Sheet 2 of 4

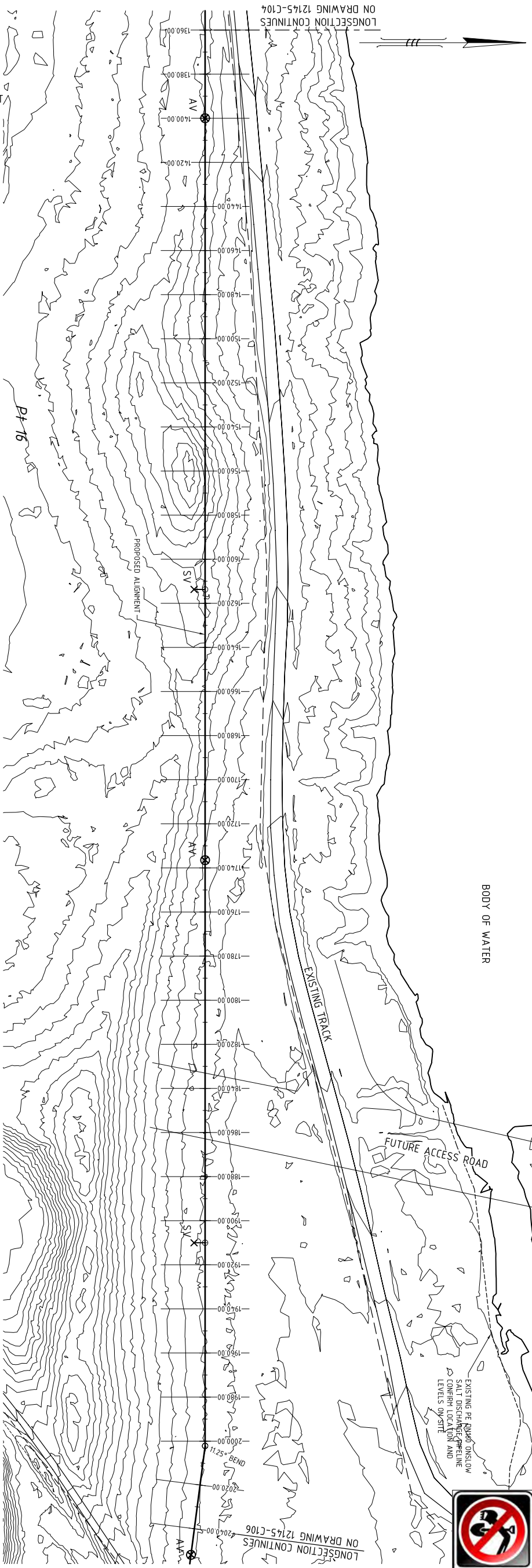
**CLIENT:** Shire Of Ashburton

**SCALE:** 1:1000

**DRAWING NUMBER:** 12145 C04 F



BODY OF WATER



DISTANCE	EXISTING SURFACE	DEPTH TO PIPELINE	DEPTH TO INVERT	DATE	GRADE
1360.000	7.409	6.017	+1.39		
1380.000	7.059	6.218	+0.84		
1400.000	7.423	6.419	+1.00		
1420.000	7.229	6.242	+0.99		
1426.500	7.060	6.180	+0.88		
1440.000	7.076	5.937	+1.14		
1460.000	6.733	5.572	+1.16		
1480.000	6.420	5.207	+1.21		
1500.000	6.402	4.843	+1.56		
1520.000	6.609	4.478	+2.13		
1540.000	7.522	4.113	+3.41		
1560.000	7.606	3.748	+3.86		
1580.000	4.680	3.383	+1.30		
1600.000	4.191	3.018	+1.17		
1613.700	4.120	2.770	+1.35		
1620.000	4.118	2.819	+1.30		
1640.000	3.928	2.978	+0.95		
1660.000	4.202	3.137	+1.06		
1680.000	4.551	3.297	+1.25		
1700.000	4.792	3.456	+1.34		
1720.000	4.597	3.615	+0.98		
1738.800	4.760	3.770	+0.99		
1740.000	4.760	3.761	+1.00		
1760.000	4.560	3.681	+0.88		
1780.000	4.496	3.602	+0.89		
1800.000	4.427	3.522	+0.90		
1820.000	4.281	3.443	+0.84		
1840.000	4.156	3.364	+0.79		
1860.000	3.926	3.284	+0.64		
1880.000	4.011	3.205	+0.81		
1900.000	4.031	3.125	+0.91		
1910.200	4.010	3.080	+0.93		
1920.000	4.033	3.108	+0.92		
1940.000	4.284	3.156	+1.13		
1960.000	4.525	3.204	+1.32		
1980.000	4.382	3.252	+1.13		
2000.000	4.351	3.300	+1.05		
2020.000	4.469	3.348	+1.12		
2040.000	4.459	3.396	+1.06		

SCALES: HORIZONTAL 1:1000 VERTICAL 1:100

**LEGEND**

- CADASTRAL BOUNDARY
- CLEARING ZONE FOR THE PROPOSED RIMWAY
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- 250P-16
- FLUSHING POINT
- SCOUR VALVE
- AIR VALVE
- CHANGE IN PIPE SIZE/TYPE
- ISOLATION STOP VALVE

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FOR MANAGER LAND SERVICES

EXISTING MAINS TO BE SURVEYED FOR LOCATION AND LEVEL

BEFORE CONSTRUCTION COMMENCES

DATE: 14/03/14

SCALE: ORIGINAL SIZE

DESIGNED: DG

DRAWN: JMW

DATE: 19/10/2012

DATE: 28/06/2013

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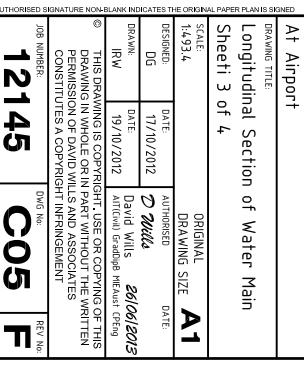
PROJECT: Onslow Main Diversion	BRANDING TITLE: Longitudinal Section of Water Main	SHEET: Sheet 3 of 4
CLIENT: Shire Of Ashburton	DATE: 14/03/14	SCALE: ORIGINAL SIZE
DESIGNED: DG	DRAWN: JMW	DATE: 19/10/2012
DATE: 28/06/2013	DATE: 14/03/14	DATE: 14/03/14

David Mills and Associates  
Consulting Engineers

34 BORDERS STREET  
MELBOURNE VIC 3000  
AUSTRALIA  
PH: (03) 9333 3133  
FAX: (03) 9333 3133  
WWW.DMAENGINEERS.COM.AU

REV	DATE	DESCRIPTION	DATE
E	26/6/2013	ALIGNMENT REVISED & ISSUED FOR APPROVAL	
E	27/2/2013	ISSUED FOR APPROVAL	
D	8/02/2013	ISSUED FOR APPROVAL	
C	13/12/2012	ROUTE AMENDED	
B	22/11/2012	PIPELINE AMENDED	
A	NOT ISSUED	ISSUED FOR APPROVAL	

REV	DATE	DESCRIPTION
51	LOCAL	AHD



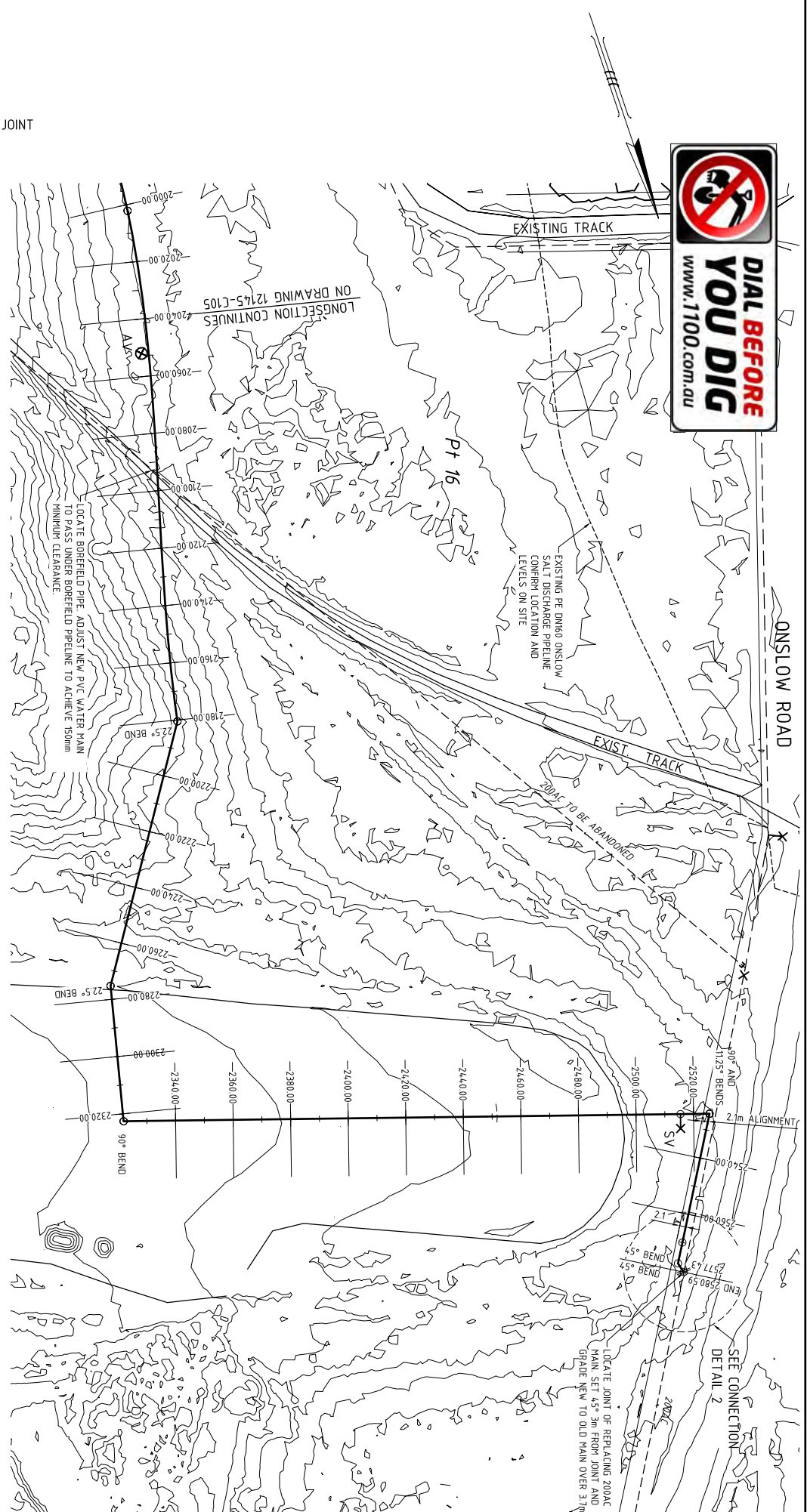
UNAUTHORISED SIGNATURE OR NON-BLANK INDICATES THE ORIGINAL PAPER PLAN IS BEING USED.

JOB NUMBER: 12145

DWG NO: C05

REV. NO: F



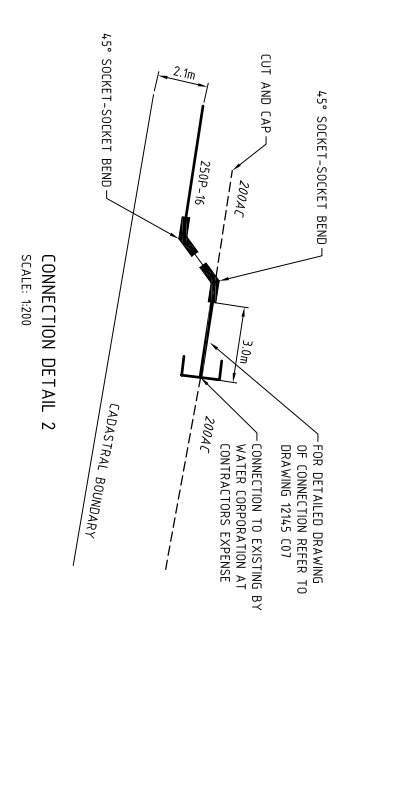


DISTANCE	EXISTING SURFACE	DIVERGED PIPELINE	DEPTH TO INVERT	DATA: -5.0
2040.000	4.459	3.396	+1.06	
2051.950	4.425	3.420	+1.01	
2060.000	5.429	3.415	+2.01	
2080.000	5.100	3.392	+1.71	
2100.000	4.433	3.368	+1.07	
2120.000	5.184	3.344	+1.84	
2140.000	4.903	3.320	+1.58	
2160.000	4.397	3.297	+1.10	
2180.000	4.488	3.273	+1.22	
2180.500	4.470	3.270	+1.20	
2200.000	4.172	3.249	+0.92	
2220.000	4.094	3.225	+0.87	
2240.000	4.114	3.202	+0.91	
2260.000	4.033	3.178	+0.85	
2275.300	4.330	3.160	+1.17	
2280.000	4.414	3.153	+1.26	
2300.000	4.622	3.127	+1.49	
2320.000	4.660	3.102	+1.56	
2322.600	4.650	3.100	+1.55	
2340.000	4.361	3.077	+1.28	
2360.000	4.361	3.051	+1.31	
2380.000	4.436	3.026	+1.41	
2400.000	4.306	3.001	+1.31	
2420.000	4.103	2.975	+1.13	
2440.000	4.124	2.950	+1.17	
2460.000	5.485	2.882	+2.60	
2480.000	5.813	2.778	+3.04	
2500.000	4.622	2.670	+1.95	
2505.000	4.440	1.120	+3.32	
2515.000	4.080	1.100	+2.98	
2520.000	4.020	2.520	+1.50	
2525.600	3.910	2.530	+1.38	
2540.000				
2560.000				
2577.310				
2580.590				

SCALES: HORIZONTAL 1:1000 VERTICAL 1:100

**LEGEND**

- CADASTRAL BOUNDARY
- CLEANING ZONE FOR THE PROPOSED RIMWAY
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- FLUSHING POINT
- SCOUR VALVE
- AIR VALVE
- CHANGE IN PIPE SIZE/TYPE
- ISOLATION STOP VALVE



**NOTE:**  
FOR SET OUT CO-ORDINATES REFER TO DRAWING 12145-C02

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EXISTING MAINS TO BE SURVEYED FOR LOCATION AND LEVEL BEFORE CONSTRUCTION COMMENCES

**PROJECT:** Onslow Main Diversion  
**At Airport**  
**Longitudinal Section of Water Main**  
Sheet 4 of 4

**DATE:** 28/06/2015  
**SCALE:** A1  
**DRAWING SIZE:** A1

**BRANK:** David Mills  
**DATE:** 19/10/2012  
**DATE:** 28/06/2015

**12145 C06 F**

**DMW**  
David Mills and Associates  
Consulting Engineers  
100/102 Stirling Highway  
Perth WA 6000  
Phone: (08) 9437 3333  
Email: david@dmw.com.au

**LOCAL AHD**

**REV:** 1  
**DATE:** 19/10/2012  
**DESCRIPTION:** PIPELINE AMENDED

**0 20 40 60 80 metres**  
**1:1000**  
scales quoted apply to original drawing scale

REV	DATE	DESCRIPTION
A	NOT ISSUED	ISSUED FOR APPROVAL
B	22/11/2012	PIPELINE AMENDED
C	13/12/2012	ROUTE AMENDED
D	8/02/2013	ISSUED FOR APPROVAL
E	24/6/2013	ALIGNMENT REVISED & ISSUED FOR APPROVAL

AUTHORISED SIGNATURE NON-BLANK INDICATES THE ORIGINAL PAPER PLAN IS SIGNED

# **ONSLow AERODROME PROJECT CONSTRUCTION OF WATER MAIN TRAFFIC MANAGEMENT PLAN**

## **GENERAL**

The redevelopment of the Onslow aerodrome incorporates a broad scope of works being carried out by the Shire of Ashburton (The Shire) including:-

- Construction of a new 1900m runway, taxiway, and apron.
- Construction of a new terminal building complete with passenger and baggage screening facilities and new fire fighting, refuelling, and parking facilities.
- Parking, lighting, fencing, navigation, and ancillary works.

The Onslow Township water supply is delivered via a 200mm AC water main passing under the embankment of the new runway. The water main is an asset of Water Corporation (Water Corp) and would be placed at unacceptable risk by the jet aircraft operations proposed after commissioning of the new runway. It is proposed to reconstruct and relocate the water main around the southern end of the new runway, reconnecting to the existing main in Onslow Road west of the airport. The proposed alignment will traverse Tenements granted to Onslow Salt Pty Ltd (Onslow) pursuant to the State Agreement.

To facilitate the construction of the new water main, The Shire seeks approval to traverse and work alongside The Access Road constructed and maintained by Onslow to the east of the Shire Tenure. Vehicles using the road would be a combination of road-registered trucks, graders, loaders, and excavators, as well as short distance movements of a heavy trenching machine. In addition light vehicles would be used for personnel access by the contractor, Redline Pty Ltd, and for inspection and testing by The Shire and Water Corp. Privately owned light vehicles would be restricted from entry and would be required to park at the Shire's camp or on Onslow Road. All vehicles would be required to have an operating flashing beacon whilst moving and a UHF radio.

This Traffic Management Plan specifically relates to the section of unsealed road, approximately 1.5km in length, extending between Onslow Road and the eastern boundary of the new runway perimeter fence. The Shire sees no reason to travel further into Onslow's Tenements and by means of announcements would restrict drivers and employees from entering the first causeway. Should any further access be required The Shire would seek written permission from Onslow on a case-by-case basis.

It is proposed to work 7 days per week essentially during daylight hours commencing immediately upon signing of the Deed and approval from Onslow, for a period nominally of one month.

For construction purposes the nominal speed limit on the road would be reduced from 60kph to 40 kph.

Upon entering the road, or moving on the road, drivers would be required to tune to Channel 25 and to announce their movements.

A “Stop” sign is located approximately 1.1km from Onslow Road. This is a mandatory “Stop” at all times of the day and night. Drivers must ensure no aircraft can be seen in the air or at any point on the runway or taxiway and shall only proceed when clear to do so. A mandatory “Stop” sign is also located at the exit to Onslow Road. Drivers are required to stop, turn off beacons, and switch back to Channel 20 at this point.

## **INTERFACE WITH OTHERS**

Drivers must be aware of the risks associated with:-

- Onslow Road traffic, including trucks, buses, LVs, private cars, and bicycles.
- Construction traffic at any point including moxi haul trucks, rollers, graders, bobcats, petrol tankers and water tankers.
- Onslow Salt’s traffic on the private roads.
- Cobey Contractors, and any other co-users of the road.
- Aircraft.

## **PRELIMINARY ACTIONS**

All drivers will be required to provide copies of appropriate licences and a clean Drug and alcohol test prior to commencement of the works. All vehicles will be required to be in roadworthy condition and have current certificates of registration and insurance. All vehicles must have appropriate signage, working beacons, and UHF radios.

Drivers will be required to attend daily toolbox meetings at which any issues or announcements of a general nature may be made, including any updated requirements of Onslow. Safety briefings and random alcohol tests may be conducted at any time thereafter.

Enquiries may be directed to:

Paul Byard, Works Safety Manager, Onslow Aerodrome Project, Mobile 0407 898 291

Ean McDowell, Construction Manager, Onslow Aerodrome Project, Mobile 0419 871 528.

John Wilson, Construction Supervisor Mobile 0429 167 513.

# ONSLow AERODROME PROJECT

## CONSTRUCTION OF WATER MAIN

### COMMUNICATIONS MANAGEMENT PLAN

#### GENERAL

The redevelopment of the Onslow aerodrome incorporates a broad scope of works being carried out by the Shire of Ashburton (The Shire) including:-

- Construction of a new 1900m runway, taxiway, and apron.
- Construction of a new terminal building complete with passenger and baggage screening facilities and new fire fighting, refuelling, and parking facilities.
- Parking, lighting, fencing, navigation, and ancillary works.

The Onslow Township water supply is delivered via a 200mm AC water main passing under the embankment of the new runway. The water main is an asset of Water Corporation (Water Corp) and would be placed at unacceptable risk by the jet aircraft operations proposed after commissioning of the new runway. It is proposed to reconstruct and relocate the water main around the southern end of the new runway, reconnecting to the existing main in Onslow Road west of the airport. The proposed alignment will traverse Tenements granted to Onslow Salt Pty Ltd (Onslow) pursuant to the State Agreement.

To facilitate the construction of the new water main, The Shire seeks approval to traverse and work within Onslow's Tenements, both on unimproved land and on the private road constructed and maintained by Onslow. The Works related to the water main relocation have been described in The Construction Management Plan and the Traffic Management Plan.

Good communications will be fundamental to the completion of the Works in a safe and efficient manner. This communication must be established and maintained at various levels of responsibility and throughout the various stages of the Works. Lines of communication and key stakeholders are defined in the Communication Plan.

NAME	POSITION	CONTACT DETAILS
Ean McDowell	Construction Manager, Shire of Ashburton	<a href="mailto:Ean.mcdowell@ashburton.wa.gov.au">Ean.mcdowell@ashburton.wa.gov.au</a> 0419 871 528
Jacques Le Roux	Production Manager, Onslow Salt	<a href="mailto:jacques.leroux@onslowsalt.com">jacques.leroux@onslowsalt.com</a> 0418 279 942
Paul Byard	Health & Safety Manager, Shire of Ashburton.	m. 0407 898 291 <a href="mailto:paul.byard@ashburton.wa.gov.au">paul.byard@ashburton.wa.gov.au</a>
Peter Tenery	HSE Superintendent, Onslow Salt	<a href="mailto:Peter.tenery@onslowsalt.com">Peter.tenery@onslowsalt.com</a> 0407 906 144

John Wilson	Supervisor, Shire of Ashburton	0429 167 513
Peter Gracey	Supervisor, Redline.	0408 016 812
Bernie Minchin	Works Inspector, Water Corp	<a href="mailto:Bernie.minchin@watercorporation.com.au">Bernie.minchin@watercorporation.com.au</a> 0429 208 380

This Communication Plan is specific to the water main relocation project and will be ongoing until the completion of the Works. It is supplementary to the much broader communication and emergency response plans held by the Shire.

Apart from telephone and email communication, all vehicles will be required to have an operating UHF radio. For construction purposes communication will take place on channel 20. For traversing the Onslow Salt road communication will be on channel 25.

The Shire conducts a Toolbox Meeting at 6.30am every morning. Managers, supervisors, and the construction crew delegated to the Works are required to attend the meeting, contribute to the discussion, and sign on for the day. Works issues and plant movements for each day are identified at the Toolbox Meeting which provides an ideal forum for two-way communication with the crew. Onslow Salt may attend these meetings or raise agenda items for discussion or notice.

Enquiries may be directed to:

Paul Byard, Works Safety Manager, Onslow Aerodrome Project, Mobile 0407 898 291  
Ean McDowell, Construction Manager, Onslow Aerodrome Project, Mobile 0419 871 528.  
John Wilson, Construction Supervisor Mobile 0429 167 513.